02011400 JACKSON RIVER NEAR BACOVA, VA

LOCATION.--Lat 38°02'32", long 79°52'53", NAD83, Bath County, Hydrologic Unit 02080201, on left bank 0.1 mi downstream from ford, 1.8 mi upstream from Back Creek, and 2.2 mi southwest of Bacova.

DRAINAGE AREA.--158 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,639.20 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. U.S. Army Corps of Engineers satellite water temperature, precipitation and gage-height telemeter at station. Maximum discharge, 30,000 ft^3/s, from rating curve extended above 1,300 ft^3/s on basis of slope-area measurements at gage heights 8.88 ft, 11.40 ft, 13.88 ft, and 22.25 ft. Minimum gage height, 2.42 ft, Aug. 18, 19, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1972, reached a stage of 11.40 ft, discharge, 4,800 ft^3/s, and flood of Dec. 26, 1973, reached a stage of 13.88 ft, discharge, 7,560 ft^3/s, from rating curve extended as explained above.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 28	1845	*2,310	*8.65	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	64	858	126	87	145	426	601	93	106	123	58
2	252	62	709	117	84	132	679	459	93	80	102	51
3	204	60	517	110	85	122	718	371	106	70	88	46
4	170	162	387	107	86	116	535	302	102	65	77	44
5	144	336	305	113	87	151	424	254	92	58	68	41
6	124	231	261	113	86	204	348	225	100	54	66	39
7	108	193	259	108	87	299	308	205	92	55	66	38
8	96	161	255	117	97	644	299	188	88	317	60	37
9	88	133	424	122	110	553	252	167	88	169	67	36
10	82	117	972	119	122	406	222	154	83	114	71	36
11	76	106	724	116	115	329	200	146	78	92	78	35
12	72	154	528	115	108	287	185	134	74	82	64	33
13	120	191	417	112	104	250	190	128	80	80	57	33
14	146	156	325	495	115	236	172	121	78	709	53	33
15	114	142	263	391	134	214	154	118	73	401	50	33
16	100	135	224	311	133	201	141	110	68	251	61	32
17	91	127	205	262	129	193	132	102	65	186	66	31
18	81	119	187	215	121	182	127	96	62	168	54	31
19	82	137	175	195	112	173	123	95	61	144	55	30
20	80	164	e150	182	106	170	118	203	59	125	53	30
21	76	140	e140	168	116	172	136	214	59	108	50	30
22	72	127	131	152	169	166	479	176	58	96	45	29
23	68	122	189	e130	150	209	836	159	56	84	44	30
24	75	255	256	e115	144	407	591	156	53	73	42	29
25	83	684	204	e120	143	360	440	148	51	67	41	30
26	78	495	187	115	140	307	332	134	49	64	40	32
27	75	363	171	113	134	267	279	122	48	60	59	33
28	75	445	149	e94	144	1,190	237	115	49	62	73	32
29	73	356	143	e88	---	1,230	213	108	93	131	59	30
30	71	305	137	92	---	723	547	103	78	193	51	30
31	68	---	130	91	---	536	---	99	---	158	55	---
TOTAL	3,388	6,242	9,982	4,824	3,248	10,574	9,843	5,713	2,229	4,422	1,938	1,052
MEAN	109	208	322	156	116	341	328	184	74.3	143	62.5	35.1
MAX	344	684	972	495	169	1,230	836	601	106	709	123	58
MIN	68	60	130	88	84	116	118	95	48	54	40	29
CFSM	0.69	1.32	2.04	0.98	0.73	2.16	2.08	1.17	0.47	0.90	0.40	0.22
IN.	0.80	1.47	2.35	1.14	0.76	2.49	2.32	1.35	0.52	1.04	0.46	0.25

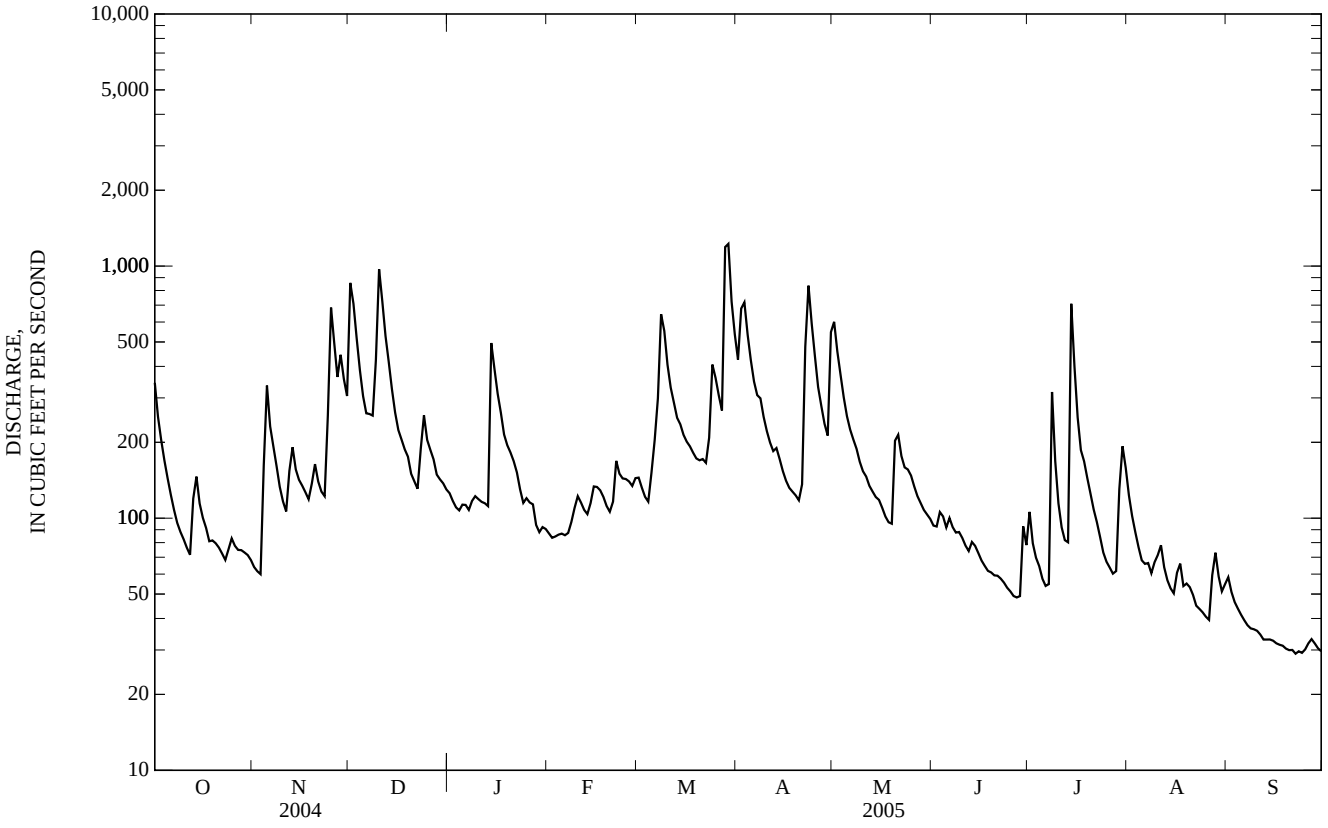
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

MEAN	80.1	136	167	222	243	352	283	229	139	64.5	57.0	76.3
MAX	367	762	419	703	604	767	814	508	518	143	282	342
(WY)	(1980)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(2005)	(1984)	(1979)
MIN	19.6	16.7	25.4	31.6	34.7	68.0	70.3	52.9	27.6	19.1	20.6	20.1
(WY)	(2002)	(2002)	(1999)	(1981)	(2002)	(1981)	(1999)	(1999)	(1999)	(1999)	(1988)	(1998)

02011400 JACKSON RIVER NEAR BACOVA, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1975 - 2005	
ANNUAL TOTAL	73,992		63,455			
ANNUAL MEAN	202		174		170	
HIGHEST ANNUAL MEAN					278	2003
LOWEST ANNUAL MEAN					66.9	1999
HIGHEST DAILY MEAN	1,520	Sep 28	1,230	Mar 29	8,820	Jan 19, 1996
LOWEST DAILY MEAN	26	Sep 5	29	aSep 22	13	bAug 13, 1999
ANNUAL SEVEN-DAY MINIMUM	27	Sep 1	30	Sep 19	13	Sep 8, 2002
MAXIMUM PEAK FLOW			2,310	Mar 28	30,000	Nov 4, 1985
MAXIMUM PEAK STAGE			8.65	Mar 28	c22.25	Nov 4, 1985
INSTANTANEOUS LOW FLOW			29	dSep 22	12	fSep 11, 2002
ANNUAL RUNOFF (CFSM)	1.28		1.10		1.08	
ANNUAL RUNOFF (INCHES)	17.42		14.94		14.64	
10 PERCENT EXCEEDS	419		377		365	
50 PERCENT EXCEEDS	145		119		89	
90 PERCENT EXCEEDS	45		50		27	

a Also Sept. 24, 2005.
b Also Sept. 26, 1999 and Sept. 9-14, 2002.
c From floodmark.
d Also Sept. 23-25, 30, 2005.
e Estimated.
f Also Sept. 12-14, 2002.



02011400 JACKSON RIVER NEAR BACOVA, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: March 1978 to September 1981, October 1982 to current year.

INSTRUMENTATION.--Water-temperature recorder March 1978 to September 1981, and since October 1982.

REMARKS.--Interruption in record due to instrument malfunction. Some record in prior years fragmentary due to instrument malfunction. Records represent water temperature at sensor within 0.5°C. Temperature at the sensor was compared with the average for the river by temperature cross section on Aug. 10, 2005. A maximum variation of 0.1°C was found within the cross section.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 31.1°C, July 6, 1999; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 28.0°C, Aug. 15; minimum recorded, 0.1°C on many days during winter.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.6	14.3	14.5	15.0	12.8	13.9	---	---	---	8.4	6.8	7.6
2	15.8	14.6	15.4	16.1	13.1	14.3	7.3	6.1	6.9	8.3	7.1	7.8
3	16.5	15.0	15.4	16.1	14.6	15.4	7.3	6.2	6.6	9.7	8.1	8.5
4	16.9	14.3	15.4	14.6	11.3	12.4	6.5	5.2	5.9	11.0	9.6	10.2
5	---	---	---	11.3	8.8	10.2	6.9	5.2	5.7	11.3	10.2	10.8
6	---	---	---	9.9	7.8	8.8	8.0	6.4	7.4	10.9	9.6	10.2
7	15.4	12.1	13.9	11.0	7.8	9.2	9.9	8.0	8.8	9.6	7.6	7.8
8	15.4	12.1	13.9	9.9	8.5	9.5	10.0	8.2	9.3	8.3	7.1	7.5
9	---	---	---	8.8	6.4	7.8	8.2	7.2	7.5	7.7	6.0	7.0
10	15.8	13.1	13.9	8.1	5.3	7.1	9.4	7.7	8.6	7.3	5.1	6.4
11	14.6	12.1	13.5	8.1	6.0	7.1	9.4	7.8	8.8	7.2	5.7	6.5
12	14.3	11.3	12.8	9.2	8.1	8.5	7.8	6.6	6.9	9.6	7.2	7.9
13	13.1	11.7	12.1	10.2	8.1	8.8	6.7	5.4	6.5	10.7	8.6	9.2
14	13.5	12.1	12.4	8.5	6.4	7.4	5.4	3.9	4.7	10.7	7.3	9.1
15	13.9	12.8	13.1	7.8	4.9	6.4	4.0	2.6	3.4	7.3	5.3	5.9
16	12.8	10.6	11.3	7.4	6.0	6.7	3.7	1.9	2.6	6.1	4.6	5.2
17	11.3	8.8	10.2	9.2	6.7	7.4	4.7	2.5	3.6	4.6	0.7	2.9
18	10.2	8.1	9.2	10.6	9.2	9.9	4.8	2.8	3.6	1.3	0.1	0.4
19	12.1	9.9	10.6	11.3	10.6	11.0	4.6	2.2	3.5	1.2	0.1	0.1
20	13.1	12.1	12.4	11.7	11.0	11.3	2.2	0.1	0.5	3.0	1.2	2.3
21	13.9	12.8	13.1	11.7	11.0	11.3	0.6	0.1	0.1	4.5	2.6	3.4
22	15.0	13.1	13.5	11.3	10.6	11.0	5.4	0.6	2.7	3.6	1.5	2.2
23	13.5	12.4	12.8	11.0	10.6	10.6	7.5	5.4	6.3	1.5	0.1	0.2
24	13.5	11.7	12.4	11.0	10.6	10.6	5.4	2.5	4.1	0.2	0.1	0.1
25	15.0	12.1	13.1	11.0	7.8	10.2	2.7	1.3	2.0	0.8	0.1	0.3
26	14.3	12.1	13.1	7.8	6.4	6.7	2.7	0.8	1.5	2.4	0.2	0.7
27	13.1	12.4	12.4	7.1	6.0	6.4	2.6	1.2	1.7	3.6	1.6	2.4
28	12.8	12.1	12.4	8.5	7.1	7.8	2.3	0.2	1.3	1.9	0.1	1.1
29	13.9	12.4	12.4	7.8	6.7	7.4	3.1	0.9	1.9	1.0	0.1	0.3
30	15.8	13.1	13.9	8.1	7.4	7.8	5.1	2.9	3.6	2.8	0.3	1.3
31	15.4	13.5	14.6	---	---	---	7.1	4.6	5.1	3.9	1.3	2.6
MAX	16.9	15.0	15.4	16.1	14.6	15.4	10.0	8.2	9.3	11.3	10.2	10.8
MIN	10.2	8.1	9.2	7.1	4.9	6.4	0.6	0.1	0.1	0.2	0.1	0.1

02011400 JACKSON RIVER NEAR BACOVA, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.7	2.0	3.2	4.0	2.3	3.2	10.5	9.0	9.9	13.3	10.6	11.7
2	3.7	1.4	3.2	3.9	1.4	2.6	9.9	7.8	9.7	11.7	8.8	9.7
3	3.8	2.4	3.4	4.2	0.3	2.2	9.1	6.2	7.7	11.4	7.6	9.0
4	5.6	3.5	4.0	3.4	0.2	2.2	11.0	7.2	8.4	13.3	9.0	10.6
5	5.6	2.4	4.1	4.0	2.5	3.2	12.6	8.5	10.0	14.1	10.1	12.1
6	5.7	2.4	4.2	7.1	3.0	4.6	14.2	10.5	11.6	14.1	11.2	12.3
7	6.5	3.2	4.9	7.1	4.4	5.5	12.7	11.9	12.4	13.8	10.3	12.3
8	8.7	5.2	6.4	6.9	4.3	6.5	12.9	11.5	12.0	17.2	11.2	13.2
9	8.2	6.2	7.3	4.9	2.6	3.9	14.9	10.0	12.0	18.7	11.8	14.8
10	7.8	4.3	6.2	5.6	3.1	4.1	16.1	10.5	12.5	19.2	13.1	16.1
11	4.3	2.1	2.9	5.8	4.5	4.8	17.0	11.4	13.6	20.9	15.4	17.6
12	5.3	1.7	2.9	5.7	4.1	4.7	14.4	10.8	12.3	19.5	16.3	18.2
13	4.9	2.7	3.9	8.0	4.8	6.0	10.8	9.6	10.2	17.9	15.6	16.3
14	5.7	0.5	5.0	9.4	5.9	6.8	12.9	7.7	9.7	19.3	14.7	16.9
15	7.0	4.7	5.5	8.6	5.0	6.6	15.0	9.0	11.5	19.7	15.9	17.6
16	6.5	5.2	5.9	7.3	6.0	6.6	14.7	8.6	11.6	19.7	14.4	17.2
17	5.7	4.2	4.9	8.1	5.9	6.5	15.1	8.8	11.9	18.3	14.1	16.3
18	4.2	1.8	3.1	9.2	4.7	6.6	15.8	10.7	13.2	19.5	14.8	16.9
19	4.2	0.7	2.5	9.2	5.3	7.3	14.6	11.7	14.0	19.1	16.1	17.8
20	3.5	2.2	3.0	10.3	7.0	8.5	17.8	12.6	14.6	17.5	14.4	16.0
21	5.2	3.4	3.9	9.9	6.5	8.1	17.7	13.4	15.6	17.2	12.8	14.5
22	8.5	4.7	6.1	10.3	5.8	7.8	15.6	12.3	13.9	17.0	13.0	15.0
23	8.5	5.5	7.1	10.0	8.5	9.0	12.4	10.6	11.9	17.6	13.9	15.5
24	7.5	4.6	5.5	8.9	7.3	8.4	10.6	7.8	8.6	15.7	13.7	14.6
25	6.6	3.4	4.6	8.1	6.6	7.2	11.5	7.0	8.4	14.4	12.4	13.6
26	5.5	2.9	4.4	8.8	7.7	8.2	12.4	8.9	10.3	18.8	12.0	14.5
27	5.8	2.8	4.4	8.4	8.0	8.2	12.2	10.6	11.5	19.0	14.4	16.6
28	5.1	3.1	3.6	9.1	7.9	8.5	13.3	9.2	10.6	17.8	14.8	16.4
29	---	---	---	11.0	8.1	9.0	11.8	11.1	11.3	17.8	14.3	16.3
30	---	---	---	10.9	8.0	10.1	11.8	11.0	11.3	18.0	13.9	16.8
31	---	---	---	10.9	9.2	10.3	---	---	---	20.2	15.1	17.2
MAX	8.7	6.2	7.3	11.0	9.2	10.3	17.8	13.4	15.6	20.9	16.3	18.2
MIN	3.5	0.5	2.5	3.4	0.2	2.2	9.1	6.2	7.7	11.4	7.6	9.0
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.9	16.0	18.5	25.8	21.7	23.3	24.5	20.1	21.7	22.7	19.5	20.7
2	18.5	15.5	16.1	26.4	22.2	23.9	25.7	20.6	22.7	23.4	19.2	20.8
3	16.7	14.9	15.5	24.7	22.7	23.4	26.2	21.8	24.0	22.9	19.0	20.9
4	19.9	15.6	17.9	24.9	21.8	23.0	26.6	22.0	24.4	22.8	19.0	20.8
5	24.0	18.4	20.2	26.3	21.9	23.8	26.3	22.5	24.6	21.4	18.5	20.0
6	24.3	20.1	22.3	25.8	22.6	24.3	26.3	22.4	24.2	21.9	17.1	19.5
7	23.2	20.4	21.9	24.0	20.0	21.6	24.5	22.0	23.2	22.0	17.5	19.7
8	23.3	20.1	21.8	20.1	18.1	19.1	23.4	22.2	22.8	22.1	17.4	19.8
9	24.1	20.6	22.0	21.8	18.1	19.1	23.5	21.4	22.4	22.3	17.8	20.1
10	24.5	21.4	23.0	23.7	18.5	20.8	25.6	21.4	22.6	22.3	18.7	20.6
11	24.9	21.7	23.1	24.6	20.6	22.3	25.5	22.2	23.9	22.8	19.0	20.5
12	23.1	21.1	22.1	25.1	21.7	23.4	27.1	22.9	24.3	---	---	---
13	23.9	21.2	22.1	25.7	22.3	23.8	27.7	23.6	25.3	---	---	---
14	25.9	20.6	22.5	24.2	17.7	18.6	27.5	24.1	25.6	21.4	18.5	20.2
15	24.6	21.8	23.2	19.0	17.4	17.9	28.0	23.9	25.6	23.5	19.4	20.7
16	23.4	21.0	22.0	20.4	18.3	19.2	26.0	23.7	25.1	23.6	20.5	22.1
17	22.0	18.4	20.6	22.8	19.3	20.5	26.4	23.1	24.5	23.6	20.6	21.9
18	21.5	17.8	19.6	23.3	20.1	21.4	24.1	21.2	21.8	23.0	19.5	21.1
19	20.7	17.7	19.3	24.1	20.5	21.9	24.5	20.6	21.5	22.9	18.6	20.7
20	21.4	18.2	19.6	24.6	20.6	22.3	25.5	22.2	23.6	21.9	19.9	20.9
21	22.1	18.4	20.2	25.2	21.0	23.1	27.3	23.5	24.9	---	---	---
22	23.1	18.9	20.7	25.1	21.7	23.7	25.6	22.5	24.2	---	---	---
23	24.8	19.1	21.3	26.2	21.9	23.9	24.8	21.5	23.0	---	---	---
24	25.8	20.2	22.5	25.1	21.0	23.4	24.6	21.3	22.9	---	---	---
25	25.6	20.9	23.4	26.9	22.0	23.7	24.3	21.3	22.7	---	---	---
26	25.6	21.3	23.5	27.5	22.5	24.9	22.7	20.8	21.5	---	---	---
27	27.2	22.0	24.3	27.9	24.0	25.6	20.8	19.3	19.6	---	---	---
28	26.8	23.1	24.4	25.4	23.1	24.0	23.0	18.9	19.8	---	---	---
29	24.9	22.8	23.9	23.6	21.7	22.6	23.0	20.6	21.9	---	---	---
30	25.5	21.9	23.5	22.3	20.3	21.4	22.1	21.2	21.8	---	---	---
31	---	---	---	23.4	20.2	21.2	22.4	20.9	21.6	---	---	---
MAX	27.2	23.1	24.4	27.9	24.0	25.6	28.0	24.1	25.6	23.6	20.6	22.1
MIN	16.7	14.9	15.5	19.0	17.4	17.9	20.8	18.9	19.6	21.4	17.1	19.5

02011460 BACK CREEK NEAR SUNRISE, VA

LOCATION.--Lat 38°14'43", long 79°46'07", NAD83, Bath County, Hydrologic Unit 02080201, on right bank 900 ft upstream from bridge on State Highway 600, 0.8 mi upstream from Gap Run, and 4.8 mi northeast of Sunrise.

DRAINAGE AREA.--60.1 mi^2.

PERIOD OF RECORD.--June 1974 to current year.

REVISED RECORDS.--WDR VA-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,200.02 ft NGVD of 1929 (levels by Virginia Department of Transportation). Jul. 2 to Sep. 6, 1990, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Virginia Power gage-height transmitter at station, receiver at Back Creek Dam. Maximum discharge, 17,500 ft^3/s, from rating curve extended above 3,800 ft^3/s. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 1	1345	875	3.41	Mar 28	1500	*2,120	*4.74
Mar 24	0330	1,010	3.60	Jul 8	0645	1,180	3.81

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	31	598	51	33	75	175	421	31	35	104	28
2	86	29	451	46	32	67	365	246	30	23	66	24
3	67	28	242	43	34	59	423	170	36	238	50	21
4	55	234	160	43	35	56	278	127	33	67	39	18
5	46	355	119	47	36	61	203	98	30	40	32	16
6	39	174	97	48	37	64	162	82	28	29	35	14
7	34	117	94	51	41	164	138	73	25	26	100	13
8	30	84	109	61	e55	629	129	66	24	663	49	12
9	27	66	202	76	76	357	112	58	30	212	68	11
10	25	56	505	83	118	207	99	53	26	99	85	10
11	23	49	336	75	111	157	87	48	23	63	60	9.4
12	21	78	229	69	92	126	78	45	21	48	43	8.7
13	28	128	175	63	76	104	73	42	20	48	33	8.3
14	30	111	132	289	76	109	65	39	19	269	27	8.0
15	27	90	101	286	99	112	58	41	18	208	24	7.7
16	26	76	83	188	115	107	52	37	16	137	31	7.5
17	26	67	76	138	103	96	48	34	14	125	28	7.1
18	24	60	69	99	85	85	47	31	13	130	24	6.6
19	25	59	65	83	71	90	45	31	12	93	26	6.3
20	26	66	54	79	65	115	43	203	12	69	23	6.0
21	30	68	51	68	69	130	43	240	11	53	20	5.9
22	30	67	50	60	104	114	120	143	10	44	17	5.6
23	30	64	147	e50	107	228	366	103	9.5	36	16	5.3
24	34	113	266	e47	104	740	264	85	8.8	30	14	5.3
25	38	371	168	48	92	340	187	69	7.9	27	13	5.7
26	38	272	122	46	86	209	155	60	7.5	25	13	6.5
27	38	176	92	e42	78	164	136	53	6.8	22	29	7.9
28	37	194	72	e31	81	1,000	111	47	10	38	45	7.2
29	35	182	68	e32	---	727	97	43	23	209	43	6.4
30	35	151	61	36	---	352	409	38	22	324	33	6.0
31	33	---	55	34	---	230	---	35	---	230	34	---
TOTAL	1,168	3,616	5,049	2,412	2,111	7,074	4,568	2,861	577.5	3,660	1,224	304.4
MEAN	37.7	121	163	77.8	75.4	228	152	92.3	19.2	118	39.5	10.1
MAX	125	371	598	289	118	1,000	423	421	36	663	104	28
MIN	21	28	50	31	32	56	43	31	6.8	22	13	5.3
CFSM	0.63	2.01	2.71	1.29	1.25	3.80	2.53	1.54	0.32	1.96	0.66	0.17
IN.	0.72	2.24	3.13	1.49	1.31	4.38	2.83	1.77	0.36	2.27	0.76	0.19

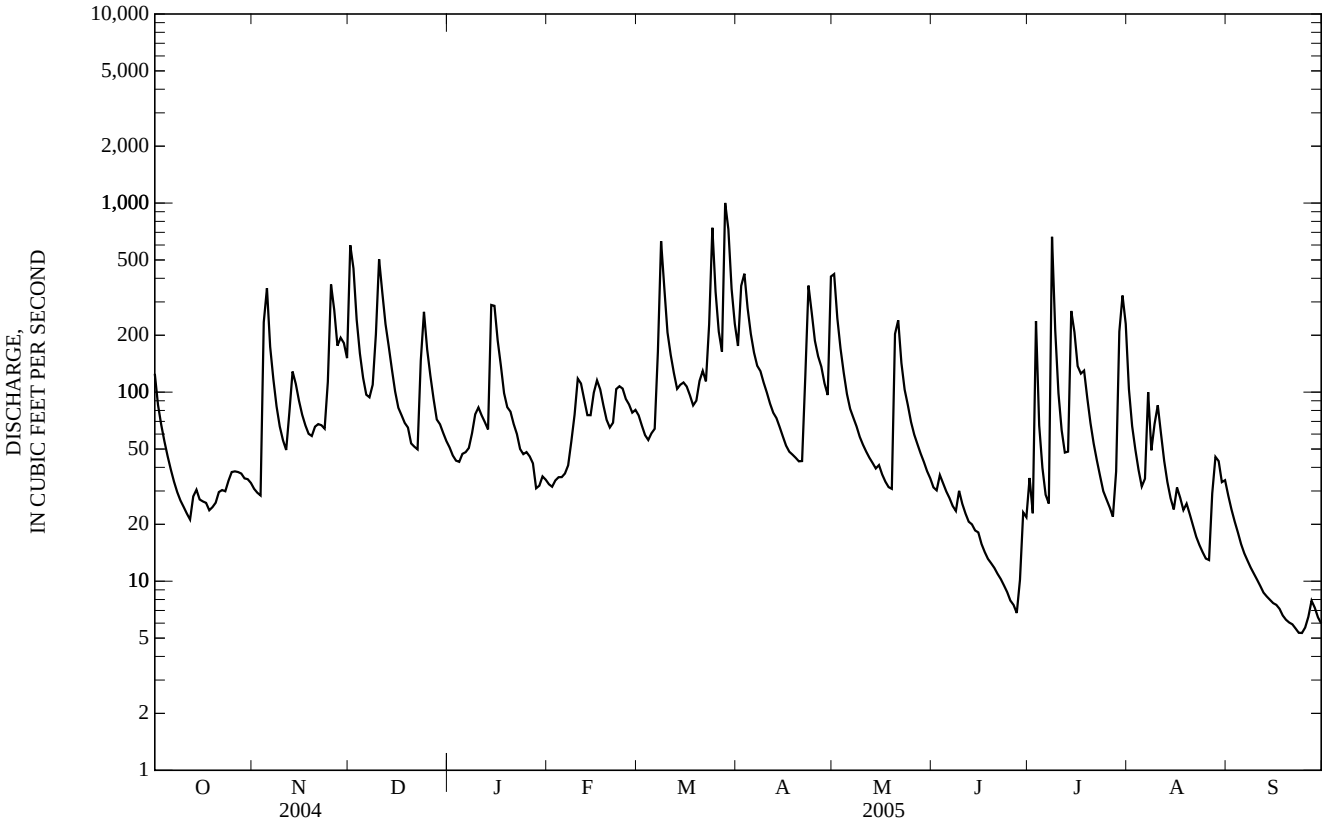
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2005, BY WATER YEAR (WY)

MEAN	40.6	86.0	106	131	141	198	143	129	65.3	30.2	25.3	31.0
MAX	256	512	249	426	326	394	330	391	243	118	88.9	180
(WY)	(1977)	(1986)	(1997)	(1996)	(1994)	(1993)	(1987)	(1996)	(2003)	(2005)	(1996)	(1996)
MIN	3.46	4.03	6.23	8.49	23.6	54.5	41.9	31.8	9.42	2.47	4.41	2.48
(WY)	(1999)	(1999)	(1999)	(1981)	(2002)	(1988)	(1999)	(1991)	(1999)	(1999)	(1987)	(1983)

02011460 BACK CREEK NEAR SUNRISE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1974 - 2005	
ANNUAL TOTAL	39,578.7		34,624.9			
ANNUAL MEAN	108		94.9		93.8	
HIGHEST ANNUAL MEAN					155	1996
LOWEST ANNUAL MEAN					39.1	1999
HIGHEST DAILY MEAN	1,050	Apr 13	1,000	Mar 28	6,280	Nov 4, 1985
LOWEST DAILY MEAN	3.0	Sep 5	5.3	Sep 23	0.87	Aug 12, 1999
ANNUAL SEVEN-DAY MINIMUM	3.6	Sep 1	5.7	Sep 19	1.0	Aug 6, 1999
MAXIMUM PEAK FLOW			2,120	Mar 28	17,500	Nov 4, 1985
MAXIMUM PEAK STAGE			4.74	Mar 28	10.01	Nov 4, 1985
INSTANTANEOUS LOW FLOW			5.1	aSep 23	0.73	bAug 12, 1999
ANNUAL RUNOFF (CFSM)	1.80		1.58		1.56	
ANNUAL RUNOFF (INCHES)	24.50		21.43		21.20	
10 PERCENT EXCEEDS	238		218		212	
50 PERCENT EXCEEDS	65		56		44	
90 PERCENT EXCEEDS	11		13		6.1	

a Also Sept. 24, 2005.
b Also Aug. 13, 1999.
e Estimated.



02011470 BACK CREEK AT SUNRISE, VA

LOCATION.--Lat 38°11'25", long 79°48'42", NAD83, 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^2.

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 NGVD of 1929 (Virginia Power bench mark). Nov. 5, 1992, to Jan. 5, 1993, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. 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, 5,820 ft^3/s, from rating curve extended above 1,770 ft^3/s on basis of release from Back Creek Lake at gage height 11.99 ft. 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	32	792	54	38	125	209	574	35	14	103	21
2	138	38	657	52	42	129	445	302	41	14	63	21
3	93	38	266	52	42	55	491	156	42	97	60	21
4	69	103	244	52	47	54	301	115	40	133	48	21
5	40	305	160	55	51	91	183	96	39	103	37	20
6	38	309	127	71	50	95	118	125	40	71	44	20
7	32	239	127	71	50	150	155	113	40	200	105	16
8	34	135	119	71	52	864	172	82	41	801	60	17
9	34	119	233	88	53	540	145	85	41	279	61	17
10	31	59	728	103	110	240	116	77	43	105	100	15
11	20	59	461	105	152	198	113	77	33	58	58	15
12	15	74	256	116	156	138	105	65	25	66	44	17
13	18	163	224	92	116	121	91	44	19	56	43	19
14	36	154	211	321	103	124	76	42	17	305	37	22
15	38	124	150	381	108	143	72	40	18	248	27	19
16	37	112	124	193	134	112	60	32	18	185	34	16
17	34	108	101	177	144	119	43	30	18	136	39	16
18	36	99	95	184	114	121	42	32	19	131	27	16
19	38	82	76	153	121	114	45	32	18	127	26	18
20	38	84	54	110	102	100	45	e150	16	99	25	16
21	38	94	53	114	88	137	46	235	15	62	26	15
22	38	66	53	135	131	171	109	144	16	58	23	15
23	38	64	144	107	132	288	431	116	16	43	19	16
24	36	125	309	32	137	1,060	311	101	14	30	19	16
25	43	439	226	23	137	423	216	102	12	25	18	15
26	46	330	128	22	108	256	205	102	12	22	19	15
27	46	256	125	21	98	137	163	48	13	23	35	15
28	46	244	98	41	98	460	130	37	16	27	96	16
29	44	225	94	43	---	968	108	35	17	185	199	18
30	45	223	82	36	---	1,070	502	e29	14	455	43	15
31	43	---	66	35	---	519	---	e27	---	268	23	---
TOTAL	1,507	4,502	6,583	3,110	2,714	9,122	5,248	3,245	748	4,426	1,561	519
MEAN	48.6	150	212	100	96.9	294	175	105	24.9	143	50.4	17.3
MAX	225	439	792	381	156	1,070	502	574	43	801	199	22
MIN	15	32	53	21	38	54	42	27	12	14	18	15

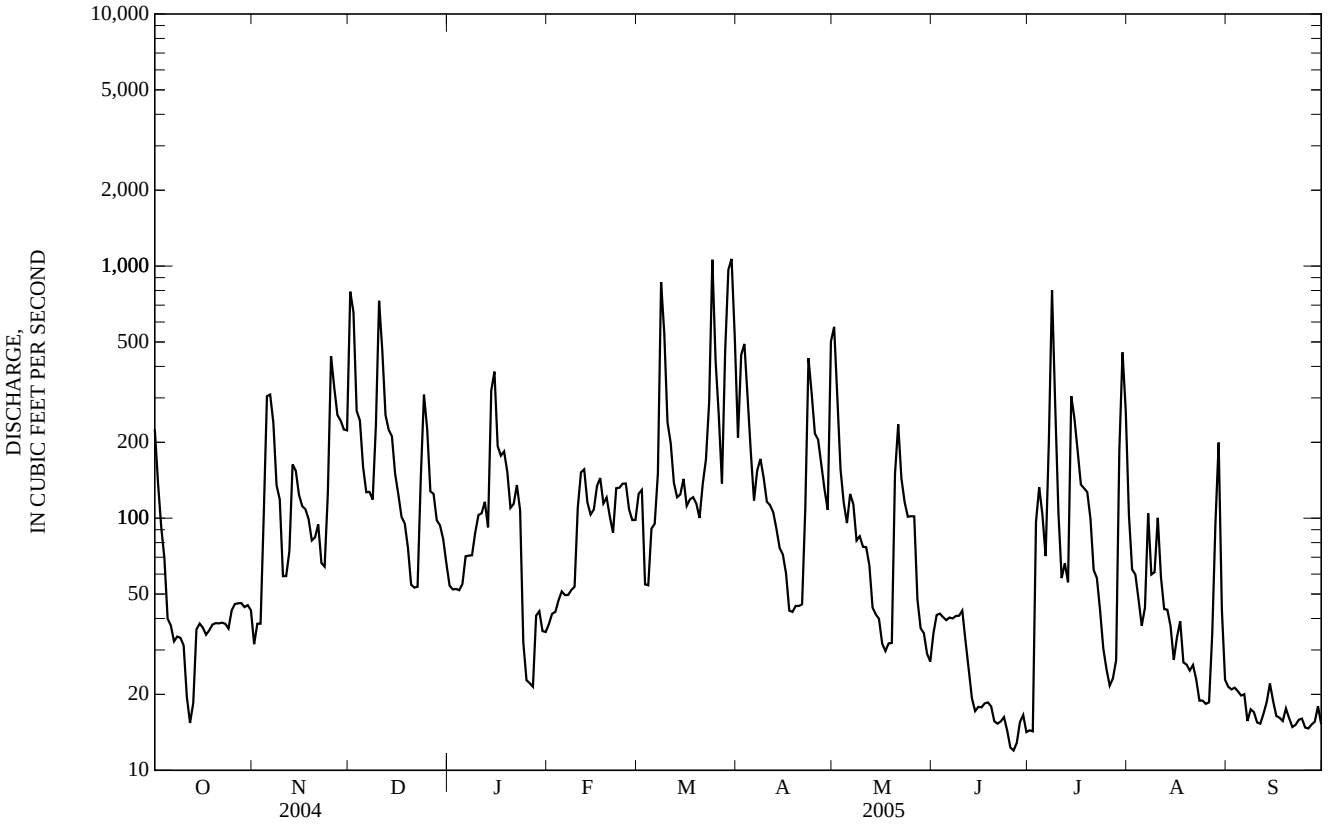
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2005, BY WATER YEAR (WY)

MEAN	36.1	96.3	124	162	165	252	186	179	87.9	40.1	33.4	46.2
MAX	150	382	285	504	416	616	496	399	353	143	96.1	230
(WY)	(1990)	(2004)	(1997)	(1996)	(1994)	(1993)	(1987)	(1989)	(2003)	(2005)	(1996)	(1996)
MIN	9.31	3.83	2.51	11.4	16.5	61.4	51.1	37.5	12.3	10.0	12.1	11.5
(WY)	(1985)	(1999)	(1999)	(2002)	(2002)	(1988)	(1986)	(1991)	(1999)	(1999)	(1999)	(1985)

02011470 BACK CREEK AT SUNRISE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985 - 2005	
ANNUAL TOTAL	51,701		43,285			
ANNUAL MEAN	141		119		117	
HIGHEST ANNUAL MEAN					199	2003
LOWEST ANNUAL MEAN					47.9	1999
HIGHEST DAILY MEAN	1,350	Apr 14	1,070	Mar 30	4,890	Jan 19, 1996
LOWEST DAILY MEAN	13	Jun 27	12	aJun 25	1.7	bDec 5, 1998
ANNUAL SEVEN-DAY MINIMUM	14	Jun 24	14	Jun 21	1.9	Nov 30, 1998
MAXIMUM PEAK FLOW			1,680	Mar 24	5,820	Nov 19, 2003
MAXIMUM PEAK STAGE			6.71	Mar 24	12.22	Nov 19, 2003
INSTANTANEOUS LOW FLOW			11	cJun 25	1.7	dDec 5, 1998
10 PERCENT EXCEEDS	309		256		263	
50 PERCENT EXCEEDS	75		71		43	
90 PERCENT EXCEEDS	15		18		14	

a Also Jun. 26, 2005.
b Also Dec. 6, 1998.
c Also Jun. 26, 27, 2005.
d Also Dec. 6, 7, 1998.
e Estimated.



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^2.

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 NGVD of 1929 (Virginia Power bench mark). Nov. 5, 1992, to Jan. 5, 1993, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since January 1985 by Little Back Creek Lake 1.2 mi upstream, amount unknown. Maximum discharge, 580 ft^3/s, from rating curve extended above 30 ft^3/s on basis of slope-area measurement of 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.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	2.8	23	3.2	2.8	4.3	6.5	17	2.8	2.3	3.1	2.3
2	4.6	2.8	17	3.2	2.8	3.9	13	11	2.8	2.4	2.8	2.2
3	3.9	2.7	10	3.2	2.9	3.4	17	8.1	3.1	3.5	2.6	2.2
4	3.5	6.9	7.1	3.2	2.8	3.4	12	6.1	2.9	2.6	2.4	2.2
5	3.4	12	5.5	3.6	2.8	3.5	8.8	5.1	2.8	2.5	2.3	2.2
6	3.2	8.3	4.9	3.6	3.0	3.7	7.1	4.5	2.8	2.4	2.4	2.2
7	3.0	6.1	5.0	3.6	3.5	5.9	5.9	4.1	2.7	2.5	2.4	2.2
8	2.3	5.2	5.6	3.9	4.1	18	5.3	3.9	2.7	7.0	2.2	2.2
9	2.0	4.2	9.3	4.6	5.0	12	4.6	3.9	2.6	4.8	3.2	2.3
10	2.0	3.7	20	5.0	5.9	8.1	4.0	3.7	2.5	3.5	2.9	2.3
11	2.5	3.3	13	4.7	5.9	6.3	4.0	3.5	2.3	2.9	2.6	2.3
12	2.3	4.3	9.0	4.4	5.2	5.4	3.6	3.1	2.2	3.3	2.5	2.2
13	3.5	5.6	7.3	4.1	4.6	4.9	3.7	e3.0	2.4	3.4	2.4	2.2
14	3.2	5.4	5.9	11	4.8	5.1	3.5	2.9	2.5	5.5	2.2	2.3
15	2.8	5.1	4.8	12	5.4	5.3	3.2	3.0	2.5	7.3	2.2	2.2
16	2.7	4.6	4.3	8.7	5.8	5.4	2.9	3.2	2.3	6.2	2.7	2.2
17	2.6	4.1	4.0	6.7	5.7	5.1	2.7	3.0	2.2	5.4	2.4	2.1
18	2.4	3.7	3.8	e5.2	5.2	4.6	2.9	2.9	2.1	5.9	2.4	2.0
19	2.5	3.5	e3.7	e5.0	4.5	4.6	2.7	2.8	2.1	5.2	2.5	2.0
20	2.4	3.3	e3.6	4.5	4.1	5.7	2.5	5.1	2.1	4.3	2.6	2.6
21	2.3	3.2	e3.5	4.0	4.3	6.4	2.5	7.0	2.3	3.7	2.6	2.8
22	2.4	3.1	3.5	3.7	4.8	6.2	e4.0	6.2	2.5	3.2	2.5	2.4
23	2.4	3.5	4.9	e3.3	5.0	8.9	11	5.5	2.4	2.9	2.4	2.3
24	2.7	5.5	8.4	e3.2	5.0	18	11	4.9	2.3	2.7	2.3	2.3
25	3.1	15	7.6	e3.2	4.5	13	8.7	4.3	2.3	2.7	2.2	2.4
26	3.2	13	6.3	e3.1	4.4	8.6	7.4	3.9	2.2	2.6	2.3	2.5
27	3.1	8.7	5.3	e2.9	4.4	6.8	6.7	3.6	2.3	2.5	2.8	2.4
28	3.1	8.8	4.7	e2.7	4.7	24	5.7	3.3	2.3	3.0	2.8	2.4
29	2.9	9.0	4.0	e2.6	---	24	5.1	3.2	2.6	3.1	2.6	2.4
30	2.6	7.7	3.6	2.7	---	13	14	3.1	2.3	3.4	2.5	2.3
31	2.6	---	3.4	2.8	---	8.7	---	3.1	---	3.1	2.4	---
TOTAL	90.9	175.1	222.0	137.6	123.9	256.2	192.0	148.0	73.9	115.8	78.2	68.6
MEAN	2.93	5.84	7.16	4.44	4.42	8.26	6.40	4.77	2.46	3.74	2.52	2.29
MAX	5.7	15	23	12	5.9	24	17	17	3.1	7.3	3.2	2.8
MIN	2.0	2.7	3.4	2.6	2.8	3.4	2.5	2.8	2.1	2.3	2.2	2.0

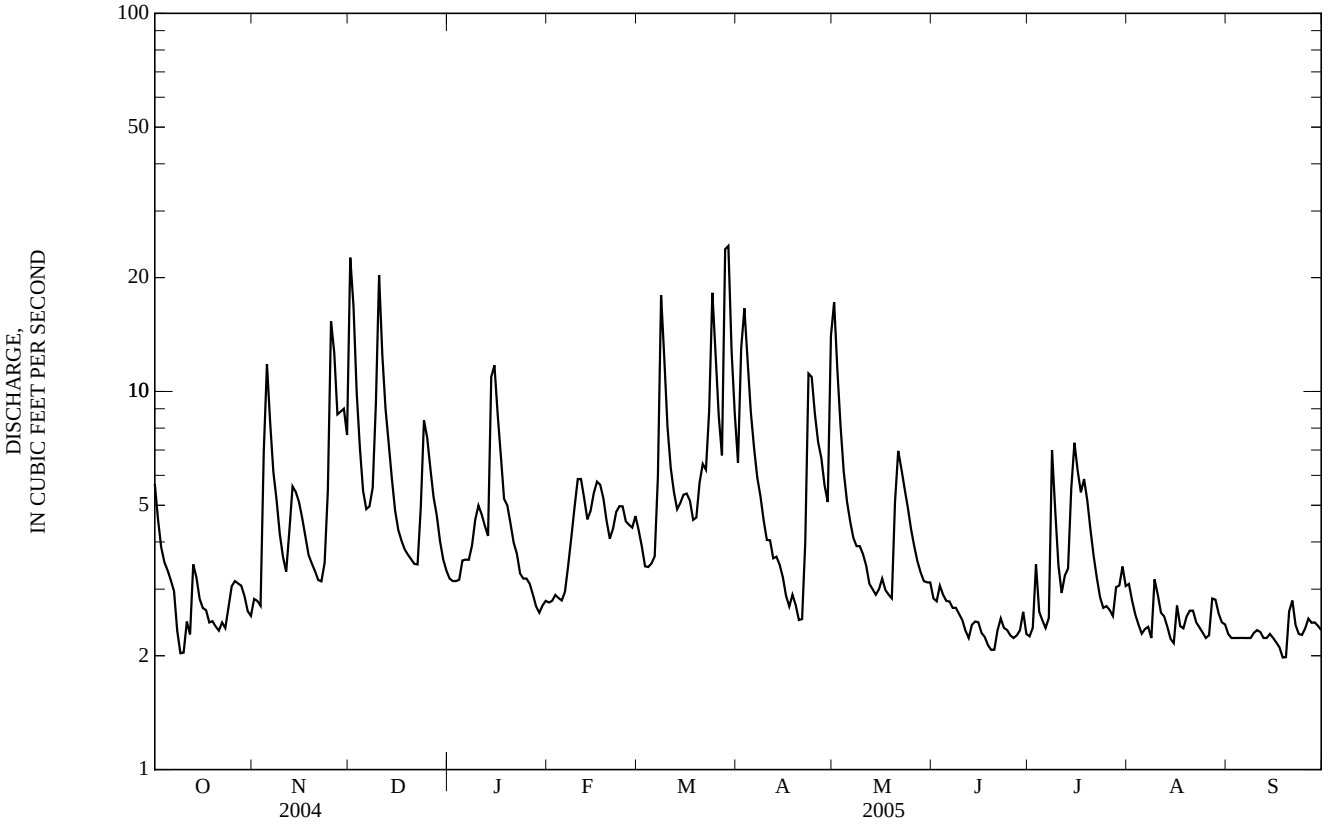
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2005, BY WATER YEAR (WY)

MEAN	3.44	5.27	5.75	6.71	6.81	8.35	6.95	6.87	4.53	3.44	3.30	3.61
MAX	7.46	12.6	9.65	15.7	12.9	16.4	13.1	14.8	12.0	4.95	5.13	8.33
(WY)	(1990)	(1986)	(1997)	(1996)	(1994)	(1993)	(1987)	(1985)	(2003)	(1994)	(1989)	(2003)
MIN	2.00	1.94	1.99	3.07	3.20	3.91	2.78	3.09	2.08	1.99	2.22	2.28
(WY)	(2000)	(1999)	(1999)	(2002)	(2002)	(1985)	(1999)	(1999)	(1999)	(1999)	(1999)	(1985)

02011490 LITTLE BACK CREEK NEAR SUNRISE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985 - 2005	
ANNUAL TOTAL	2,047.2		1,682.2			
ANNUAL MEAN	5.59		4.61		5.41	
HIGHEST ANNUAL MEAN					7.33	2003
LOWEST ANNUAL MEAN					3.34	1999
HIGHEST DAILY MEAN	73	May 28	24	aMar 28	158	Nov 4, 1985
LOWEST DAILY MEAN	2.0	bJul 10	2.0	cOct 9	0.90	Oct 13, 1984
ANNUAL SEVEN-DAY MINIMUM	2.2	Aug 30	2.1	Sep 13	1.2	Jan 24, 1985
MAXIMUM PEAK FLOW			42	Mar 28	580	Nov 4, 1985
MAXIMUM PEAK STAGE			2.57	Mar 28	4.06	Nov 4, 1985
INSTANTANEOUS LOW FLOW			1.9	dJul 28	f0.73	Oct 9, 1999
10 PERCENT EXCEEDS	10		8.5		9.4	
50 PERCENT EXCEEDS	3.9		3.4		3.8	
90 PERCENT EXCEEDS	2.4		2.3		2.4	

a Also Mar. 29, 2005.
b Also Oct. 9, 10, 2004.
c Also Oct. 10, 2004 and Sept. 18, 19, 2005.
d Also Sept. 18, 19, 2005.
e Estimated.
f Result of regulation.



02011500 BACK CREEK NEAR MOUNTAIN GROVE, VA

LOCATION.--Lat 38°04'10", long 79°53'49", NAD83, Bath County, Hydrologic Unit 02080201, on left bank 0.3 mi downstream from Cummings Run, 0.8 mi downstream from bridge on State Highway 39, and 2.1 mi south of Mountain Grove.

DRAINAGE AREA.--134 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,701.45 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since October 1984 by Back Creek Lake 11.3 mi upstream, amount unknown, and since January 1985 by Little Back Creek Lake 14.4 mi upstream, amount unknown. Statistics of monthly mean data and summary statistics for water years 1952-1984 (unregulated flow) are available in previous data books, water years 1991-1998. Diversion 10.5 mi upstream from station by Virginia Power for recreation lakes, net averages 0.5 ft^3/s. U.S. Army Corps of Engineers satellite water temperature and gage-height telemeter at station. Maximum discharge, 18,400 ft^3/s, from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	316	53	1,070	98	61	179	358	890	54	37	135	33
2	215	56	1,000	92	67	195	679	553	64	36	76	31
3	134	56	497	91	71	115	849	313	69	80	74	30
4	109	178	390	91	75	101	559	225	65	142	67	28
5	70	523	277	96	85	159	383	186	62	129	49	26
6	57	464	199	108	86	225	238	192	62	78	53	26
7	48	370	198	111	88	363	257	184	60	184	95	24
8	45	199	190	119	100	1,050	268	138	61	757	76	20
9	44	180	407	140	114	847	230	126	62	412	66	24
10	40	103	1,150	161	161	456	178	125	62	147	104	20
11	32	95	779	154	208	350	169	122	57	89	80	20
12	21	113	454	161	211	250	163	114	46	89	62	19
13	e55	210	383	141	174	202	150	90	43	78	53	21
14	e78	219	330	504	154	191	127	82	38	295	51	25
15	83	178	241	643	171	212	125	79	39	295	43	25
16	76	162	193	383	197	184	108	70	37	231	42	20
17	66	146	166	290	223	182	90	60	37	163	58	20
18	60	137	151	269	174	181	86	59	36	151	40	19
19	65	123	137	234	172	172	88	61	36	151	41	19
20	63	128	104	170	152	159	85	251	33	126	38	21
21	62	139	101	164	138	184	94	375	31	88	38	19
22	60	119	100	164	219	231	216	229	31	80	37	18
23	59	110	153	156	227	310	701	182	31	69	31	18
24	63	201	396	85	224	1,060	556	152	30	50	31	19
25	74	771	340	57	221	643	384	144	26	44	29	19
26	83	606	189	53	181	434	335	134	25	38	30	19
27	83	443	182	50	166	247	259	99	24	39	41	19
28	80	406	144	e45	166	840	219	69	27	40	94	19
29	75	388	141	74	---	1,290	178	64	54	114	206	22
30	74	357	122	60	---	1,160	616	59	39	470	77	19
31	71	---	114	58	---	750	---	54	---	314	41	---
TOTAL	2,461	7,233	10,298	5,022	4,286	12,922	8,748	5,481	1,341	5,016	1,958	662
MEAN	79.4	241	332	162	153	417	292	177	44.7	162	63.2	22.1
MAX	316	771	1,150	643	227	1,290	849	890	69	757	206	33
MIN	21	53	100	45	61	101	85	54	24	36	29	18

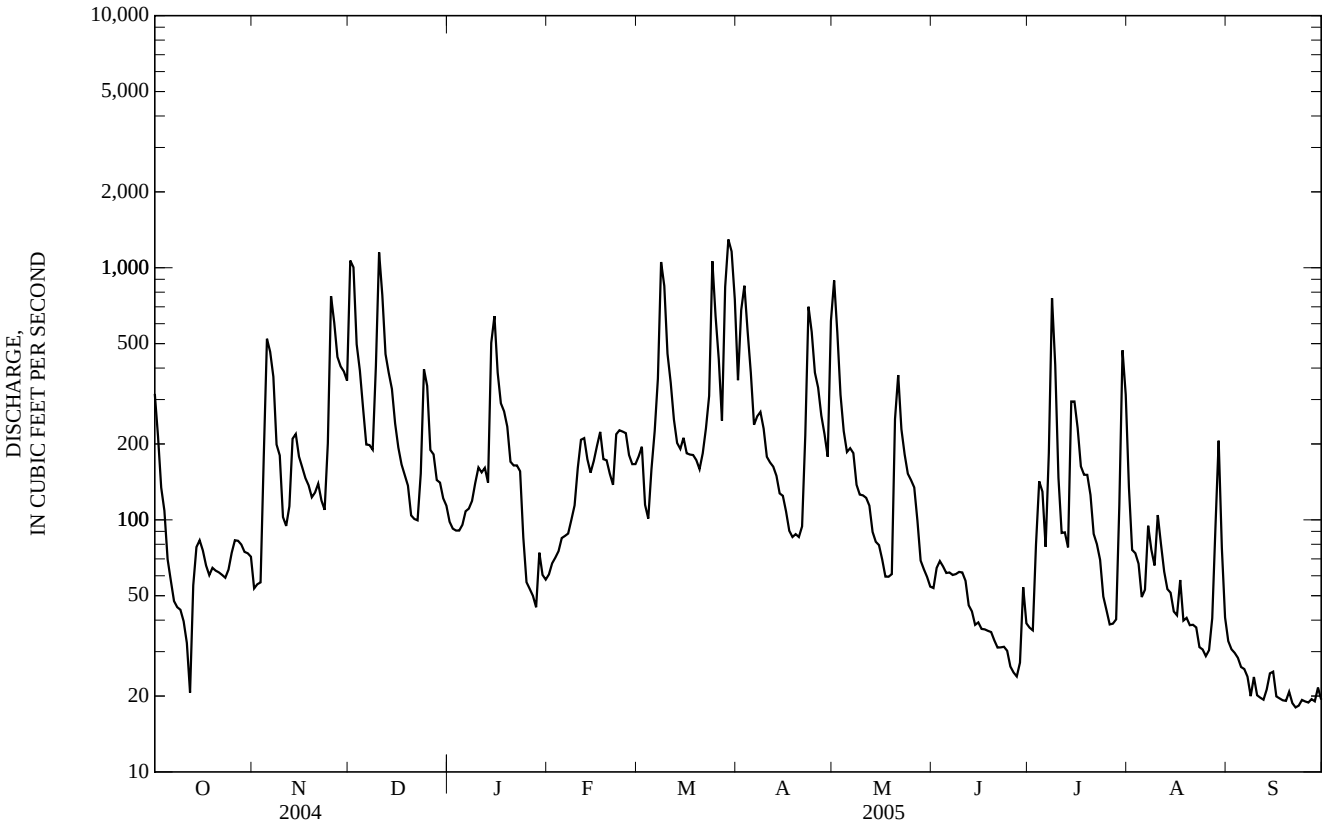
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2005, BY WATER YEAR (WY)

MEAN	56.4	162	201	262	271	382	288	261	130	59.9	49.0	66.2
MAX	246	696	392	818	608	833	824	528	497	162	127	300
(WY)	(1990)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(1996)	(2003)	(2005)	(2000)	(1996)
MIN	18.9	11.4	12.6	37.0	41.2	92.8	77.6	62.9	18.2	14.0	17.9	16.5
(WY)	(1999)	(1999)	(1999)	(2002)	(2002)	(1988)	(1999)	(1991)	(1999)	(1999)	(1987)	(1985)

02011500 BACK CREEK NEAR MOUNTAIN GROVE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985 - 2005	
ANNUAL TOTAL	78,204		65,428			
ANNUAL MEAN	214		179		182	
HIGHEST ANNUAL MEAN					302	2003
LOWEST ANNUAL MEAN					81.3	1999
HIGHEST DAILY MEAN	2,100	Apr 14	1,290	Mar 29	9,940	Jan 19, 1996
LOWEST DAILY MEAN	19	aSep 1	18	bSep 22	8.4	Nov 23, 1998
ANNUAL SEVEN-DAY MINIMUM	19	Sep 1	19	Sep 21	9.1	Nov 23, 1998
MAXIMUM PEAK FLOW			1,650	Mar 8	c18,400	Jan 19, 1996
MAXIMUM PEAK STAGE			5.34	Mar 8	12.41	Jan 19, 1996
INSTANTANEOUS LOW FLOW			17	dSep 12	f,g5.3	Dec 30, 1998
10 PERCENT EXCEEDS	498		400		425	
50 PERCENT EXCEEDS	126		111		79	
90 PERCENT EXCEEDS	25		31		20	

a Also Sept. 2, 5, 6, 2004.
b Also Sept. 23, 2005.
c Prior to regulation, 1951-84, maximum peak flow, 12,700 ft^3/s, Mar. 7, 1967, gage height, 10.77 ft.
d Also Sept. 19, 21-24, 26, 28, 29, 2005.
e Estimated.
f Prior to regulation, 1951-84, instantaneous low flow, 1.5 ft^3/s, Aug. 18, 1967.
g Result of freezeup.



02011500 BACK CREEK NEAR MOUNTAIN GROVE, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1978 to current year.

INSTRUMENTATION.--Water-temperature recorder since June 1978.

REMARKS.--Some record in prior years fragmentary due to instrument malfunction. Records represent water temperature at sensor within 0.5°C. Temperature at the sensor was compared with the average for the creek by temperature cross section on Aug. 10, 2005. A maximum variation of 0.7°C was found within the cross section.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 33.5°C, Aug. 14, 1988; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 31.3°C, June 14; minimum recorded, 0.0°C on many days during winter.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.7	17.7	18.5	16.1	12.4	14.3	10.8	9.8	10.5	8.6	7.0	7.6
2	19.7	18.5	18.9	16.5	13.5	15.4	11.3	9.6	10.3	8.3	6.5	7.4
3	19.7	17.7	18.5	16.9	14.6	15.8	10.4	8.5	9.2	9.5	7.8	8.2
4	19.3	15.8	17.7	14.6	12.4	12.4	10.3	7.9	8.6	10.1	8.8	9.4
5	17.7	14.6	16.1	14.6	12.4	13.1	10.0	7.8	8.6	9.7	8.6	9.4
6	17.3	13.5	15.4	15.0	12.4	13.1	9.9	8.6	9.0	9.3	8.1	8.6
7	17.3	13.5	15.4	15.8	12.4	13.1	11.4	9.9	10.3	8.1	6.3	6.8
8	16.9	13.1	15.0	12.8	10.6	12.1	10.7	9.0	9.8	8.7	6.8	7.2
9	16.1	13.1	15.0	12.8	9.5	10.6	9.3	7.8	8.4	7.8	5.4	6.7
10	17.7	14.6	15.4	11.0	8.1	9.9	11.0	9.3	10.3	7.9	5.2	6.3
11	---	---	---	11.0	8.8	9.9	10.3	8.7	10.2	7.7	6.1	7.0
12	---	---	---	11.7	11.0	11.0	8.9	8.3	8.6	9.9	7.5	8.2
13	---	---	---	13.5	10.6	11.7	8.7	7.1	8.3	9.9	7.8	8.7
14	---	---	---	12.4	9.2	10.6	7.7	6.7	7.0	9.8	6.9	7.8
15	15.4	13.1	13.9	11.7	8.5	10.2	7.2	5.5	6.2	7.8	6.3	6.7
16	13.5	11.3	12.4	11.0	9.9	10.6	6.9	4.3	5.3	7.3	5.1	6.3
17	12.8	9.9	11.3	13.1	9.9	11.3	7.2	5.1	5.9	5.1	2.6	3.9
18	11.7	9.2	10.6	13.1	12.1	12.8	6.8	4.4	5.6	4.8	2.3	3.0
19	14.6	11.7	13.5	13.1	12.4	12.8	6.3	3.2	5.5	4.2	2.8	3.3
20	15.4	14.3	14.6	13.1	12.4	12.8	3.2	0.0	1.6	4.8	3.9	4.3
21	15.4	14.3	14.6	12.8	11.7	12.4	4.4	0.7	1.7	5.9	3.8	4.6
22	16.5	14.3	15.0	12.8	12.1	12.4	7.4	4.4	5.7	4.6	2.6	3.4
23	15.0	13.1	13.9	12.1	11.3	12.1	8.3	6.1	7.7	3.3	0.9	2.1
24	15.4	12.4	13.1	12.1	11.7	12.1	7.1	5.5	6.0	1.0	0.0	0.4
25	16.1	13.1	14.3	12.1	10.2	11.7	6.4	4.6	5.2	3.3	0.3	1.3
26	15.4	12.1	13.9	10.6	9.5	10.2	5.6	3.2	4.3	3.6	1.5	2.7
27	13.9	13.1	13.5	11.0	9.2	10.2	4.9	3.1	3.9	3.1	0.6	2.4
28	14.3	13.5	13.9	11.0	9.5	10.6	4.9	2.1	3.3	0.9	0.0	0.2
29	15.8	13.5	13.9	11.0	9.2	9.9	5.7	3.1	4.3	1.1	0.0	0.6
30	17.3	14.6	15.8	11.3	9.9	10.6	6.7	4.5	5.4	3.5	0.6	2.4
31	16.1	13.9	15.0	---	---	---	7.9	5.5	6.5	4.0	1.0	3.0
MAX	19.7	18.5	18.9	16.9	14.6	15.8	11.4	9.9	10.5	10.1	8.8	9.4
MIN	11.7	9.2	10.6	10.6	8.1	9.9	3.2	0.0	1.6	0.9	0.0	0.2

02011500 BACK CREEK NEAR MOUNTAIN GROVE, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.9	2.1	3.2	5.2	2.8	3.6	9.5	6.5	7.8	13.1	9.8	10.4
2	3.7	1.0	3.2	5.5	1.8	2.9	8.2	6.6	7.7	10.5	8.6	9.5
3	4.2	2.4	3.4	5.1	0.6	2.3	9.8	5.9	6.8	13.5	7.3	9.6
4	6.2	3.5	4.1	3.9	0.0	2.3	11.2	6.3	7.7	14.4	8.0	10.1
5	5.6	1.8	4.0	4.7	2.6	3.6	12.7	6.2	8.0	14.1	8.5	11.7
6	5.8	2.0	4.2	7.7	3.2	4.8	13.6	7.3	9.6	13.8	9.6	11.6
7	6.7	2.9	5.0	6.9	3.3	4.8	10.5	8.5	9.6	13.7	9.1	11.6
8	8.0	4.7	5.8	5.5	3.8	5.1	11.3	8.9	9.8	18.0	10.4	12.7
9	7.3	4.9	6.3	6.2	3.3	3.8	14.3	7.3	9.8	18.8	9.9	14.0
10	6.4	3.2	4.8	6.5	3.1	4.0	15.3	7.3	10.7	18.0	10.9	15.0
11	4.5	1.9	3.0	6.0	3.6	4.2	15.5	8.1	11.4	19.0	13.2	15.7
12	6.9	3.1	4.4	5.6	3.1	4.0	12.3	8.9	9.4	17.2	13.4	16.0
13	5.5	3.3	4.5	7.9	3.9	5.4	10.0	8.4	8.9	15.8	13.9	14.7
14	5.7	5.0	5.3	8.7	4.0	5.4	13.2	6.2	8.9	18.9	13.6	16.4
15	6.8	4.1	5.3	8.3	2.6	4.9	14.5	7.1	10.4	19.2	15.1	16.9
16	6.8	4.1	5.2	6.1	4.2	5.3	14.3	6.7	10.6	19.3	12.7	16.0
17	6.0	3.7	4.2	7.4	4.3	5.0	14.5	7.2	10.9	18.4	12.9	15.5
18	4.5	1.8	3.2	9.2	2.9	5.3	15.2	9.5	12.2	18.5	13.6	16.2
19	6.0	1.3	3.1	8.3	3.3	5.9	14.1	10.3	13.0	18.6	15.1	17.0
20	4.3	2.9	3.9	9.5	5.1	6.7	16.8	10.7	13.6	16.8	13.3	15.1
21	5.6	3.8	4.5	9.2	4.0	6.1	16.9	11.2	14.3	17.8	12.4	13.9
22	8.4	4.4	5.6	9.6	3.6	6.1	14.7	11.3	13.0	17.3	11.6	14.0
23	7.7	4.1	5.8	8.1	6.2	6.6	11.5	9.4	10.9	17.6	12.8	14.7
24	5.8	3.9	4.2	6.9	5.4	6.2	9.9	8.4	9.1	15.2	12.8	13.7
25	7.2	3.5	4.3	7.8	5.3	5.9	13.0	7.7	9.3	14.7	12.1	13.3
26	5.9	2.4	4.2	7.2	6.1	6.5	13.1	8.2	9.9	20.1	12.1	14.3
27	6.2	2.6	4.2	6.7	6.4	6.6	12.1	9.2	10.3	19.3	13.1	16.1
28	5.1	2.6	3.5	8.6	6.4	7.1	13.8	8.1	10.3	18.5	13.9	15.8
29	---	---	---	9.5	6.7	7.0	11.3	9.6	10.4	18.3	13.3	15.5
30	---	---	---	9.4	6.2	7.1	11.1	10.4	10.7	17.9	13.0	16.1
31	---	---	---	9.7	6.7	7.7	---	---	---	20.9	14.7	16.7
MAX	8.4	5.0	6.3	9.7	6.7	7.7	16.9	11.3	14.3	20.9	15.1	17.0
MIN	3.7	1.0	3.0	3.9	0.0	2.3	8.2	5.9	6.8	10.5	7.3	9.5
		JUNE			JULY			AUGUST			SEPTEMBER	
1	21.0	15.8	18.2	30.4	24.0	25.9	27.1	22.5	23.9	---	---	---
2	18.5	15.9	16.3	30.1	24.9	26.5	27.8	22.3	25.0	---	---	---
3	17.4	15.4	15.9	26.6	24.5	25.7	28.0	22.7	25.4	---	---	---
4	20.6	16.2	18.7	27.3	23.6	24.8	28.3	22.7	25.3	---	---	---
5	24.9	18.4	20.4	28.0	23.8	25.8	27.9	23.1	25.3	---	---	---
6	24.0	19.2	21.8	27.7	24.5	26.4	28.1	23.2	25.3	---	---	---
7	22.3	19.6	21.1	26.5	23.4	24.2	26.0	23.2	24.9	---	---	---
8	23.0	18.9	20.9	25.2	23.4	24.1	24.8	23.0	24.0	---	---	---
9	24.1	19.9	21.7	25.8	22.7	23.4	26.2	23.1	24.0	---	---	---
10	25.0	21.2	22.8	26.4	20.8	22.7	27.8	23.1	24.6	---	---	---
11	25.2	22.9	24.1	26.6	21.7	24.1	26.9	23.3	25.4	---	---	---
12	24.4	22.5	23.4	27.2	23.0	25.0	28.6	23.9	25.4	---	---	---
13	27.3	23.4	24.7	27.0	22.8	25.1	29.2	24.3	26.0	---	---	---
14	31.3	23.8	26.0	25.9	23.1	23.5	28.6	24.6	26.4	---	---	---
15	30.5	24.5	26.5	24.6	22.7	23.3	29.2	24.2	26.3	---	---	---
16	27.7	20.7	23.8	25.5	22.6	23.5	27.8	24.5	26.2	---	---	---
17	26.4	19.5	20.6	26.2	22.6	24.1	29.2	24.9	26.1	---	---	---
18	25.4	18.8	20.9	26.2	23.0	24.5	25.6	23.5	23.9	---	---	---
19	26.1	19.7	22.3	26.1	22.7	24.6	28.0	23.2	24.1	---	---	---
20	---	---	---	27.0	23.0	25.0	27.8	24.4	26.0	---	---	---
21	---	---	---	27.1	22.6	24.9	30.3	25.6	26.4	---	---	---
22	---	---	---	27.2	23.4	25.5	27.3	23.3	25.0	---	---	---
23	---	---	---	28.7	23.3	25.4	---	---	---	---	---	---
24	---	---	---	27.1	21.8	24.7	---	---	---	---	---	---
25	---	---	---	29.1	22.7	24.8	---	---	---	---	---	---
26	---	---	---	30.4	23.3	26.0	---	---	---	---	---	---
27	---	---	---	30.3	24.5	26.2	21.7	20.7	21.0	---	---	---
28	---	---	---	26.0	23.9	24.9	26.6	21.1	23.0	---	---	---
29	27.6	24.7	25.9	25.9	23.2	23.9	25.8	22.8	24.5	---	---	---
30	28.7	24.7	25.9	25.5	23.3	24.0	24.5	23.0	24.0	---	---	---
31	---	---	---	26.7	23.6	24.0	24.7	22.2	23.8	---	---	---
MAX	31.3	24.7	26.5	30.4	24.9	26.5	30.3	25.6	26.4	---	---	---
MIN	17.4	15.4	15.9	24.6	20.8	22.7	21.7	20.7	21.0	---	---	---

02011800 JACKSON RIVER BELOW GATHRIGHT DAM, NEAR HOT SPRINGS, VA

LOCATION.--Lat 37°56'54", long 79°56'57", NAD83, Alleghany County, Hydrologic Unit 02080201, on right bank 0.4 mi upstream from Cedar Creek, 0.5 mi downstream from Gathright Dam and Lake Moomaw, and 7.3 mi southwest of Hot Springs.

DRAINAGE AREA.--345 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to current year.

REVISED RECORDS.--WDR VA-81-1: 1980.

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft NGVD of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Dec. 20, 1973, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 0.5 mi upstream; since October 1984 by Back Creek Lake 28.5 mi upstream, amount unknown; and since January 1985 by Little Back Creek Lake 31.6 mi upstream, amount unknown. Statistics of monthly mean data and summary statistics for water years 1974-1979 (unregulated flow) are available in previous data books, water years 1991-1998. U.S. Army Corps of Engineers satellite water-temperature and gage-height telemeter at station. Maximum discharge, 29,000 ft^3/s, from rating curve extended above 9,140 ft^3/s on basis of slope-area measurement of peak flow.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1972, reached a stage of 17.20 ft, from floodmark.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	195	1,140	316	211	533	1,320	1,060	262	289	292	273
2	192	196	1,930	315	211	610	1,060	1,060	263	293	292	260
3	192	196	2,670	315	211	395	1,060	1,060	263	292	292	260
4	192	197	1,730	315	211	259	1,060	1,060	263	293	290	260
5	192	758	819	252	211	260	1,060	1,060	263	292	291	260
6	192	1,140	569	211	211	609	1,080	656	260	292	290	260
7	192	814	418	336	211	961	1,090	412	261	293	e292	260
8	192	491	478	349	211	1,080	1,090	412	260	293	292	260
9	192	355	518	314	399	1,080	737	412	261	293	292	261
10	192	254	909	331	455	1,080	521	412	263	292	293	260
11	192	214	1,620	336	412	1,080	520	297	267	293	292	260
12	192	406	2,070	336	412	1,080	521	233	267	292	292	260
13	193	513	1,770	335	412	1,080	397	233	267	293	292	260
14	192	387	1,230	786	412	853	318	346	267	292	292	260
15	193	315	713	1,110	412	524	255	411	267	292	292	260
16	193	315	456	1,090	412	412	217	410	267	293	292	260
17	194	315	417	1,080	412	412	217	294	269	293	292	260
18	193	315	417	922	412	412	218	231	270	293	292	260
19	193	440	417	640	412	412	217	233	270	292	292	261
20	193	426	356	396	412	412	217	233	269	293	292	260
21	178	368	316	374	412	412	218	758	271	293	292	260
22	195	336	315	412	412	671	734	715	275	292	292	260
23	195	315	315	412	412	820	1,070	513	274	292	293	260
24	195	315	750	300	412	982	1,070	393	274	292	292	260
25	195	831	765	211	413	1,080	1,550	311	274	291	292	260
26	195	1,150	429	211	412	1,080	1,750	311	274	290	292	260
27	195	1,140	317	211	413	1,080	1,020	311	274	289	292	260
28	195	1,140	317	211	413	1,090	549	264	274	317	292	260
29	195	1,140	315	211	---	2,440	612	233	274	340	293	260
30	195	1,140	315	211	---	3,280	885	233	280	292	292	260
31	196	---	315	211	---	2,290	---	250	---	292	293	---
TOTAL	6,005	16,117	25,116	13,060	9,961	28,769	22,633	14,817	8,043	9,128	9,051	7,815
MEAN	194	537	810	421	356	928	754	478	268	294	292	260
MAX	220	1,150	2,670	1,110	455	3,280	1,750	1,060	280	340	293	273
MIN	178	195	315	211	211	259	217	231	260	289	290	260

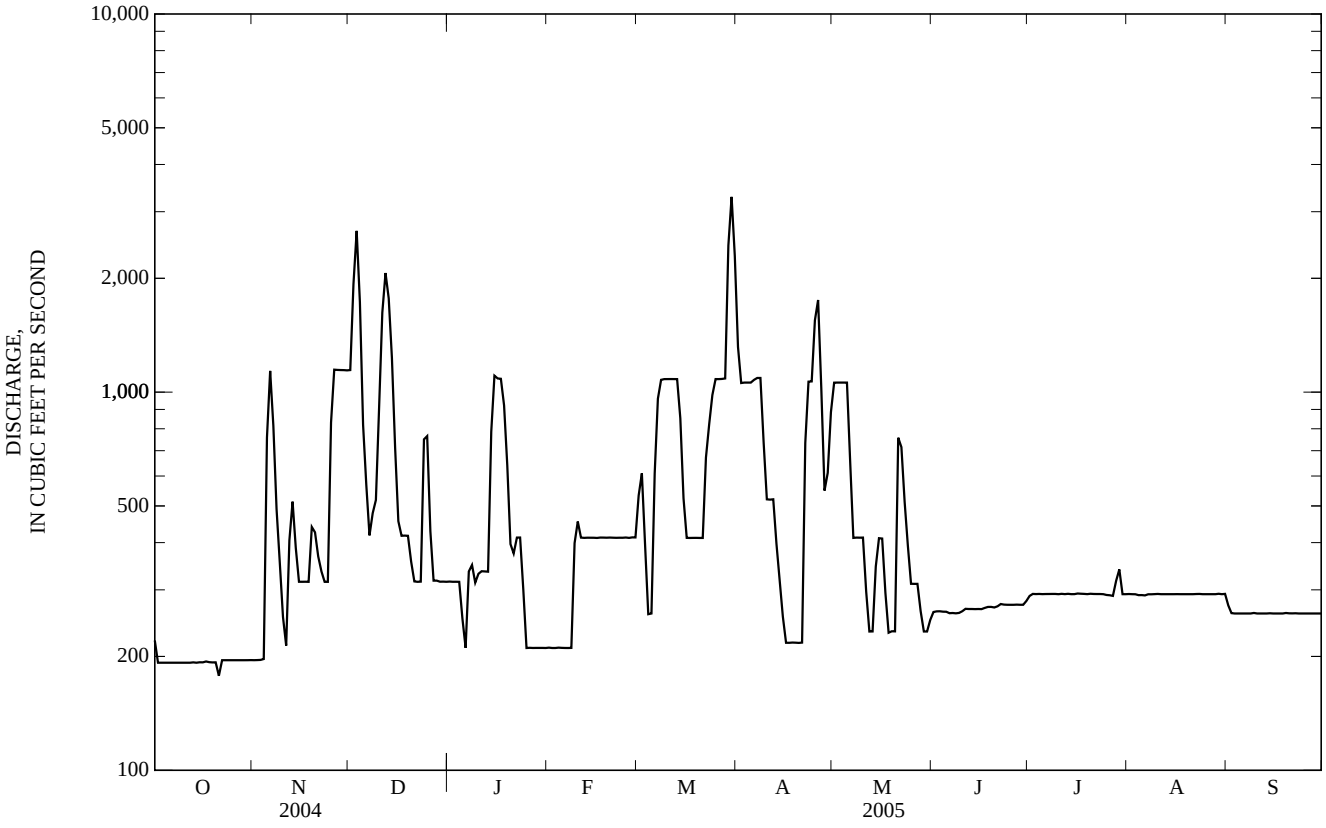
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	223	329	317	428	598	855	730	608	438	279	279	264
MAX	829	1,387	1,061	1,555	1,466	1,881	2,052	1,477	1,286	398	644	661
(WY)	(1980)	(2004)	(1997)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(1995)	(1984)	(1996)
MIN	70.8	64.1	60.8	74.5	114	74.4	172	226	202	123	71.4	57.5
(WY)	(1981)	(1982)	(1982)	(1981)	(1981)	(1981)	(1981)	(1999)	(1980)	(1980)	(1981)	(1981)

02011800 JACKSON RIVER BELOW GATHRIGHT DAM, NEAR HOT SPRINGS, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	188,970		170,515			
ANNUAL MEAN	516		467		445	
HIGHEST ANNUAL MEAN					674	2003
LOWEST ANNUAL MEAN					196	1981
HIGHEST DAILY MEAN	4,710	Apr 15	3,280	Mar 30	8,670	Nov 7, 1985
LOWEST DAILY MEAN	162	Sep 8	178	Oct 21	47	Sep 2, 1981
ANNUAL SEVEN-DAY MINIMUM	191	Oct 15	191	Oct 15	53	Aug 29, 1981
MAXIMUM PEAK FLOW			3,770	Mar 29	a10,400	Nov 7, 1985
MAXIMUM PEAK STAGE			12.77	Mar 29	a15.29	Nov 7, 1985
INSTANTANEOUS LOW FLOW			b16	cOct 21	b,d5.2	May 6, 1980
ANNUAL RUNOFF (CFSM)	1.50		1.35		1.29	
ANNUAL RUNOFF (INCHES)	20.38		18.39		17.51	
10 PERCENT EXCEEDS	1,110		1,070		904	
50 PERCENT EXCEEDS	315		293		266	
90 PERCENT EXCEEDS	196		211		151	

a Prior to regulation, 1974-79, maximum peak flow, 29,000 ft^3/s, Dec. 26, 1973, result of cofferdam failure during construction of Gathright Dam, gage height, 18.77 ft.
b Result of regulation.
c Also Apr. 28, 2005
d Prior to regulation, 1974-79, instantaneous low flow, 3.0 ft^3/s, July 12, 1979, result of gate closure at Gathright Dam.
e Estimated.



02011800 JACKSON RIVER BELOW GATHRIGHT DAM, NEAR HOT SPRINGS, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1978 to current year.

INSTRUMENTATION.--Water-quality monitor October 1978 to September 2001. Water-temperature recorder since October 2001.

REMARKS.--Interruption in record due to instrument malfunction. Some record in prior years fragmentary due to instrument malfunction. The intake tower at Gathright Dam permits selective withdrawal of water from one or more reservoir depths. Records represent water tempertature within 0.5°C. Temperature at the sensor was compared with the average for the river by temperature cross section on Oct. 25, 2000. No variation of water temperature was found within the cross section. Daily records of specific conductance, pH, and dissolved oxygen were also collected from October 1978 to September 2001.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE (water years 1979, 1981-04): Maximum recorded, 28.0°C, Aug. 1, 2, 1979; minimum recorded, 0.0°C, Feb. 16-19, 1979.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 18.6°C, Oct. 1; minimum recorded, 4.5°C, Mar. 3.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.6	18.2	18.3	16.4	16.1	16.2	12.3	12.0	12.2	7.0	6.9	6.9
2	18.5	18.1	18.3	16.3	16.0	16.1	12.0	11.0	11.2	7.0	6.8	6.9
3	18.4	18.1	18.2	16.4	16.1	16.2	11.5	11.2	11.4	6.9	6.8	6.8
4	18.4	17.9	18.1	16.1	15.9	16.0	11.6	11.1	11.3	7.1	6.7	6.9
5	18.3	17.9	18.1	16.1	15.4	15.5	11.4	11.1	11.3	7.0	6.6	6.9
6	18.2	17.9	18.1	15.6	15.4	15.5	11.1	11.0	11.1	7.0	6.7	6.9
7	18.3	17.9	18.0	16.0	15.5	15.9	11.1	10.9	11.0	7.2	6.5	6.9
8	18.2	17.9	18.0	15.9	15.5	15.8	11.0	10.7	10.9	7.2	6.5	6.7
9	18.2	17.8	18.0	15.5	15.2	15.4	10.7	10.6	10.6	7.1	6.7	6.8
10	18.2	17.9	18.0	15.2	15.0	15.1	10.6	10.5	10.5	6.8	5.9	6.0
11	18.1	17.6	17.9	15.1	14.8	14.9	10.5	9.5	9.6	6.0	5.9	5.9
12	17.9	17.5	17.7	14.9	14.8	14.9	9.8	9.6	9.8	6.1	5.9	6.0
13	17.8	17.6	17.7	14.8	14.5	14.7	10.1	9.8	10.0	6.2	6.0	6.0
14	17.8	17.5	17.7	14.6	14.3	14.4	10.0	9.8	9.9	6.1	5.9	6.0
15	17.8	17.4	17.6	14.3	14.1	14.2	9.9	9.6	9.7	6.9	6.0	6.1
16	17.5	17.0	17.3	14.2	14.0	14.0	9.6	9.5	9.6	6.9	6.7	6.8
17	17.3	16.7	17.1	14.0	13.9	14.0	9.5	9.4	9.5	6.9	6.5	6.8
18	17.1	16.7	16.9	14.0	13.9	13.9	9.4	9.2	9.3	6.5	6.3	6.4
19	17.2	16.8	16.9	13.9	13.6	13.7	9.2	8.8	9.1	6.3	6.2	6.3
20	17.0	16.8	16.9	13.6	13.5	13.6	8.8	8.5	8.6	6.4	6.2	6.2
21	17.0	16.4	16.8	13.6	13.5	13.5	8.5	8.4	8.5	6.3	6.1	6.2
22	16.8	16.5	16.6	13.7	13.4	13.5	8.4	8.3	8.3	6.1	5.9	6.1
23	16.6	16.4	16.5	13.5	13.4	13.5	8.3	8.1	8.2	5.9	5.6	5.7
24	16.6	16.3	16.4	13.5	13.4	13.5	8.1	7.7	7.9	5.9	5.5	5.7
25	16.6	16.3	16.4	13.4	13.1	13.4	7.7	7.6	7.6	5.8	5.6	5.7
26	16.5	16.2	16.3	13.2	12.9	13.0	7.7	7.5	7.6	5.8	5.6	5.7
27	16.4	16.3	16.3	12.9	12.8	12.8	7.5	7.3	7.4	5.6	5.3	5.5
28	16.4	16.2	16.3	12.8	12.6	12.8	7.4	7.2	7.3	5.4	5.2	5.3
29	16.5	16.2	16.2	12.6	12.4	12.6	7.3	7.2	7.2	5.5	5.2	5.3
30	16.5	16.2	16.2	12.4	12.2	12.4	7.3	7.1	7.2	5.5	5.2	5.3
31	16.4	16.1	16.2	---	---	---	7.1	7.0	7.0	5.3	5.1	5.2
MAX	18.6	18.2	18.3	16.4	16.1	16.2	12.3	12.0	12.2	7.2	6.9	6.9
MIN	16.4	16.1	16.2	12.4	12.2	12.4	7.1	7.0	7.0	5.3	5.1	5.2

02011800 JACKSON RIVER BELOW GATHRIGHT DAM, NEAR HOT SPRINGS, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.4	5.2	5.2	4.9	4.7	4.8	6.9	5.4	6.3	10.8	9.4	9.9
2	5.4	5.1	5.3	4.7	4.6	4.6	7.7	6.3	7.3	10.2	9.4	9.5
3	5.4	5.1	5.2	4.9	4.5	4.7	8.6	7.7	8.3	10.2	9.5	9.7
4	5.4	5.2	5.2	5.0	4.6	4.8	8.4	7.4	7.9	10.0	9.6	9.8
5	5.3	5.1	5.2	4.9	4.7	4.7	8.0	6.9	7.4	10.1	9.6	9.8
6	5.3	5.1	5.2	5.0	4.7	4.8	7.6	6.9	7.3	10.5	9.6	10.3
7	5.4	5.1	5.3	4.9	4.6	4.8	7.7	7.0	7.4	11.2	10.0	10.3
8	5.7	5.2	5.5	4.9	4.7	4.8	7.9	7.4	7.7	10.8	10.1	10.4
9	5.6	5.1	5.3	4.8	4.6	4.7	8.5	7.8	7.9	10.8	10.0	10.4
10	5.6	5.0	5.4	4.8	4.6	4.7	8.2	7.6	7.8	11.0	9.8	10.4
11	5.3	5.2	5.2	4.8	4.7	4.7	8.2	7.5	7.8	11.6	10.1	10.7
12	5.2	5.1	5.1	4.8	4.6	4.7	8.1	7.6	8.0	11.4	10.5	10.8
13	5.1	5.0	5.0	4.9	4.7	4.8	8.4	8.1	8.3	10.9	10.5	10.8
14	5.0	4.9	5.0	5.1	4.8	5.0	8.7	7.8	8.3	11.3	10.0	10.6
15	5.2	4.9	5.1	5.4	5.0	5.2	9.1	8.0	8.5	11.4	10.3	10.8
16	5.3	5.0	5.1	5.3	5.2	5.3	9.2	8.1	8.5	11.2	10.3	10.9
17	5.2	5.0	5.1	5.4	5.1	5.2	9.1	8.1	8.3	11.6	10.3	10.9
18	5.0	4.8	4.9	5.4	5.0	5.1	9.1	8.2	8.5	11.9	10.7	11.1
19	4.9	4.7	4.8	5.6	4.9	5.3	9.3	8.1	8.5	11.7	11.0	11.2
20	4.9	4.8	4.9	5.8	5.2	5.6	9.5	8.1	8.6	11.7	10.8	11.1
21	4.9	4.8	4.9	5.7	5.5	5.6	9.3	8.1	8.7	11.7	10.6	11.0
22	5.1	4.8	4.9	5.8	5.3	5.6	9.2	7.9	8.5	12.3	10.9	11.3
23	5.3	5.0	5.2	5.6	5.4	5.4	9.0	8.0	8.5	12.3	11.0	11.2
24	5.2	4.9	5.0	6.2	5.4	6.0	9.4	8.0	8.5	11.8	11.1	11.5
25	5.2	4.9	5.1	6.0	5.5	5.7	9.0	6.4	7.9	12.0	11.4	11.6
26	5.2	5.0	5.1	5.8	5.6	5.7	7.6	6.8	7.3	12.3	11.3	11.8
27	5.2	5.0	5.1	5.8	5.5	5.6	9.9	6.5	9.5	12.0	11.1	11.6
28	5.0	4.9	4.9	6.3	5.7	6.0	11.6	8.8	9.4	12.6	11.5	11.7
29	---	---	---	6.8	5.7	5.9	9.7	8.8	9.5	12.5	11.5	11.9
30	---	---	---	6.2	5.9	5.9	9.7	9.2	9.5	12.6	11.5	11.9
31	---	---	---	6.0	5.4	5.8	---	---	---	12.7	11.6	11.8
MAX	5.7	5.2	5.5	6.8	5.9	6.0	11.6	9.2	9.5	12.7	11.6	11.9
MIN	4.9	4.7	4.8	4.7	4.5	4.6	6.9	5.4	6.3	10.0	9.4	9.5
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.7	11.5	11.8	14.5	13.6	14.1	15.3	14.8	14.9	15.6	14.9	15.1
2	12.4	11.6	12.1	15.0	13.6	14.2	15.4	14.9	15.0	15.3	14.8	15.0
3	12.3	11.8	12.0	14.5	13.9	14.1	15.4	15.0	15.0	15.4	14.8	15.0
4	12.8	11.9	12.1	14.8	14.0	14.3	15.4	14.6	15.0	15.3	14.8	14.9
5	12.9	11.9	12.2	15.0	14.1	14.4	15.0	14.6	14.7	15.2	14.7	14.8
6	12.9	12.0	12.3	15.0	14.2	14.4	---	---	---	15.1	14.7	14.7
7	12.9	12.0	12.3	15.0	14.3	14.5	---	---	---	15.0	14.6	14.7
8	13.1	12.2	12.4	15.1	14.2	14.6	---	---	---	15.0	14.6	14.7
9	13.2	12.2	12.4	15.2	14.3	14.5	---	---	---	15.1	14.6	14.8
10	13.3	12.2	12.6	15.2	14.4	14.6	---	---	---	15.0	14.6	14.7
11	13.3	12.3	12.6	15.2	14.4	14.7	15.0	14.5	14.6	15.0	14.6	14.7
12	13.5	12.3	12.7	15.3	14.6	14.9	15.1	14.6	14.7	14.9	14.6	14.7
13	13.3	12.5	12.7	15.4	14.6	14.8	15.1	14.7	14.8	14.9	14.6	14.7
14	13.5	12.6	12.8	15.5	14.6	15.0	15.3	14.8	14.9	14.8	14.6	14.7
15	13.7	12.5	12.9	15.3	14.7	15.0	15.3	14.8	14.9	15.0	14.6	14.8
16	14.0	12.6	13.1	15.7	14.8	15.0	15.3	14.9	15.0	15.0	14.7	14.8
17	14.2	12.3	13.1	15.7	14.9	15.1	15.2	14.9	14.9	15.0	14.7	14.8
18	13.7	12.6	12.9	15.7	15.0	15.2	14.9	14.7	14.9	15.0	14.7	14.8
19	13.9	12.9	13.2	15.9	14.8	15.3	15.1	14.7	14.7	17.0	14.7	16.5
20	13.7	13.0	13.1	15.9	15.1	15.4	15.1	14.7	14.8	16.5	15.6	15.8
21	14.0	13.0	13.2	15.8	15.2	15.5	15.2	14.7	14.9	15.8	15.2	15.5
22	13.8	13.1	13.3	15.9	14.8	15.5	15.2	14.8	14.9	15.4	15.1	15.2
23	13.9	13.1	13.4	15.5	14.9	15.2	15.1	14.7	14.8	15.5	15.0	15.2
24	14.4	13.2	13.5	15.5	14.8	15.1	15.1	14.7	14.8	15.0	14.9	15.0
25	14.3	13.3	13.6	15.2	7.9	8.5	15.1	14.7	14.8	15.0	14.9	14.9
26	14.3	13.4	13.6	8.5	7.9	8.1	14.8	14.6	14.7	15.0	14.9	14.9
27	14.4	13.6	13.7	8.6	8.1	8.2	14.6	14.4	14.5	15.1	14.9	14.9
28	14.3	13.6	13.8	9.2	8.1	8.4	14.7	14.4	14.5	15.1	14.8	14.9
29	14.4	13.8	14.0	13.9	9.1	12.3	14.7	14.4	14.4	15.0	14.7	14.9
30	14.7	13.7	13.9	14.3	13.8	14.0	15.4	14.4	15.3	15.0	14.6	14.7
31	---	---	---	15.7	13.9	14.8	15.4	15.1	15.2	---	---	---
MAX	14.7	13.8	14.0	15.9	15.2	15.5	15.4	15.1	15.3	17.0	15.6	16.5
MIN	12.3	11.5	11.8	8.5	7.9	8.1	14.6	14.4	14.4	14.8	14.6	14.7

02012800 JACKSON RIVER AT FILTRATION PLANT, AT COVINGTON, VA

LOCATION.--Lat 37°48'39", long 79°59'19", NAD83, Covington City, Hydrologic Unit 02080201, on left bank 50 ft upstream from Dry Run and 1.7 mi upstream from Dunlap Creek and bridge on U.S. Highway 60.

DRAINAGE AREA.--439 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1978 to current year.

INSTRUMENTATION.--Water-temperature recorder since June 1978.

REMARKS.--Some record in prior years fragmentary due to instrument malfunction. Records represent water temperature at sensor within 0.5°C. U.S. Army Corps of Engineers satellite water-temperature telemeter at station. Temperature at the sensor was compared with the average for the river by temperature cross section on Oct. 1, 1991. A maximum variation of 0.5°C was found within the cross section.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 30.5°C, July 21, 1980; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.4°C, July 23; minimum recorded, 3.4°C, Jan. 24, Feb. 19, Mar. 3.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.8	16.7	17.4	16.5	15.1	16.0	11.8	10.5	11.2	10.2	9.6	9.9
2	18.0	17.4	17.8	17.3	15.6	16.6	11.3	10.0	10.5	10.1	9.1	9.7
3	18.8	17.4	18.0	17.9	16.6	17.0	11.5	10.5	10.8	10.5	9.8	10.1
4	18.5	16.8	17.7	16.6	13.8	14.7	11.3	10.2	10.7	11.3	10.4	10.7
5	17.9	16.5	17.1	14.5	12.7	13.6	11.2	9.6	10.2	11.3	10.7	11.2
6	17.4	15.7	16.7	15.0	13.3	14.1	11.2	10.5	10.9	11.2	10.5	11.0
7	17.7	16.0	16.6	15.4	13.6	14.4	12.0	11.1	11.3	10.5	9.4	9.5
8	17.6	16.0	16.7	15.1	13.2	14.1	11.9	10.8	11.5	10.1	9.1	9.5
9	17.2	16.0	16.8	13.2	11.5	12.6	11.0	9.9	10.1	9.6	8.4	9.2
10	18.5	16.6	17.3	12.4	10.9	12.2	11.1	10.1	10.6	9.5	8.0	8.9
11	17.3	15.7	16.5	12.2	11.3	11.7	11.0	10.0	10.7	9.2	8.2	8.8
12	17.0	15.0	15.9	13.2	11.9	12.5	10.2	9.9	10.0	9.8	8.9	9.2
13	16.0	15.6	15.8	13.8	12.7	13.2	10.4	9.7	10.1	11.0	9.5	9.9
14	16.5	15.6	16.1	13.0	11.2	12.0	9.9	9.1	9.6	11.0	8.3	10.1
15	16.6	15.3	16.0	11.8	10.1	11.3	9.3	8.3	8.9	8.3	7.6	8.1
16	15.3	14.0	14.6	11.9	11.0	11.5	8.7	7.2	8.2	8.8	7.8	8.1
17	14.5	12.9	13.8	13.5	11.6	12.3	8.9	7.7	8.5	7.9	6.5	7.1
18	13.8	12.7	13.5	14.0	13.2	13.5	8.7	7.4	8.4	7.1	6.0	6.4
19	16.2	13.8	15.1	14.0	13.6	13.9	8.8	7.1	8.3	6.6	5.8	6.2
20	16.7	16.2	16.3	14.0	13.5	13.8	7.1	5.2	6.0	7.3	6.6	6.9
21	16.9	16.0	16.3	13.7	13.0	13.4	7.6	5.2	5.8	7.1	6.5	6.8
22	17.3	16.2	16.5	13.4	12.7	13.3	9.7	7.6	8.3	6.8	5.4	5.7
23	16.3	14.8	15.4	13.3	12.9	13.1	10.2	8.6	9.9	5.4	4.3	4.7
24	15.5	14.4	14.8	13.2	12.7	13.1	8.6	7.1	7.8	5.2	3.4	4.4
25	17.1	15.5	15.9	12.7	11.4	12.0	7.9	7.1	7.5	5.8	4.8	5.2
26	16.1	14.9	15.3	11.9	10.9	11.4	7.7	6.6	7.3	6.4	5.6	6.0
27	15.2	14.9	15.0	12.0	10.9	11.4	7.5	6.4	6.8	6.4	5.2	6.0
28	15.4	15.0	15.2	12.3	11.4	11.9	7.0	5.6	6.5	5.2	3.7	4.5
29	16.3	15.1	15.4	12.1	11.1	11.6	8.0	6.4	6.9	4.5	3.9	4.1
30	17.7	16.0	16.7	12.0	11.5	11.7	8.9	7.7	8.0	5.8	4.0	5.0
31	17.2	16.0	16.6	---	---	---	9.6	8.2	8.7	6.2	5.0	5.7
MAX	18.8	17.4	18.0	17.9	16.6	17.0	12.0	11.1	11.5	11.3	10.7	11.2
MIN	13.8	12.7	13.5	11.8	10.1	11.3	7.0	5.2	5.8	4.5	3.4	4.1

02012800 JACKSON RIVER AT FILTRATION PLANT, AT COVINGTON, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.3	5.5	5.8	5.7	4.6	5.1	8.3	6.8	7.5	13.2	10.4	11.2
2	5.9	4.9	5.6	5.7	3.9	4.9	9.0	8.1	8.3	11.9	9.9	10.6
3	5.7	5.1	5.5	5.8	3.4	4.9	10.5	7.7	8.7	12.6	9.2	10.6
4	7.1	5.7	6.3	5.5	3.5	4.9	11.1	8.2	9.5	12.8	9.8	11.0
5	6.3	4.9	6.0	5.8	5.1	5.5	11.5	8.0	9.6	12.7	9.9	11.3
6	6.7	5.0	6.0	7.6	5.0	6.2	11.3	8.2	9.6	12.9	10.3	11.3
7	7.2	5.6	6.6	6.8	5.1	6.0	10.1	8.8	9.4	13.0	10.7	12.1
8	8.5	6.9	7.2	6.5	5.0	6.2	10.4	9.0	9.6	15.3	11.8	13.0
9	8.4	7.3	7.8	6.4	4.4	5.1	12.3	8.6	9.7	15.6	11.5	14.3
10	7.6	5.6	6.2	6.6	4.4	5.4	12.7	8.8	11.2	15.3	12.1	14.6
11	5.6	4.1	5.1	6.4	4.9	5.5	12.6	9.2	11.5	15.9	12.8	14.8
12	6.7	4.7	5.6	6.3	4.8	5.5	12.4	9.3	9.8	16.0	14.8	15.8
13	6.4	4.7	5.7	7.4	5.3	6.0	9.8	9.0	9.4	15.8	14.0	14.7
14	6.4	6.0	6.2	7.7	5.4	6.3	12.1	8.6	9.7	16.3	13.4	14.7
15	7.1	5.6	6.3	7.8	4.8	6.5	12.6	9.3	11.5	15.8	13.5	14.9
16	7.0	5.6	6.3	7.6	6.0	6.4	12.8	9.8	11.8	15.9	12.6	14.5
17	6.5	5.2	5.8	7.4	5.8	6.4	13.0	10.2	11.9	15.4	12.4	14.4
18	5.5	3.9	4.9	8.1	5.1	6.9	13.1	11.4	12.5	16.6	14.0	15.4
19	5.6	3.4	4.8	8.1	5.5	7.3	13.6	11.2	12.5	17.2	15.4	16.3
20	5.4	4.4	5.1	8.7	6.4	7.8	14.9	12.2	13.7	17.0	14.2	15.4
21	6.2	5.1	5.5	8.2	5.9	7.6	14.5	12.8	13.9	15.7	13.0	14.1
22	7.8	5.8	6.7	8.5	5.6	7.5	14.3	10.6	13.3	14.7	11.7	13.3
23	7.5	5.6	7.2	7.9	6.7	7.4	11.2	10.2	10.6	15.5	12.9	14.4
24	7.3	5.1	5.5	7.8	7.0	7.2	10.2	8.8	9.6	15.0	12.7	13.5
25	6.7	4.8	5.6	8.2	6.4	7.1	11.2	8.6	9.6	14.1	12.5	13.3
26	6.3	4.4	5.8	7.9	7.0	7.4	10.4	8.1	9.0	17.0	12.6	14.0
27	6.3	4.5	5.8	7.5	6.9	7.1	10.3	8.4	9.1	16.5	14.4	15.5
28	6.2	4.5	4.9	8.9	6.9	7.8	13.1	9.3	10.3	15.6	13.8	15.0
29	---	---	---	10.1	7.2	8.2	12.0	10.1	10.8	16.2	14.4	15.5
30	---	---	---	8.7	6.8	7.4	11.6	10.7	11.1	16.8	14.4	15.6
31	---	---	---	8.4	7.1	7.6	---	---	---	17.8	15.1	16.1
MAX	8.5	7.3	7.8	10.1	7.2	8.2	14.9	12.8	13.9	17.8	15.4	16.3
MIN	5.4	3.4	4.8	5.5	3.4	4.9	8.3	6.8	7.5	11.9	9.2	10.6
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.4	15.8	16.6	19.7	17.5	18.6	19.9	17.4	17.9	18.9	16.9	17.7
2	16.5	14.1	15.0	19.7	18.0	19.2	20.4	18.1	19.5	19.6	17.4	18.5
3	15.0	14.0	14.3	19.4	17.7	18.2	20.7	18.3	19.7	19.6	17.4	18.7
4	17.9	14.9	15.8	19.4	17.1	17.7	20.4	18.6	19.9	19.2	17.4	18.4
5	19.4	16.8	17.8	19.9	18.0	19.0	19.9	18.3	19.6	18.2	17.1	17.7
6	19.1	17.2	18.5	19.8	18.0	18.9	19.6	18.1	19.3	18.9	16.3	17.2
7	18.5	17.2	17.6	18.8	16.6	17.1	19.4	17.8	18.4	18.7	16.6	17.8
8	18.4	16.8	17.5	19.0	16.3	16.7	18.2	17.4	17.8	18.8	16.5	17.7
9	18.9	17.5	18.2	19.8	17.3	18.6	18.4	17.0	17.6	18.8	16.7	17.9
10	19.6	18.3	18.8	19.9	17.6	18.9	19.8	17.7	18.3	18.7	17.2	18.0
11	19.1	17.6	18.2	19.7	18.3	19.4	20.2	17.9	19.2	18.9	17.4	18.2
12	18.2	17.1	17.2	20.1	18.4	19.4	20.4	18.0	19.3	18.7	16.9	17.8
13	17.8	16.7	17.2	20.4	18.7	19.9	20.3	18.5	19.8	18.7	16.7	17.8
14	19.8	16.8	17.7	20.3	17.7	18.2	20.5	18.6	19.8	18.3	17.4	17.9
15	19.6	18.0	19.0	18.9	17.7	18.2	20.1	18.6	19.9	19.4	17.3	17.8
16	18.8	17.3	17.9	19.3	17.8	18.5	19.9	18.5	19.3	19.6	18.2	18.9
17	18.1	16.1	17.3	20.5	18.3	19.0	19.8	18.1	19.0	19.5	17.9	18.5
18	17.3	15.9	16.4	20.0	18.9	19.8	19.3	17.1	17.7	19.2	17.3	18.2
19	16.6	15.4	16.3	20.9	18.4	19.6	19.1	16.8	17.1	18.9	17.0	18.2
20	17.4	15.9	16.5	21.2	19.0	20.2	19.6	18.2	18.9	19.4	18.2	18.7
21	17.8	16.0	16.9	21.3	19.1	20.4	20.7	18.2	19.3	19.6	17.8	18.6
22	17.9	16.0	17.1	21.1	19.5	20.7	20.0	18.3	19.3	19.5	17.8	18.8
23	19.3	16.2	17.2	21.4	19.2	20.6	19.1	17.8	18.5	19.9	18.0	18.9
24	19.1	17.2	18.6	20.6	18.4	20.0	19.4	17.7	18.5	19.1	17.4	18.3
25	19.0	17.6	18.6	21.2	18.7	20.1	19.8	18.1	19.0	17.6	17.1	17.3
26	19.3	17.3	18.4	20.5	16.4	17.4	19.0	16.9	17.5	17.6	17.3	17.4
27	20.1	17.8	18.8	17.1	15.2	16.4	16.9	16.4	16.7	18.9	16.7	17.5
28	19.7	18.2	18.7	16.5	14.6	15.3	19.3	16.4	17.1	18.1	16.6	17.6
29	19.7	18.0	18.7	15.1	12.9	14.4	18.9	17.8	18.4	18.1	16.6	17.3
30	19.2	18.1	18.8	17.7	14.9	15.6	18.4	17.2	17.5	16.6	15.0	16.0
31	---	---	---	18.2	16.8	17.7	18.1	17.3	17.6	---	---	---
MAX	20.1	18.3	19.0	21.4	19.5	20.7	20.7	18.6	19.9	19.9	18.2	18.9
MIN	15.0	14.0	14.3	15.1	12.9	14.4	16.9	16.4	16.7	16.6	15.0	16.0

02013000 DUNLAP CREEK NEAR COVINGTON, VA

LOCATION.--Lat 37°48'10", long 80°02'49", NAD83, Alleghany County, Hydrologic Unit 02080201, on right bank 20 ft downstream from bridge on U.S. Highway 60, 2.2 mi downstream from Ogle Creek, and 3.0 mi west of Covington.

DRAINAGE AREA.--164 mi^2.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1303.

REVISED RECORDS.--WSP 972: 1929-30, 1932-34, 1942. WSP 1303: 1929-35(M), 1937-38(M), 1941-48(M). WSP 2104: Drainage area. WDR VA-74-1: 1969(M), 1972, 1973(P).

GAGE.--Water-stage recorder. Datum of gage is 1,294.70 ft NGVD of 1929. Prior to Dec. 8, 1949, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation caused by dam 7.9 mi upstream from station. U.S. Army Corps of Engineers satellite precipitation and gage-height telemeter at station. Maximum discharge, 27,400 ft^3/s, from rating curve extended above 4,500 ft^3/s on basis of step-backwater computations and contracted-opening measurement at gage height 15.65 ft. 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 March 1913 reached a stage of 18 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	1230	2,410	5.73	Mar 28	1830	*3,690	*7.05

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	301	70	1,150	105	113	210	380	300	52	46	51	37
2	200	67	853	99	119	185	757	291	52	50	44	33
3	159	64	520	92	125	167	872	240	56	42	39	31
4	130	208	343	89	127	170	584	192	54	36	36	29
5	112	542	249	104	144	368	441	157	51	33	34	27
6	98	334	204	118	156	626	341	137	47	31	48	26
7	84	234	188	129	167	577	287	127	45	34	61	25
8	74	180	169	147	203	594	251	117	67	127	47	24
9	67	142	367	197	287	475	202	106	61	83	152	23
10	62	121	1,450	210	291	364	168	101	50	57	121	22
11	57	111	1,010	199	238	304	149	117	45	47	73	22
12	55	401	619	207	202	263	142	100	43	42	55	21
13	66	734	450	206	177	235	144	92	43	38	e45	20
14	93	428	325	1,640	218	233	132	86	46	39	e40	20
15	84	302	249	993	359	261	120	84	43	79	e36	20
16	73	239	207	572	346	270	109	80	39	88	36	20
17	66	197	186	400	289	250	104	74	37	86	37	20
18	59	166	166	288	235	220	101	70	36	75	36	19
19	63	233	152	236	198	194	98	67	38	64	36	19
20	72	329	130	219	172	175	96	99	37	57	37	19
21	75	237	117	194	175	161	94	109	37	52	37	18
22	84	196	112	165	227	148	113	95	34	46	33	19
23	77	178	131	144	248	187	302	88	33	45	31	18
24	77	371	186	e110	245	449	277	84	31	e41	29	19
25	80	1,100	172	e113	225	420	229	81	30	e38	27	19
26	78	663	162	115	210	337	186	74	29	e35	28	20
27	77	421	149	116	201	278	170	69	28	32	45	20
28	78	351	126	99	213	1,940	151	65	28	363	58	20
29	75	278	125	99	---	1,960	138	61	30	259	48	19
30	74	246	119	110	---	817	184	58	52	95	42	19
31	73	---	111	112	---	521	---	56	---	65	39	---
TOTAL	2,823	9,143	10,497	7,627	5,910	13,359	7,322	3,477	1,274	2,225	1,481	668
MEAN	91.1	305	339	246	211	431	244	112	42.5	71.8	47.8	22.3
MAX	301	1,100	1,450	1,640	359	1,960	872	300	67	363	152	37
MIN	55	64	111	89	113	148	94	56	28	31	27	18
CFSM	0.56	1.86	2.06	1.50	1.29	2.63	1.49	0.68	0.26	0.44	0.29	0.14
IN.	0.64	2.07	2.38	1.73	1.34	3.03	1.66	0.79	0.29	0.50	0.34	0.15

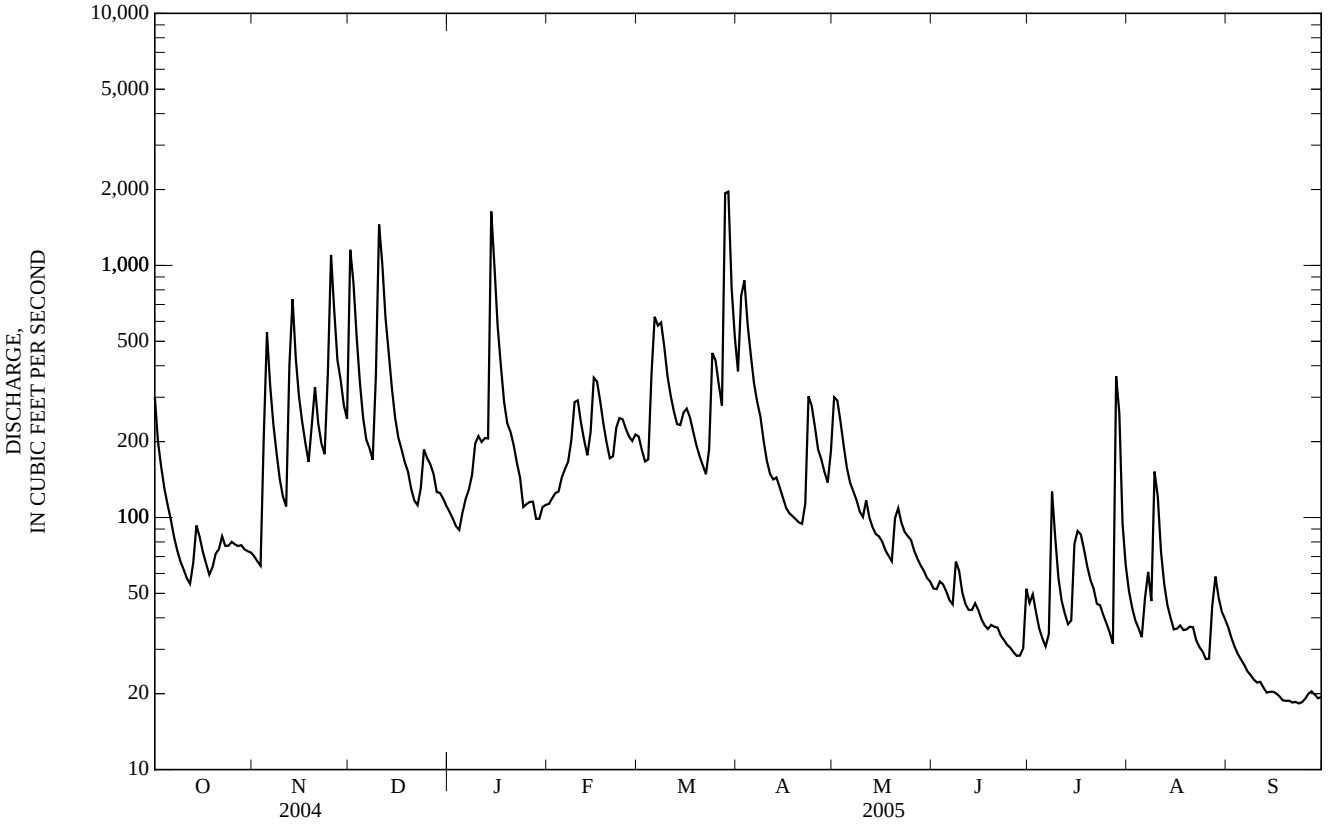
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

MEAN	64.8	113	171	240	307	394	285	219	107	50.9	55.3	45.5
MAX	431	659	694	770	821	1,053	1,071	646	584	358	514	478
(WY)	(1990)	(1986)	(1974)	(1996)	(1998)	(1993)	(1987)	(2003)	(1972)	(1972)	(1984)	(2004)
MIN	13.4	14.8	21.4	24.2	21.5	59.1	54.7	43.7	24.2	13.6	12.5	11.0
(WY)	(1942)	(2002)	(2002)	(1981)	(1934)	(1988)	(1986)	(1930)	(1999)	(1999)	(1932)	(1970)

02013000 DUNLAP CREEK NEAR COVINGTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	83,488		65,806			
ANNUAL MEAN	228		180		170	
HIGHEST ANNUAL MEAN					320	a1973
LOWEST ANNUAL MEAN					67.3	1941
HIGHEST DAILY MEAN	e5,560	Sep 28	1,960	Mar 29	10,400	Jan 19, 1996
LOWEST DAILY MEAN	21	bSep 5	18	cSep 21	7.0	Sep 9, 1966
ANNUAL SEVEN-DAY MINIMUM	22	Aug 31	19	Sep 18	7.6	Sep 6, 1966
MAXIMUM PEAK FLOW			3,690	Mar 28	27,400	Jun 21, 1972
MAXIMUM PEAK STAGE			7.05	Mar 28	15.65	Jun 21, 1972
INSTANTANEOUS LOW FLOW			17	Sep 20	2.0	Jul 4, 1970
ANNUAL RUNOFF (CFSM)	1.39		1.10		1.04	
ANNUAL RUNOFF (INCHES)	18.94		14.93		14.11	
10 PERCENT EXCEEDS	423		365		370	
50 PERCENT EXCEEDS	130		110		68	
90 PERCENT EXCEEDS	31		31		18	

a Also 2003.
b Also Sept. 6, 2004.
c Also Sept. 23, 2005.
e Estimated.



02013100 JACKSON RIVER BELOW DUNLAP CREEK, AT COVINGTON, VA

LOCATION.--Lat 37°47'19", long 80°00'02", NAD83, Covington City, Hydrologic Unit 02080201, on left bank in city recreation park and 0.5 mi downstream from Dunlap Creek.

DRAINAGE AREA.--614 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR VA-76-1: 1975(M).

GAGE.--Water-stage recorder. Datum of gage is 1,206.53 ft NGVD of 1929.

REMARKS.--No estimated daily dischcarges. Records good. Small diurnal fluctuation at low flow caused by Westvaco plant 0.8 mi upstream and occasionally by dam on Dunlap Creek 12.7 mi upstream. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 19.9 mi upstream; since October 1984 by Back Creek Lake 47.9 mi upstream, amount unknown; and since January 1985 by Little Back Creek Lake 51.0 mi upstream, amount unknown. Statistics of monthly mean data and summary statistics for water years 1975-1979 (unregulated flow) are available in previous data books, water years 1991-1998. Diversion by Westvaco plant averages 47 ft^3/s for industrial use of which approximately 42 ft^3/s is returned upstream from station. U.S. Army Corps of Engineers satellite gage-height telemeter at station. Virginia Department of Emergency Services gage-height radio transmitter at station. Maximum discharge, 31,300 ft^3/s, from rating curve extended above 18,100 ft^3/s. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1972, reached a stage of 24.36 ft, discharge, 34,000 ft^3/s, from floodmarks, and flood of Dec. 27, 1973, reached a stage of 22.09 ft, from floodmarks, discharge, 28,300 ft^3/s, from rating curve extended above 19,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	813	314	2,990	503	388	789	2,240	1,670	378	404	394	361
2	572	312	3,000	492	397	883	2,420	1,610	382	410	381	330
3	484	308	3,670	482	409	751	2,600	1,520	391	393	370	329
4	432	455	2,850	480	406	515	2,090	1,440	384	386	366	324
5	390	1,240	1,300	477	435	748	1,850	1,380	377	382	364	321
6	367	1,650	1,060	414	446	1,360	1,700	1,090	366	381	386	319
7	349	1,310	766	480	453	1,780	1,630	652	366	400	411	317
8	334	816	759	617	489	2,020	1,580	632	385	565	385	314
9	324	594	1,120	601	677	1,870	1,260	604	386	476	549	314
10	313	464	2,960	631	868	1,710	822	594	372	428	514	313
11	309	373	3,030	630	741	1,610	787	578	372	409	438	312
12	300	815	3,170	641	697	1,550	779	410	369	400	399	309
13	334	1,460	2,740	639	665	1,490	722	393	379	393	382	307
14	360	1,020	1,970	2,980	717	1,330	559	440	381	410	375	306
15	343	715	1,280	2,690	888	981	505	552	373	469	371	308
16	326	641	833	2,030	882	793	413	541	366	476	375	306
17	315	583	729	1,770	812	768	402	478	362	452	375	307
18	305	545	697	1,460	751	728	398	351	364	434	368	306
19	313	679	676	1,090	700	693	392	351	373	420	368	306
20	317	889	610	796	667	670	387	444	365	407	368	305
21	302	682	509	657	674	650	387	737	357	406	362	306
22	328	619	500	680	738	786	773	1,050	364	395	355	306
23	321	558	554	650	759	1,140	1,860	701	358	398	356	304
24	330	780	923	556	758	1,720	1,650	635	355	392	352	304
25	331	2,390	1,190	415	736	1,810	1,880	489	355	385	351	305
26	331	2,190	809	404	717	1,680	2,400	471	352	387	356	304
27	328	1,860	585	402	706	1,580	1,630	457	351	388	409	305
28	326	1,810	542	374	731	3,760	834	430	354	938	416	304
29	324	1,700	533	373	---	4,860	863	366	359	867	386	305
30	320	1,640	522	386	---	4,950	1,170	358	382	484	376	305
31	316	---	510	387	---	3,590	---	370	---	420	374	---
TOTAL	11,157	29,412	43,387	25,187	18,307	49,565	36,983	21,794	11,078	13,955	12,032	9,362
MEAN	360	980	1,400	812	654	1,599	1,233	703	369	450	388	312
MAX	813	2,390	3,670	2,980	888	4,950	2,600	1,670	391	938	549	361
MIN	300	308	500	373	388	515	387	351	351	381	351	304

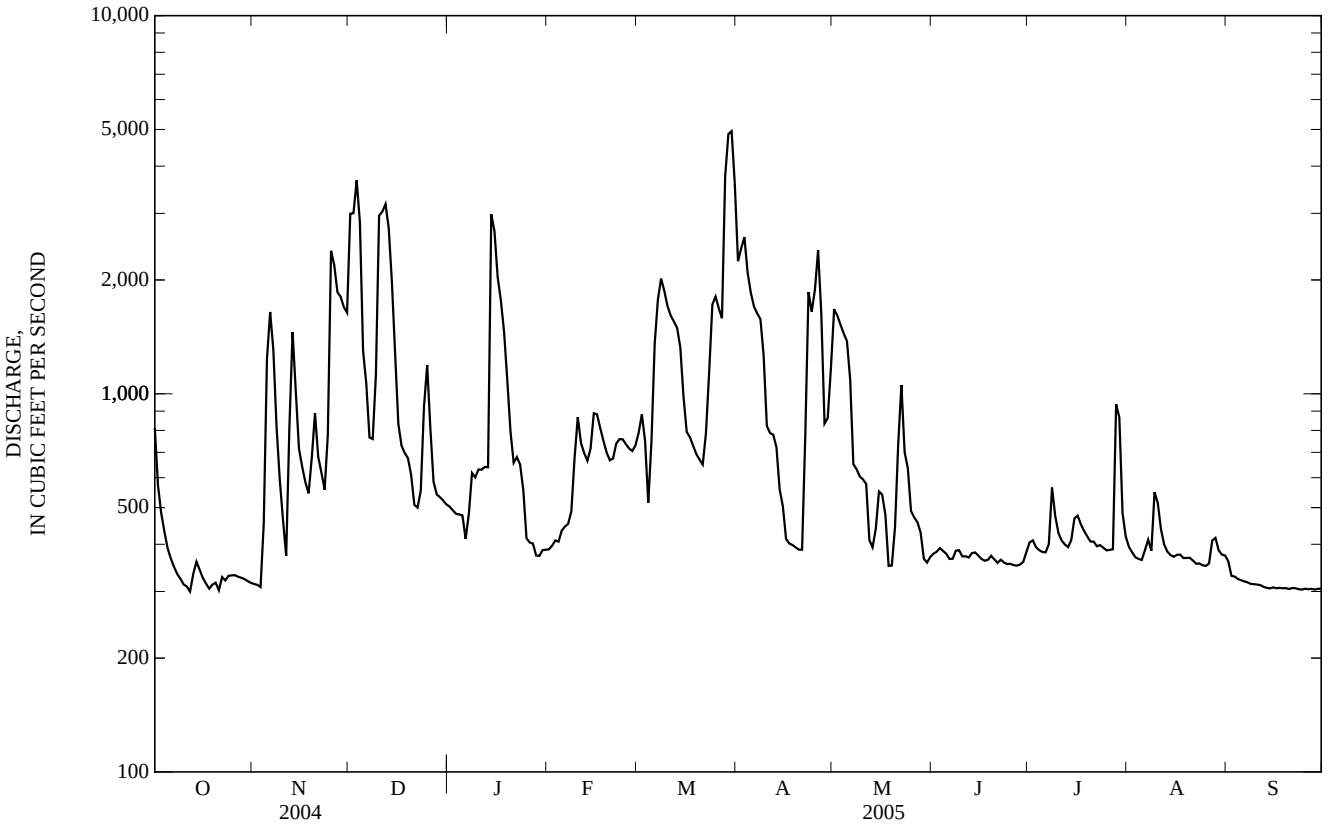
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	331	552	586	776	1,065	1,428	1,194	963	638	372	373	385
MAX	1,302	2,363	1,685	2,644	2,702	3,189	3,540	2,223	2,148	742	1,285	938
(WY)	(1980)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(2003)	(1984)	(1989)
MIN	111	114	130	119	176	211	356	397	303	190	117	87.3
(WY)	(1981)	(1982)	(1981)	(1981)	(2002)	(1981)	(1986)	(1991)	(1980)	(1981)	(1981)	(1981)

02013100 JACKSON RIVER BELOW DUNLAP CREEK, AT COVINGTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	314,470		282,219			
ANNUAL MEAN	859		773		720	
HIGHEST ANNUAL MEAN					1,184	2003
LOWEST ANNUAL MEAN					348	1981
HIGHEST DAILY MEAN	7,720	Sep 28	4,950	Mar 30	15,100	Jan 19, 1996
LOWEST DAILY MEAN	281	aSep 2	300	Oct 12	67	bSep 3, 1981
ANNUAL SEVEN-DAY MINIMUM	286	Sep 1	304	Sep 23	71	Sep 25, 1981
MAXIMUM PEAK FLOW			6,440	Mar 28	c31,300	Nov 4, 1985
MAXIMUM PEAK STAGE			9.84	Mar 28	c23.31	Nov 4, 1985
INSTANTANEOUS LOW FLOW			235	Oct 21	d,f41	Jan 5, 1981
ANNUAL RUNOFF (CFSM)	1.40		1.26		1.17	
ANNUAL RUNOFF (INCHES)	19.05		17.10		15.93	
10 PERCENT EXCEEDS	1,590		1,700		1,570	
50 PERCENT EXCEEDS	556		476		364	
90 PERCENT EXCEEDS	322		318		214	

a Also Sept. 3, 2004.
b Also Sept. 27-29, 1981.
c Prior to regulation, 1975-79, maximum peak flow, 23,200 ft^3/s, Apr. 5, 1977, gage height, 19.85 ft.
d Prior to regulation, 1975-79, instantaneous low flow, 80 ft^3/s, Nov. 9, 1978.
f Result of freezeup.



02014000 POTTS CREEK NEAR COVINGTON, VA

LOCATION.--Lat 37°43'44", long 80°02'32", NAD83, Alleghany County, Hydrologic Unit 02080201, on left bank at downstream side of bridge on State Highway 18, 0.8 mi downstream from Blue Spring Creek, and 5.2 mi southwest of Covington.

DRAINAGE AREA.--153 mi^2.

PERIOD OF RECORD.--October 1928 to September 1956, October 1965 to current year.

REVISED RECORDS.--WSP 1723: 1935, 1936(M), 1940(M), 1942(M), 1948-49(M), 1951-52(M), 1954(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,273.93 ft NGVD of 1929. Prior to Sept. 30, 1956, nonrecording gage at site 1.3 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. U.S. Army Corps of Engineers satellite gage-height telemeter at station. Maximum discharge, 15,400 ft^3/s, from rating curve extended above 12,000 ft^3/s. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 28	2100	*3,260	*7.01

No other peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	652	119	604	169	163	220	516	202	104	61	57	70
2	441	114	533	159	160	200	961	201	103	69	52	61
3	334	110	440	150	163	185	1,010	202	113	73	48	53
4	270	155	354	146	168	181	715	191	110	58	45	48
5	224	294	297	164	174	221	555	174	102	54	43	45
6	191	244	266	161	176	364	458	164	96	51	43	42
7	165	217	269	155	184	351	e398	155	91	58	85	40
8	147	192	249	166	214	383	361	147	98	269	69	38
9	134	165	299	194	272	383	314	137	101	164	76	37
10	125	147	830	194	304	344	274	128	99	114	66	36
11	115	135	714	193	294	312	246	144	94	91	60	35
12	108	246	539	198	265	294	232	144	89	86	52	34
13	127	471	438	193	240	287	235	127	87	80	46	32
14	160	348	357	1,290	254	289	214	120	87	79	42	32
15	143	294	299	909	275	277	193	115	81	128	40	31
16	125	258	260	593	267	265	174	109	74	122	38	31
17	116	227	240	456	260	258	164	99	70	239	218	30
18	106	203	221	355	238	242	159	94	67	169	111	29
19	112	187	208	304	216	222	153	90	69	140	89	29
20	126	172	182	289	200	209	147	228	70	119	109	28
21	119	158	160	259	211	197	142	256	67	97	81	28
22	120	144	174	231	250	187	148	224	65	81	68	28
23	117	138	256	208	243	222	234	194	61	86	58	28
24	122	169	402	e160	238	362	217	179	58	79	51	27
25	132	594	312	e170	232	344	206	173	55	64	48	28
26	125	463	277	177	219	325	186	156	53	57	46	30
27	124	365	246	186	208	294	175	141	51	53	67	31
28	129	386	210	157	219	1,620	162	131	50	78	120	30
29	124	324	207	150	---	2,000	153	121	57	71	89	30
30	124	292	191	165	---	1,000	172	115	91	65	76	29
31	124	---	180	168	---	680	---	111	---	68	77	---
TOTAL	5,281	7,331	10,214	8,469	6,307	12,718	9,274	4,772	2,413	3,023	2,170	1,070
MEAN	170	244	329	273	225	410	309	154	80.4	97.5	70.0	35.7
MAX	652	594	830	1,290	304	2,000	1,010	256	113	269	218	70
MIN	106	110	160	146	160	181	142	90	50	51	38	27
CFSM	1.11	1.60	2.15	1.79	1.47	2.68	2.02	1.01	0.53	0.64	0.46	0.23
IN.	1.28	1.78	2.48	2.06	1.53	3.09	2.25	1.16	0.59	0.74	0.53	0.26

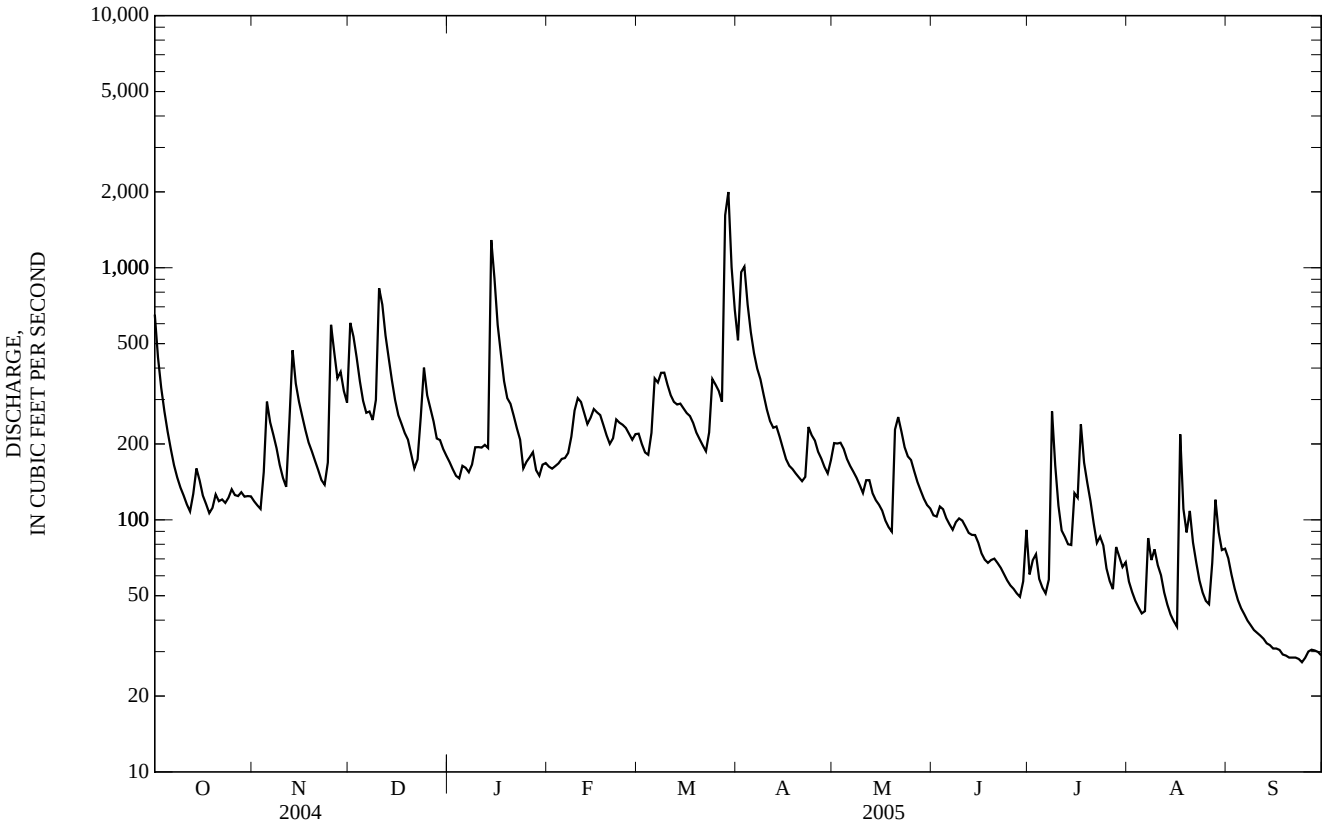
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1952, 1966 - 2005, BY WATER YEAR (WY)

MEAN	92.6	131	175	239	296	369	292	228	139	69.3	65.6	70.8
MAX	548	766	643	788	725	1,078	1,184	606	650	288	461	726
(WY)	(1990)	(1986)	(1949)	(1937)	(1998)	(1955)	(1987)	(2003)	(1972)	(1938)	(1940)	(2004)
MIN	20.7	23.8	24.7	29.8	26.9	75.7	80.5	51.4	29.4	22.1	21.9	18.4
(WY)	(1940)	(1940)	(1940)	(1956)	(1934)	(1988)	(1986)	(1934)	(1934)	(1966)	(1930)	(1968)

02014000 POTTS CREEK NEAR COVINGTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 1952, 1966 - 2005	
ANNUAL TOTAL	92,982		73,042			
ANNUAL MEAN	254		200		180	
HIGHEST ANNUAL MEAN					320	1973
LOWEST ANNUAL MEAN					76.5	2002
HIGHEST DAILY MEAN	5,590	Sep 28	2,000	Mar 29	8,870	Jun 21, 1972
LOWEST DAILY MEAN	35	Sep 6	27	Sep 24	15	Dec 17, 1930
ANNUAL SEVEN-DAY MINIMUM	40	Aug 24	28	Sep 19	15	Dec 17, 1930
MAXIMUM PEAK FLOW			3,260	Mar 28	15,400	Nov 4, 1985
MAXIMUM PEAK STAGE			7.01	Mar 28	13.46	Nov 4, 1985
INSTANTANEOUS LOW FLOW			27	aSep 23	b13	Nov 29, 1930
ANNUAL RUNOFF (CFSM)	1.66		1.31		1.18	
ANNUAL RUNOFF (INCHES)	22.61		17.76		15.98	
10 PERCENT EXCEEDS	439		356		395	
50 PERCENT EXCEEDS	166		160		87	
90 PERCENT EXCEEDS	57		48		27	

a Also Sept. 24, 25, 2005.
b Minimum observed.
e Estimated.



02015700 BULLPASTURE RIVER AT WILLIAMSVILLE, VA

LOCATION.--Lat 38°11'43", long 79°34'13", NAD83, Bath County, Hydrologic Unit 02080201, on left bank 15 ft downstream from bridge on State Highway 614 at Williamsville and 0.62 mi upstream from mouth.

DRAINAGE AREA.--110 mi^2.

PERIOD OF RECORD.--August 1960 to current year.

REVISED RECORDS.--WSP 2104: Drainage area. WRD VA-62-1: 1961. WRD VA-96-1: 1985(M).

GAGE.--Water-stage recorder. Datum of gage is 1,610.14 ft NGVD of 1929. Prior to July 12, 1974, at site 700 ft upstream at datum 11.84 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 22,900 ft^3/s, from rating curve extended above 4,060 ft^3/s on basis of slope-area measurement of 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 by the Virginia Department of Environmental Quality - Water Division.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 28	1415	*2,180	*5.08	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	268	73	931	129	92	138	307	459	87	66	85	88
2	211	71	577	120	88	126	848	333	85	54	75	71
3	175	70	397	116	90	117	674	273	97	50	70	63
4	147	246	302	113	92	113	427	226	90	48	64	55
5	126	289	246	125	92	132	332	194	87	47	61	52
6	112	198	219	119	89	169	280	176	86	46	58	50
7	102	163	240	111	91	318	254	163	184	46	80	48
8	94	139	247	121	98	636	253	150	105	183	62	46
9	89	120	489	116	106	403	213	136	111	90	66	45
10	85	108	962	113	118	303	188	129	99	64	112	44
11	80	102	684	110	104	259	172	124	85	55	128	43
12	77	170	452	109	101	230	161	122	79	52	87	42
13	104	191	354	108	98	206	158	117	77	60	119	41
14	112	156	284	506	111	191	145	110	73	391	74	41
15	95	143	234	335	131	170	133	107	70	206	65	41
16	92	136	204	266	124	161	123	99	65	171	108	41
17	84	128	190	224	120	155	117	93	62	130	87	42
18	76	122	175	177	110	147	115	89	59	124	71	40
19	77	136	166	163	102	142	111	87	60	103	72	39
20	79	165	136	171	102	143	108	446	58	93	66	38
21	82	141	133	155	109	143	107	316	56	82	59	37
22	77	132	134	141	159	137	249	217	55	76	54	37
23	75	126	239	126	129	193	686	181	53	70	52	37
24	84	448	235	e102	128	347	429	182	51	64	50	37
25	90	867	187	e110	128	276	316	153	49	61	49	38
26	83	460	171	e115	133	239	251	134	48	59	48	40
27	80	332	157	119	128	217	216	121	47	57	65	42
28	82	423	137	e90	140	997	187	111	48	65	85	38
29	80	316	138	e85	---	878	174	104	74	211	62	37
30	80	274	134	e96	---	496	576	97	60	184	58	36
31	76	---	130	95	---	369	---	93	---	105	125	---
TOTAL	3,174	6,445	9,284	4,586	3,113	8,551	8,310	5,342	2,260	3,113	2,317	1,349
MEAN	102	215	299	148	111	276	277	172	75.3	100	74.7	45.0
MAX	268	867	962	506	159	997	848	459	184	391	128	88
MIN	75	70	130	85	88	113	107	87	47	46	48	36
CFSM	0.93	1.95	2.72	1.34	1.01	2.51	2.52	1.57	0.68	0.91	0.68	0.41
IN.	1.07	2.18	3.14	1.55	1.05	2.89	2.81	1.81	0.76	1.05	0.78	0.46

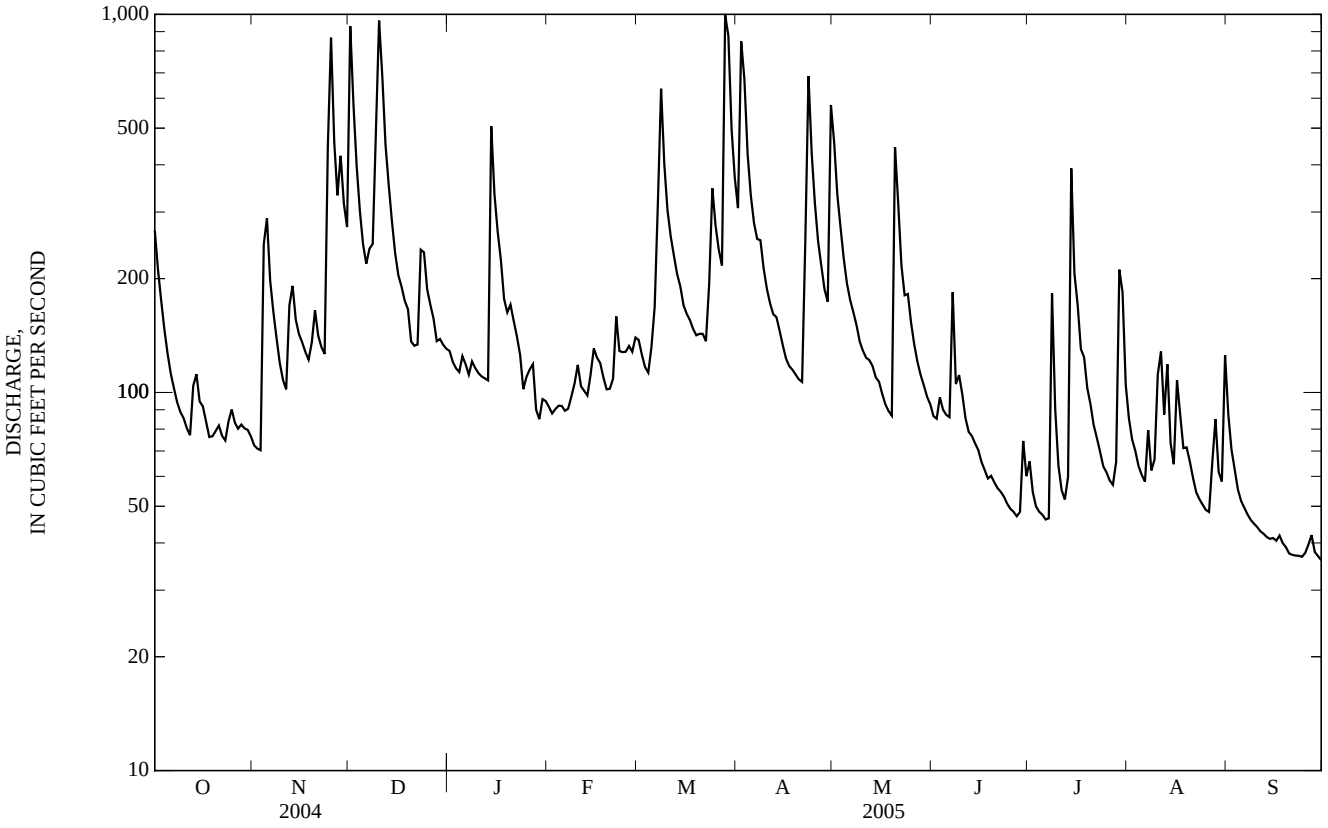
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2005, BY WATER YEAR (WY)

MEAN	83.5	128	166	187	215	304	230	194	124	68.2	65.6	77.8
MAX	295	784	543	631	498	655	663	448	491	245	272	432
(WY)	(1977)	(1986)	(1974)	(1996)	(1982)	(1993)	(1987)	(1996)	(2003)	(1972)	(1969)	(1996)
MIN	30.1	33.6	31.9	34.7	58.4	62.2	68.0	65.4	34.8	26.8	27.7	28.5
(WY)	(1989)	(2002)	(1966)	(1981)	(2002)	(1981)	(1999)	(1977)	(1999)	(1999)	(1964)	(1968)

02015700 BULLPASTURE RIVER AT WILLIAMSVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1960 - 2005	
ANNUAL TOTAL	68,708		57,844			
ANNUAL MEAN	188		158		153	
HIGHEST ANNUAL MEAN					256	2003
LOWEST ANNUAL MEAN					71.1	1999
HIGHEST DAILY MEAN	1,430	Sep 28	997	Mar 28	e8,700	Nov 4, 1985
LOWEST DAILY MEAN	41	Sep 5	36	Sep 30	22	aSep 9, 2002
ANNUAL SEVEN-DAY MINIMUM	43	Sep 1	38	bSep 19	22	cSep 7, 2002
MAXIMUM PEAK FLOW			2,180	Mar 28	22,900	Nov 4, 1985
MAXIMUM PEAK STAGE			5.08	Mar 28	d12.79	Nov 4, 1985
INSTANTANEOUS LOW FLOW			36	fSep 22	g19	Jan 4, 1981
ANNUAL RUNOFF (CFSM)	1.71		1.44		1.39	
ANNUAL RUNOFF (INCHES)	23.24		19.56		18.94	
10 PERCENT EXCEEDS	321		316		307	
50 PERCENT EXCEEDS	137		113		83	
90 PERCENT EXCEEDS	59		50		35	

a Also Sept. 10-13, 2002.
b Also Sept. 20, 2005.
c Also Sept. 8, 2002.
d From floodmarks.
e Estimated.
f Also Sept. 23, 24, 29, 30, 2005.
g Result of freezeup.



02016000 COWPASTURE RIVER NEAR CLIFTON FORGE, VA

LOCATION.--Lat 37°47'30", long 79°45'34", NAD83, Alleghany County, Hydrologic Unit 02080201, on left bank 100 ft downstream from bridge on State Highway 633, 2.5 mi upstream from confluence with Jackson River, and 4.0 mi southeast of Clifton Forge.

DRAINAGE AREA.--461 mi^2.

PERIOD OF RECORD.--March 1925 to current year. Records for May 1907 to August 1908, published in WSP 242, are unreliable and should not be used.

REVISED RECORDS.--WSP 952: 1925-41. WSP 2104: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,006.93 ft NGVD of 1929 (levels by U.S. Army Corps of Engineers).Prior to October 1934, nonrecording gage at site 100 ft upstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Low flow affected by springs and by occasional regulation from unknown source. Maximum discharge, 40,900 ft^3/s, from rating curve extended above 13,000 ft^3/s on basis of slope-area measurements at gage heights 15.70 ft and 19.15 ft. 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 March 1913 reached a stage of 20.8 ft, from floodmarks, discharge, about 45,000 ft^3/s, from rating curve extended above 13,000 ft^3/s on basis of records for other stations in James River Basin.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	0530	5,400	7.32	Mar 29	0400	*5,610	*7.45

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,330	200	2,880	393	287	509	1,260	1,990	248	213	218	307
2	910	193	3,030	374	281	468	2,360	1,490	237	241	188	239
3	674	188	1,840	353	285	424	3,400	1,200	244	193	167	191
4	523	226	1,340	344	292	404	2,050	984	255	161	154	163
5	423	732	1,070	343	305	515	1,550	797	244	148	144	147
6	358	764	865	353	310	1,060	1,280	670	337	147	143	136
7	312	555	765	342	307	1,160	1,060	596	354	142	167	128
8	277	445	764	341	315	1,500	1,070	542	397	558	159	122
9	252	374	922	354	335	1,870	940	476	383	599	164	120
10	235	320	3,620	349	353	1,350	739	427	350	335	215	118
11	219	285	3,120	348	354	1,090	610	399	307	234	204	114
12	206	584	2,030	358	330	913	567	381	258	191	270	111
13	215	1,130	1,490	362	318	767	561	363	237	176	223	107
14	264	779	1,190	4,300	334	698	540	350	237	247	217	105
15	292	595	939	2,790	392	622	472	335	218	780	180	103
16	248	500	740	1,620	432	556	424	315	198	750	173	102
17	230	440	634	1,230	420	524	394	292	185	565	335	106
18	210	399	566	935	398	491	376	274	175	395	235	100
19	204	419	504	725	361	453	361	266	171	335	190	99
20	199	546	448	667	338	429	350	466	169	295	174	97
21	198	616	382	612	348	412	369	1,050	166	247	163	96
22	199	538	377	525	400	398	664	789	162	222	149	94
23	193	482	453	453	488	466	2,430	581	155	202	137	93
24	206	603	1,270	e340	458	1,170	2,130	489	150	176	130	93
25	231	3,690	1,070	e350	460	1,240	1,430	470	142	162	125	93
26	242	2,360	828	e360	454	1,160	1,100	399	137	156	122	95
27	230	1,480	677	359	456	1,030	873	352	135	149	160	98
28	223	1,410	540	326	475	2,450	712	319	132	157	220	96
29	217	1,450	470	282	---	4,320	600	292	133	185	206	96
30	214	1,190	449	290	---	2,330	749	273	254	309	172	93
31	208	---	415	296	---	1,610	---	268	---	318	255	---
TOTAL	9,942	23,493	35,688	21,074	10,286	32,389	31,421	17,895	6,770	8,988	5,759	3,662
MEAN	321	783	1,151	680	367	1,045	1,047	577	226	290	186	122
MAX	1,330	3,690	3,620	4,300	488	4,320	3,400	1,990	397	780	335	307
MIN	193	188	377	282	281	398	350	266	132	142	122	93
CFSM	0.70	1.70	2.50	1.47	0.80	2.27	2.27	1.25	0.49	0.63	0.40	0.26
IN.	0.80	1.90	2.88	1.70	0.83	2.61	2.54	1.44	0.55	0.73	0.46	0.30

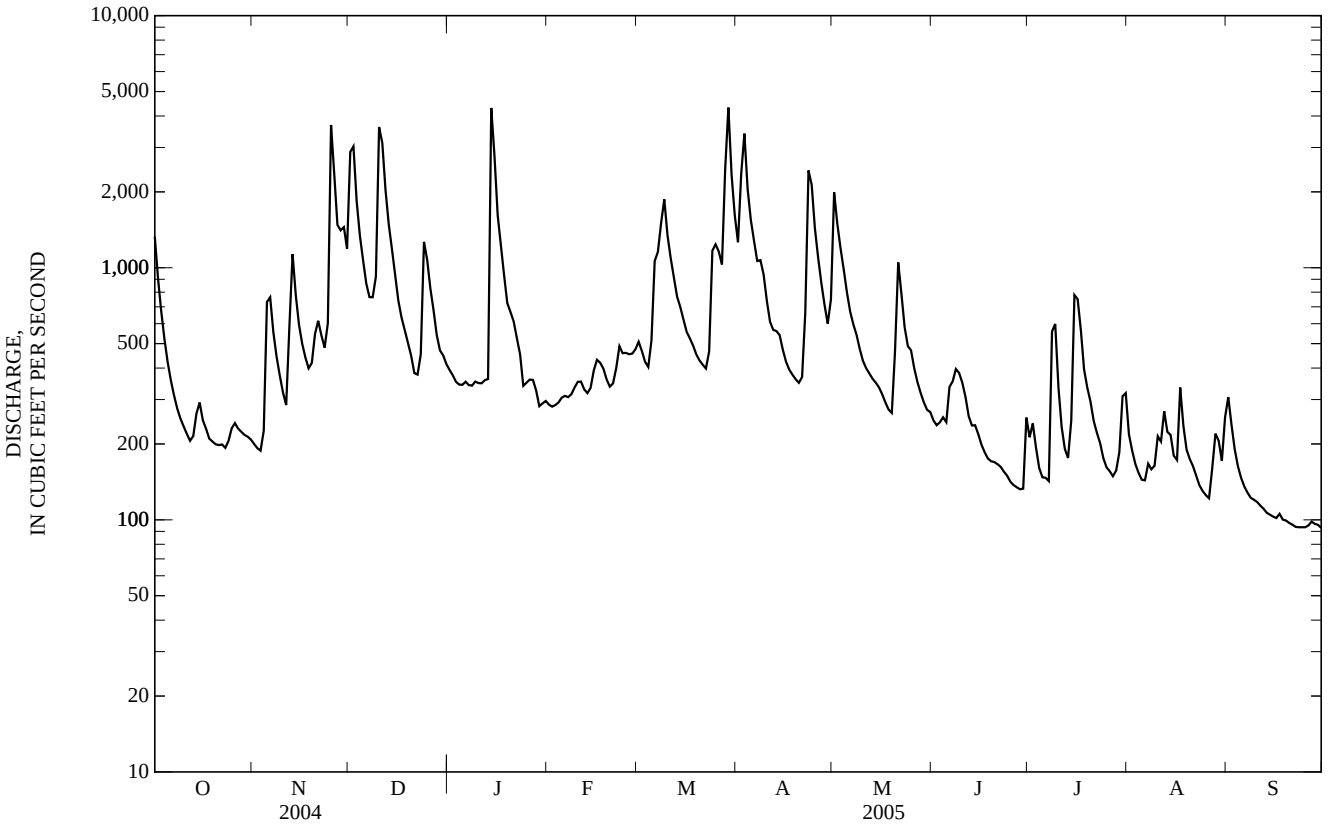
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2005, BY WATER YEAR (WY)

MEAN	271	395	573	721	857	1,091	850	654	395	220	229	235
MAX	1,474	2,745	1,883	2,253	1,911	2,531	2,878	2,342	1,771	1,213	1,531	1,510
(WY)	(1938)	(1986)	(1974)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(1972)	(1969)	(1996)
MIN	45.4	62.8	82.9	95.3	89.9	203	235	147	98.1	64.9	64.9	60.3
(WY)	(1931)	(1932)	(1966)	(1981)	(1934)	(1981)	(1995)	(1930)	(1964)	(1930)	(1930)	(1932)

02016000 COWPASTURE RIVER NEAR CLIFTON FORGE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1926 - 2005	
ANNUAL TOTAL	246,264		207,367			
ANNUAL MEAN	673		568		539	
HIGHEST ANNUAL MEAN					964	2003
LOWEST ANNUAL MEAN					248	1981
HIGHEST DAILY MEAN	8,530	Sep 29	4,320	Mar 29	33,900	Nov 5, 1985
LOWEST DAILY MEAN	91	Sep 6	93	aSep 23	40	Sep 1, 1932
ANNUAL SEVEN-DAY MINIMUM	98	Sep 1	94	Sep 20	43	Oct 8, 1930
MAXIMUM PEAK FLOW			5,610	Mar 29	40,900	Nov 5, 1985
MAXIMUM PEAK STAGE			7.45	Mar 29	19.15	Nov 5, 1985
INSTANTANEOUS LOW FLOW			91	Sep 30	38	Sep 2, 1932
ANNUAL RUNOFF (CFSM)	1.46		1.23		1.17	
ANNUAL RUNOFF (INCHES)	19.87		16.73		15.90	
10 PERCENT EXCEEDS	1,340		1,250		1,170	
50 PERCENT EXCEEDS	422		353		261	
90 PERCENT EXCEEDS	155		144		87	

a Also Sept. 24, 25, 30, 2005.
e Estimated.



02016500 JAMES RIVER AT LICK RUN, VA

LOCATION.--Lat 37°46'25", long 79°47'04", NAD83, Botetourt County, Hydrologic Unit 02080201, on right bank at community of Lick Run, 1,000 ft downstream from bridge on U.S. Highway 220, 0.9 mi downstream from confluence of Cowpasture and Jackson Rivers, 1.8 mi south of Iron Gate, and at mile 342.3.

DRAINAGE AREA.--1,373 mi^2.

PERIOD OF RECORD.--April 1925 to current year.

REVISED RECORDS.--WSP 852: 1936-37. WSP 972: 1927, 1930(M), 1932(M), 1935-36. WSP 1303: 1927-28(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 978.30 ft NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 26, 1928, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 43.7 mi upstream from station; since October 1984 by Back Creek Lake 71.7 mi upstream; and since January 1985 by Little Back Creek Lake 74.8 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. National Weather Service gage-height telemeter at station. Maximum discharge, 87,500 ft^3/s, from rating curve extended above 66,000 ft^3/s. 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 about 33 ft, discharge, about 120,000 ft^3/s. Flood in March 1913 reached a stage of 30.4 ft, from floodmarks, discharge, about 98,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,390	756	6,750	1,300	1,020	1,780	4,530	4,050	818	808	794	941
2	2,380	734	6,920	1,250	1,020	1,870	6,150	3,510	810	959	694	776
3	1,900	721	6,280	1,200	1,050	1,760	7,900	3,100	846	753	644	681
4	1,600	906	5,190	1,160	1,070	1,380	5,380	2,780	857	678	616	636
5	1,370	2,240	3,020	1,200	1,110	1,610	4,270	2,540	833	642	595	604
6	1,190	2,950	2,620	1,130	1,160	2,940	3,640	2,320	870	624	606	589
7	1,060	2,530	2,120	1,100	1,170	3,470	3,310	1,660	935	652	670	568
8	966	1,840	2,040	1,330	1,230	4,100	3,190	1,570	955	1,770	694	558
9	898	1,440	2,360	1,340	1,410	4,460	2,880	1,470	1,010	1,600	911	546
10	844	1,190	7,500	1,370	1,840	3,680	2,150	1,380	935	1,110	1,140	541
11	787	1,000	7,270	1,390	1,710	3,260	1,990	1,380	875	908	919	535
12	747	1,570	6,150	1,430	1,580	3,020	1,890	1,170	808	779	907	530
13	823	3,470	5,060	1,420	1,500	2,820	1,900	1,090	782	737	784	519
14	957	2,650	3,860	8,480	1,560	2,700	1,640	1,040	802	823	746	514
15	988	2,010	2,900	7,310	1,850	2,260	1,510	1,180	759	1,520	696	516
16	864	1,770	2,140	4,770	1,930	1,940	1,300	1,150	702	1,600	683	508
17	800	1,600	1,880	3,830	1,840	1,880	1,210	1,110	662	1,480	1,010	513
18	747	1,460	1,760	3,150	1,710	1,800	1,180	889	646	1,260	921	505
19	755	1,500	1,660	2,530	1,590	1,690	1,150	849	646	1,130	764	501
20	762	2,020	1,550	2,150	1,490	1,610	1,120	1,290	692	1,020	757	499
21	751	1,790	1,280	1,820	1,500	1,550	1,160	1,930	648	930	728	492
22	752	1,640	1,300	1,740	1,650	1,520	1,690	2,340	646	850	681	498
23	754	1,500	1,500	1,600	1,780	2,100	4,820	1,640	623	810	646	493
24	795	1,810	2,710	1,350	1,750	3,360	4,400	1,540	606	734	630	485
25	867	6,900	2,950	1,250	1,740	3,600	3,550	1,310	590	682	614	491
26	874	5,580	2,290	1,200	1,680	3,270	3,880	1,180	581	652	608	497
27	841	4,110	1,810	1,170	1,660	3,000	3,100	1,090	568	630	789	503
28	826	3,960	1,590	1,080	1,720	7,220	2,070	1,020	567	929	948	492
29	810	3,830	1,480	978	---	12,200	1,880	898	594	1,960	875	490
30	798	3,380	1,430	1,020	---	8,920	2,190	840	813	1,130	767	479
31	779	---	1,360	1,050	---	6,460	---	836	---	1,010	922	---
TOTAL	32,675	68,857	98,730	63,098	42,320	103,230	87,030	50,152	22,479	31,170	23,759	16,500
MEAN	1,054	2,295	3,185	2,035	1,511	3,330	2,901	1,618	749	1,005	766	550
MAX	3,390	6,900	7,500	8,480	1,930	12,200	7,900	4,050	1,010	1,960	1,140	941
MIN	747	721	1,280	978	1,020	1,380	1,120	836	567	624	595	479

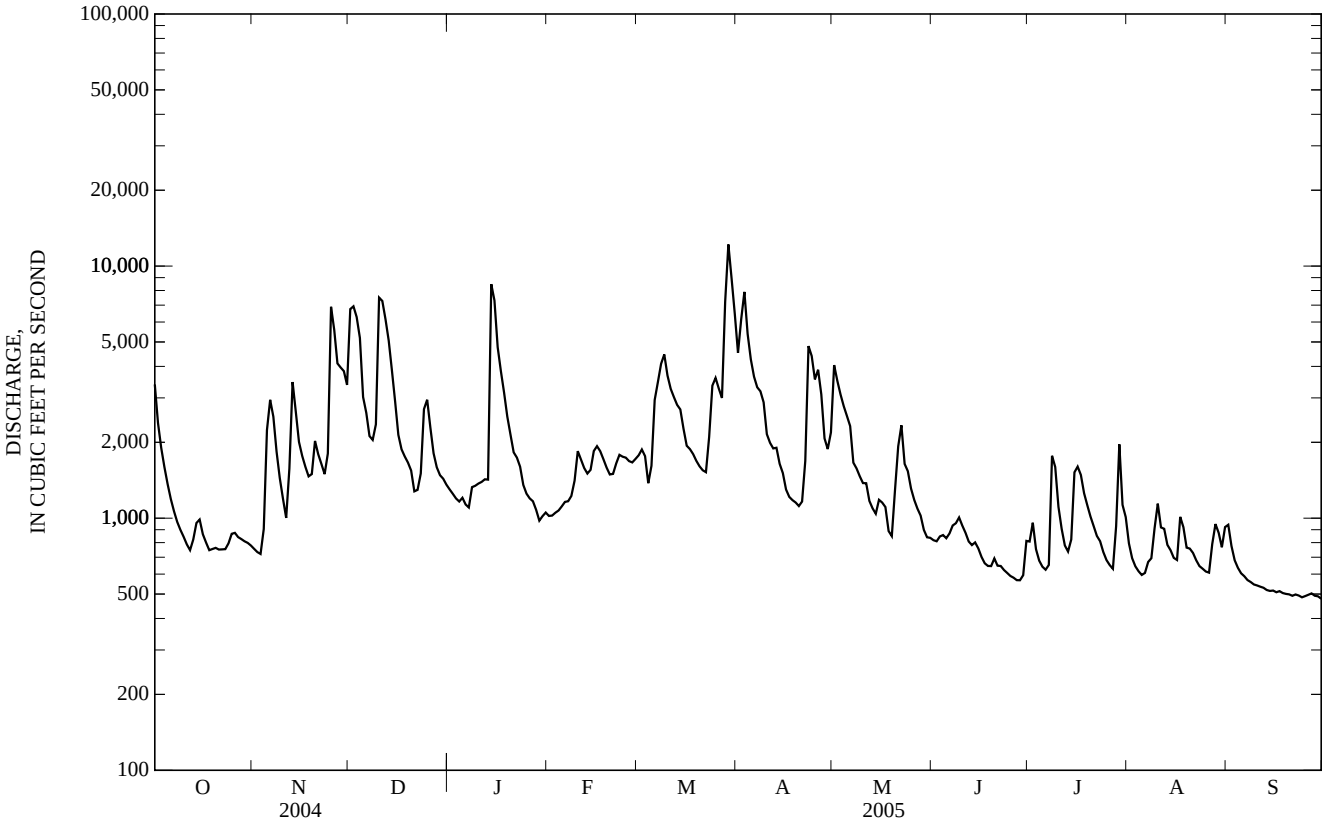
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	781	1,426	1,575	1,979	2,519	3,336	2,874	2,218	1,456	746	708	877
MAX	3,495	7,206	4,206	5,302	6,425	8,083	9,349	5,639	5,068	1,699	2,704	3,212
(WY)	(1990)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(2003)	(1984)	(2004)
MIN	270	325	328	268	429	623	755	940	526	479	264	269
(WY)	(1981)	(2002)	(1981)	(1981)	(2002)	(1981)	(1986)	(1991)	(2002)	(1981)	(1981)	(1981)

02016500 JAMES RIVER AT LICK RUN, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	750,994		640,000			
ANNUAL MEAN	2,052		1,753		1,702	
HIGHEST ANNUAL MEAN					2,791	2003
LOWEST ANNUAL MEAN					789	1981
HIGHEST DAILY MEAN	23,400	Sep 29	12,200	Mar 29	67,500	Nov 5, 1985
LOWEST DAILY MEAN	439	Sep 5	479	Sep 30	180	Jan 5, 1981
ANNUAL SEVEN-DAY MINIMUM	463	Sep 1	491	Sep 24	202	Sep 28, 1981
MAXIMUM PEAK FLOW			15,100	Mar 29	a87,500	Nov 5, 1985
MAXIMUM PEAK STAGE			11.53	Mar 29	a30.22	Nov 5, 1985
INSTANTANEOUS LOW FLOW			476	Sep 30	b,c133	Jan 6, 1981
ANNUAL RUNOFF (CFSM)	1.49		1.28		1.24	
ANNUAL RUNOFF (INCHES)	20.35		17.34		16.85	
10 PERCENT EXCEEDS	3,810		3,570		3,660	
50 PERCENT EXCEEDS	1,440		1,200		862	
90 PERCENT EXCEEDS	657		615		400	

a Prior to regulation, 1925-79, maximum peak flow, 66,600 ft^3/s, Mar. 18, 1936, gage height, 27.01 ft.
b Prior to regulation, 1925-79, instantaneous low flow, 148 ft^3/s, Sept. 7, 1966.
c Result of freezeup.



02017500 JOHNS CREEK AT NEW CASTLE, VA

LOCATION.--Lat 37°30'22", long 80°06'24", NAD83, Craig County, Hydrologic Unit 02080201, on right bank 20 ft downstream from bridge on State Highway 615 at New Castle and 1,700 ft upstream from mouth.

DRAINAGE AREA.--104 mi^2.

PERIOD OF RECORD.--April 1926 to current year.

REVISED RECORDS.--WSP 972: 1935-36(M), 1940(M). WSP 1203: 1928, 1935. WSP 1303: 1927(M), 1928, 1929-34(M), 1935. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,254.30 ft NGVD of 1929. Prior to Jun. 7, 1937, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 8,000 ft^3/s, from rating curve extended above 3,200 ft^3/s on basis of slope-area measurement of 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.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 28	1945	*2,470	*8.88	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	553	84	459	93	109	142	435	137	54	24	21	20
2	424	79	399	87	105	129	700	128	57	35	18	18
3	350	76	339	81	108	120	617	126	68	23	16	16
4	302	148	288	80	116	118	479	121	67	20	14	14
5	251	260	243	88	125	171	408	114	61	19	14	13
6	198	204	232	84	130	294	358	108	56	18	13	12
7	155	177	248	79	135	266	326	103	52	25	14	12
8	119	154	227	88	148	267	305	97	52	95	14	12
9	92	132	277	95	166	252	260	89	57	63	15	11
10	77	115	547	95	177	239	229	83	53	41	18	11
11	64	103	464	96	169	228	201	87	50	30	21	11
12	55	227	378	99	161	216	186	83	45	26	17	11
13	74	366	323	99	150	206	190	73	44	24	15	10
14	93	287	269	665	160	194	173	70	43	31	14	9.6
15	81	248	223	470	165	183	160	67	38	42	13	9.6
16	67	213	191	375	167	176	148	62	34	39	14	9.7
17	58	185	171	313	164	174	140	57	30	36	33	9.4
18	52	163	153	260	153	166	134	54	29	38	21	9.4
19	57	145	140	228	142	152	127	52	28	31	23	9.3
20	65	132	119	202	131	143	119	212	30	27	24	9.1
21	70	117	115	180	140	135	112	177	30	24	20	9.1
22	75	104	104	158	151	127	115	145	28	22	17	9.5
23	78	98	119	137	149	166	156	130	25	24	16	9.6
24	87	263	150	e110	151	245	144	120	23	e22	15	9.7
25	96	676	141	115	150	228	135	112	21	e19	14	9.2
26	95	420	135	112	143	220	127	98	20	e17	14	9.1
27	94	354	127	117	135	207	122	87	20	16	26	9.7
28	94	361	115	103	144	1,440	113	79	19	15	32	8.9
29	91	297	110	98	---	1,250	109	71	20	16	25	8.7
30	90	264	106	110	---	699	121	63	20	26	22	8.5
31	88	---	99	110	---	539	---	60	---	23	21	---
TOTAL	4,145	6,452	7,011	5,027	4,044	9,092	6,949	3,065	1,174	911	574	329.1
MEAN	134	215	226	162	144	293	232	98.9	39.1	29.4	18.5	11.0
MAX	553	676	547	665	177	1,440	700	212	68	95	33	20
MIN	52	76	99	79	105	118	109	52	19	15	13	8.5
CFSM	1.29	2.07	2.17	1.56	1.39	2.82	2.23	0.95	0.38	0.28	0.18	0.11
IN.	1.48	2.31	2.51	1.80	1.45	3.25	2.49	1.10	0.42	0.33	0.21	0.12

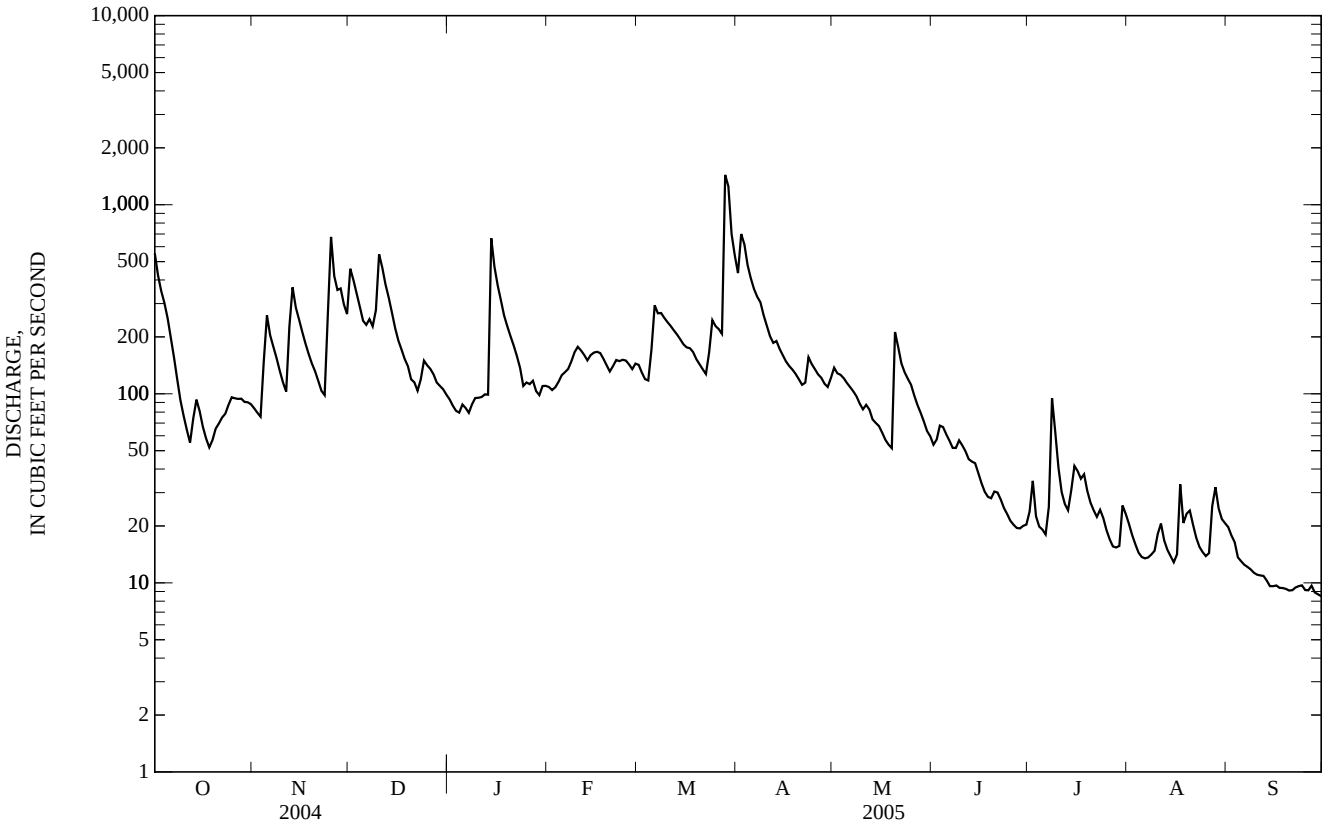
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2005, BY WATER YEAR (WY)

MEAN	56.0	90.9	133	182	223	271	224	163	92.4	41.7	41.9	43.9
MAX	396	445	514	546	542	730	820	448	500	291	364	405
(WY)	(1930)	(1986)	(1949)	(1996)	(1998)	(1955)	(1987)	(2003)	(2003)	(1941)	(1940)	(2004)
MIN	9.81	12.3	15.7	16.2	18.0	51.9	47.8	33.5	14.3	8.90	9.04	8.99
(WY)	(1992)	(2002)	(1940)	(1956)	(1934)	(1988)	(1995)	(1930)	(2002)	(1930)	(2002)	(2002)

02017500 JOHNS CREEK AT NEW CASTLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1927 - 2005	
ANNUAL TOTAL	62,310		48,773.1			
ANNUAL MEAN	170		134		130	
HIGHEST ANNUAL MEAN					246	2003
LOWEST ANNUAL MEAN					51.1	2002
HIGHEST DAILY MEAN	4,060	Sep 28	1,440	Mar 28	6,040	Jun 21, 1972
LOWEST DAILY MEAN	13	aAug 26	8.5	Sep 30	5.2	bSep 12, 2002
ANNUAL SEVEN-DAY MINIMUM	14	cAug 23	9.1	Sep 24	5.6	Sep 8, 2002
MAXIMUM PEAK FLOW			2,470	Mar 28	8,000	Jan 23, 1935
MAXIMUM PEAK STAGE			8.88	Mar 28	12.87	Sep 28, 2004
INSTANTANEOUS LOW FLOW			8.3	Sep 30	5.1	dSep 11, 2002
ANNUAL RUNOFF (CFSM)	1.64		1.28		1.25	
ANNUAL RUNOFF (INCHES)	22.29		17.45		16.95	
10 PERCENT EXCEEDS	330		281		301	
50 PERCENT EXCEEDS	110		103		59	
90 PERCENT EXCEEDS	19		14		13	

a Also Aug. 27, 29, and Sept. 2-6, 2004.
b Also Sept. 13, 2002.
c Also Aug. 24 to Sept. 1, 2004.
d Also Sept. 12, 2002.
e Estimated.



02018000 CRAIG CREEK AT PARR, VA

LOCATION.--Lat 37°39'57", long 79°54'41", NAD83, Botetourt County, Hydrologic Unit 02080201, on right bank 12 ft upstream from abandoned railway bridge, 700 ft downstream from Stony Run, 0.2 mi northeast of Horton, 0.4 mi northwest of Parr, and at mile 12.0.

DRAINAGE AREA.--329 mi^2.

PERIOD OF RECORD.--April 1925 to current year.

REVISED RECORDS.--WSP 852: 1937. WSP 892: 1935-36. WSP 1303: 1929-30(M), 1932-35(M), 1937-38(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 992.50 ft NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to June 7, 1937, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 58,500 ft^3/s, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 29	0400	*6,450	*10.76	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,670	226	1,040	258	336	410	1,200	310	156	e90	84	86
2	1,120	221	1,430	244	347	384	1,540	321	153	e98	80	80
3	844	214	1,100	231	351	357	2,090	318	167	e105	75	74
4	684	228	864	226	368	348	1,440	310	179	e96	71	68
5	570	587	706	237	389	383	1,130	293	170	e90	68	64
6	468	650	607	246	411	658	941	279	157	e86	82	62
7	391	525	634	237	415	769	817	267	153	89	68	61
8	357	444	656	239	429	741	766	255	145	388	67	60
9	357	376	630	262	461	716	671	242	151	355	76	59
10	355	319	1,440	267	497	648	580	226	187	214	74	58
11	343	285	1,520	271	478	609	516	218	250	156	69	57
12	319	296	1,210	280	439	576	468	216	184	131	73	56
13	312	1,130	966	279	414	537	466	205	163	139	68	55
14	330	954	782	2,040	408	502	443	190	153	116	63	54
15	343	720	637	2,090	441	468	405	188	144	138	61	53
16	312	602	536	1,270	436	450	391	181	131	260	66	53
17	283	514	477	985	445	449	383	172	121	239	87	53
18	260	448	431	774	427	442	375	164	113	207	115	52
19	249	399	394	649	400	415	365	158	109	200	93	52
20	241	362	365	592	372	393	358	308	125	163	87	52
21	239	336	338	537	368	375	342	545	119	136	90	51
22	238	309	343	472	396	359	328	374	112	119	79	51
23	236	291	342	426	388	377	329	309	105	195	72	51
24	240	310	398	e320	385	630	382	283	96	175	66	51
25	241	1,960	380	e330	401	683	366	262	91	135	63	51
26	246	1,440	354	336	385	648	347	239	88	109	62	53
27	245	1,000	342	343	370	601	330	216	84	94	78	55
28	245	946	317	319	380	2,110	319	199	83	87	107	55
29	243	846	294	291	---	4,900	307	183	84	82	111	54
30	235	712	284	303	---	2,290	304	173	100	81	94	53
31	231	---	271	328	---	1,560	---	164	---	88	96	---
TOTAL	12,447	17,650	20,088	15,682	11,337	24,788	18,699	7,768	4,073	4,661	2,445	1,734
MEAN	402	588	648	506	405	800	623	251	136	150	78.9	57.8
MAX	1,670	1,960	1,520	2,090	497	4,900	2,090	545	250	388	115	86
MIN	231	214	271	226	336	348	304	158	83	81	61	51
CFSM	1.22	1.79	1.97	1.54	1.23	2.43	1.89	0.76	0.41	0.46	0.24	0.18
IN.	1.41	2.00	2.27	1.77	1.28	2.80	2.11	0.88	0.46	0.53	0.28	0.20

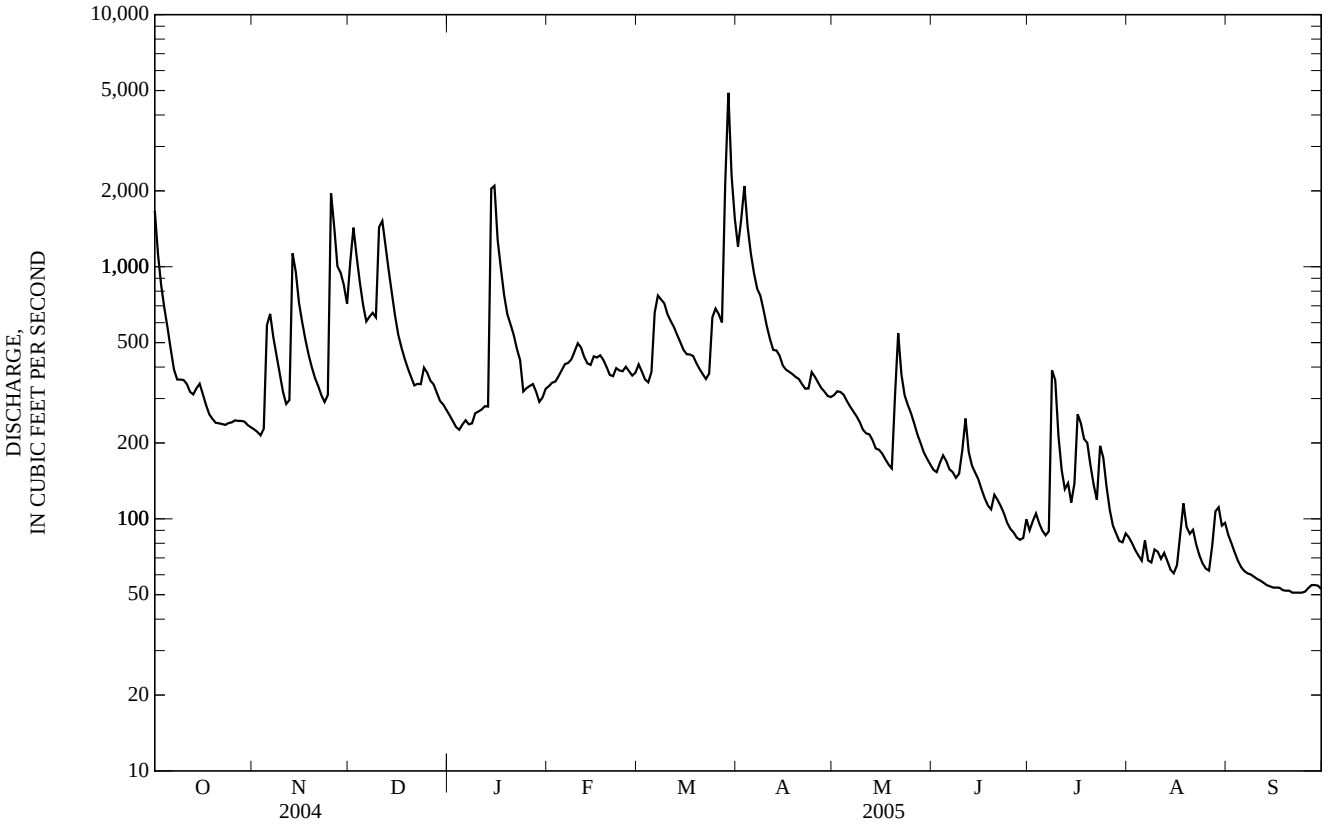
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2005, BY WATER YEAR (WY)

MEAN	187	288	392	543	656	777	655	466	280	140	156	156
MAX	1,093	2,112	1,519	1,642	1,757	2,116	2,427	1,430	1,689	979	1,290	1,303
(WY)	(1938)	(1986)	(1949)	(1937)	(1998)	(1993)	(1987)	(2003)	(2003)	(1941)	(1940)	(2004)
MIN	34.9	41.0	48.9	51.2	55.6	141	143	93.2	51.4	33.5	33.9	34.1
(WY)	(1931)	(2002)	(1966)	(1956)	(1934)	(1988)	(1995)	(1930)	(2002)	(1966)	(2002)	(1968)

02018000 CRAIG CREEK AT PARR, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1925 - 2005	
ANNUAL TOTAL	178,320		141,372			
ANNUAL MEAN	487		387		391	
HIGHEST ANNUAL MEAN					785	2003
LOWEST ANNUAL MEAN					140	2002
HIGHEST DAILY MEAN	13,300	Sep 29	4,900	Mar 29	21,000	Nov 4, 1985
LOWEST DAILY MEAN	42	aSep 4	51	bSep 21	23	cSep 11, 2002
ANNUAL SEVEN-DAY MINIMUM	43	Aug 31	51	Sep 19	24	Sep 8, 2002
MAXIMUM PEAK FLOW			6,450	Mar 29	58,500	Nov 4, 1985
MAXIMUM PEAK STAGE			10.76	Mar 29	d24.76	Nov 4, 1985
INSTANTANEOUS LOW FLOW			51	fSep 19	g20	hDec 21, 1980
ANNUAL RUNOFF (CFSM)	1.48		1.18		1.19	
ANNUAL RUNOFF (INCHES)	20.16		15.98		16.14	
10 PERCENT EXCEEDS	866		767		869	
50 PERCENT EXCEEDS	308		303		183	
90 PERCENT EXCEEDS	82		68		49	

a Also Sept. 5, 6, 2004.
b Also Sept. 22-25, 2005.
c Also Sept. 12-14, 2002.
d From floodmarks.
e Estimated.
f Also Sept. 20-25, 2005.
g Result of freezeup.
h Also probably occurred Dec. 25, 1980, and Jan. 4, 1981.



02018500 CATAWBA CREEK NEAR CATAWBA, VA

LOCATION.--Lat 37°28'05", long 80°00'19", NAD83, Botetourt County, Hydrologic Unit 02080201, on right bank 80 ft upstream from bridge on State Highway 779, 1.0 mi downstream from Little Catawba Creek, 1.9 mi west of Haymakertown, and 8.2 mi northeast of Catawba.

DRAINAGE AREA.--34.3 mi^2.

PERIOD OF RECORD.--September 1943 to current year.

REVISED RECORDS.--WSP 1303: 1944-45(M). WSP 2104: Drainage area. WDR VA-72-1: 1954, 1955(P), 1957-58(P), 1959, 1960-62(P), 1963, 1964(M), 1965-67(P), 1968(M), 1969, 1970(M), 1971.

GAGE.--Water-stage recorder. Datum of gage is 1,299.96 ft NGVD of 1929. Prior to Aug. 1, 1953, nonrecording gage at site 80 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. From October 1953 to October 1976, monthly means adjusted for pumpage by Citadel Cement Corporation. Statistics of monthly mean data and summary statistics for water years 1944-1952 (unregulated flow) are available in previous data books, water years 1991-1998. Maximum discharge, 21,200 ft^3/s, from rating curve extended above 1,700 ft^3/s on basis of slope-area measurements at gage heights 10.35 ft and 19.19 ft. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1940 reached a stage of 13.26 ft, from information by observer.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	22	131	28	38	35	82	21	13	12	7.0	7.6
2	84	21	107	28	37	35	161	20	15	15	8.4	7.3
3	70	21	86	27	37	34	123	19	17	11	6.0	5.7
4	58	37	73	27	39	36	91	19	15	9.9	6.5	6.2
5	49	56	62	31	40	51	74	19	13	9.7	5.7	5.3
6	44	44	63	29	39	67	63	19	14	8.1	6.2	5.9
7	38	38	67	28	39	66	59	18	16	40	5.5	4.9
8	35	35	59	30	41	68	53	18	18	101	5.5	4.8
9	32	31	80	29	42	59	47	17	18	15	6.2	5.5
10	30	28	128	29	42	54	42	16	11	12	5.6	4.6
11	28	26	113	29	40	51	38	15	9.8	11	6.1	4.5
12	26	62	93	29	40	49	38	15	9.8	14	6.2	5.0
13	33	90	78	29	37	45	37	15	8.8	12	6.2	4.3
14	34	63	68	335	40	43	34	15	8.1	12	5.4	4.1
15	29	53	58	143	40	40	30	16	7.7	17	5.8	4.8
16	26	49	53	99	40	39	29	14	8.4	13	5.4	4.7
17	24	42	50	79	39	39	28	14	8.1	13	7.7	6.3
18	23	38	46	65	37	37	26	13	8.2	12	6.1	4.8
19	25	36	44	57	36	35	25	13	8.8	11	8.4	4.9
20	24	34	40	53	35	34	24	48	8.1	10	7.2	5.1
21	24	32	38	50	37	33	24	31	8.5	11	6.2	4.3
22	23	30	37	46	36	32	25	24	7.5	29	5.8	4.4
23	23	31	41	41	34	54	27	22	7.0	25	5.1	4.3
24	24	103	39	e35	35	70	24	21	6.2	17	5.5	4.2
25	23	167	36	37	34	62	23	19	6.8	15	5.1	4.5
26	23	97	34	37	34	59	22	17	6.1	15	5.2	4.8
27	23	75	32	38	33	57	22	16	7.0	15	8.6	5.8
28	22	79	31	35	36	571	21	15	8.1	9.7	7.5	4.5
29	21	66	31	33	---	282	20	14	9.1	9.4	6.8	4.5
30	22	62	30	34	---	144	23	13	11	8.0	7.5	4.8
31	21	---	30	36	---	103	---	13	---	8.2	12	---
TOTAL	1,079	1,568	1,878	1,626	1,057	2,384	1,335	569	313.1	521.0	202.4	152.4
MEAN	34.8	52.3	60.6	52.5	37.8	76.9	44.5	18.4	10.4	16.8	6.53	5.08
MAX	118	167	131	335	42	571	161	48	18	101	12	7.6
MIN	21	21	30	27	33	32	20	13	6.1	8.0	5.1	4.1

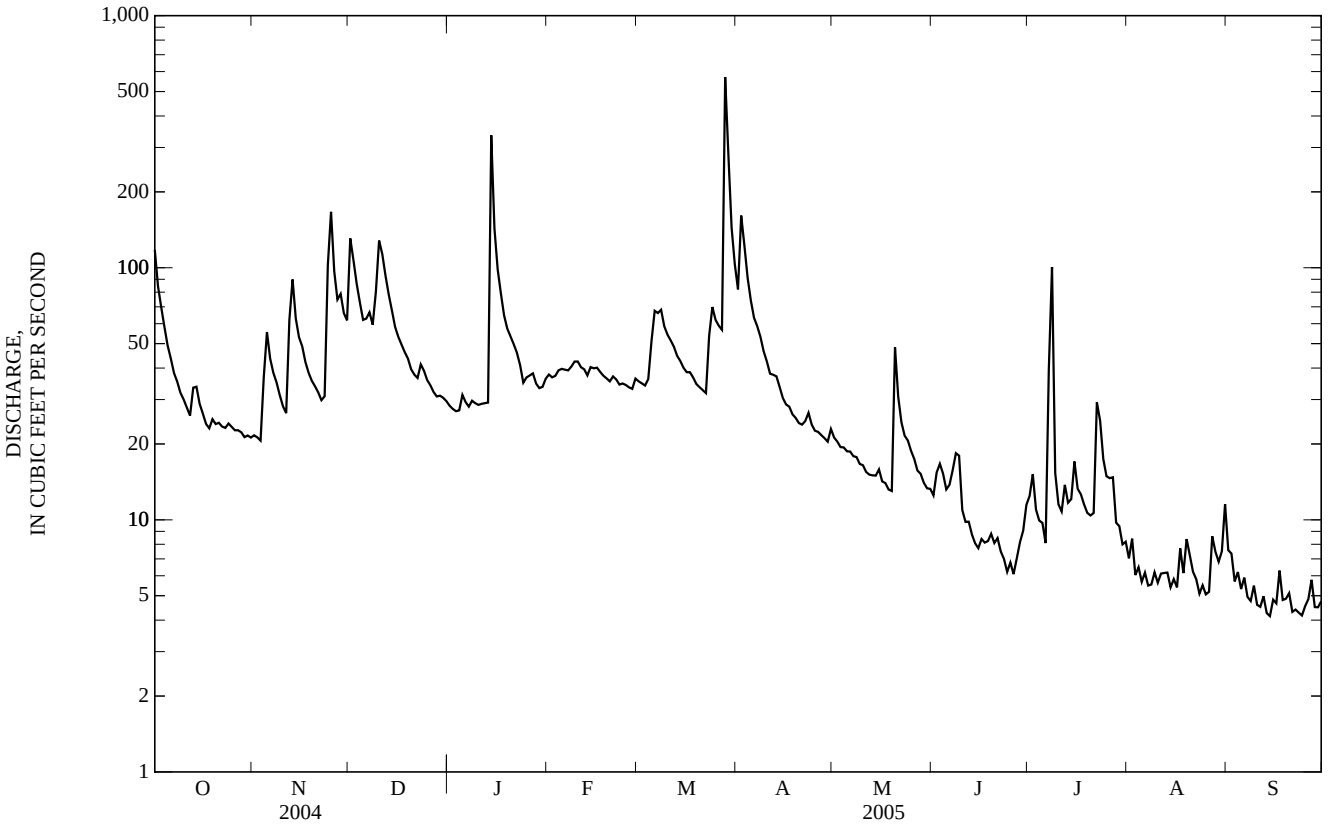
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

MEAN	14.5	30.2	23.4	35.3	53.1	75.3	70.3	41.4	32.7	12.8	11.4	22.3
MAX	82.2	390	105	131	221	278	337	187	171	71.0	75.5	196
(WY)	(1990)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(2003)	(2003)	(2003)	(1985)	(2004)
MIN	3.41	2.01	3.16	3.45	2.07	4.51	3.79	4.88	2.29	2.10	1.06	1.53
(WY)	(1999)	(1982)	(1982)	(1981)	(2002)	(2002)	(2002)	(1999)	(1999)	(2002)	(2002)	(2002)

02018500 CATAWBA CREEK NEAR CATAWBA, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1975 - 2005	
ANNUAL TOTAL	18,519.8		12,684.9			
ANNUAL MEAN	50.6		34.8		35.1	
HIGHEST ANNUAL MEAN					70.2	2003
LOWEST ANNUAL MEAN					3.95	2002
HIGHEST DAILY MEAN	2,630	Sep 28	571	Mar 28	7,400	Nov 4, 1985
LOWEST DAILY MEAN	4.2	Sep 5	4.1	Sep 14	0.25	Sep 13, 2002
ANNUAL SEVEN-DAY MINIMUM	4.9	Aug 30	4.5	Sep 20	0.36	Sep 8, 2002
MAXIMUM PEAK FLOW			1,300	Mar 28	21,200	Nov 4, 1985
MAXIMUM PEAK STAGE			5.63	Mar 28	a19.19	Nov 4, 1985
INSTANTANEOUS LOW FLOW			4.1	bSep 13	0.24	cSep 12, 2002
10 PERCENT EXCEEDS	80		67		70	
50 PERCENT EXCEEDS	28		27		12	
90 PERCENT EXCEEDS	7.9		5.8		4.0	

a From high-water mark.
b Also Sept. 14-16, 19-25, 28, 29, 2005.
c Also Sept. 13, 14, 2002.
e Estimated.



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 NGVD of 1929. Prior to July 1, 1927, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. 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 105,000 ft^3/s. 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6,880	1,200	6,960	1,880	1,720	2,430	7,520	4,100	1,180	1,010	1,090	1,130
2	4,670	1,180	10,400	1,810	1,720	2,460	9,210	4,350	1,170	1,080	961	1,040
3	3,580	1,150	8,500	1,730	1,740	2,390	13,400	3,820	1,210	1,100	895	885
4	2,930	1,200	7,290	1,670	1,790	2,140	9,080	3,470	1,240	944	838	806
5	2,480	2,290	5,140	1,720	1,830	2,080	6,910	3,180	1,230	868	802	754
6	2,130	3,850	3,980	1,720	1,900	3,350	5,770	2,960	1,160	835	793	722
7	1,870	3,510	3,490	1,640	1,910	4,420	5,070	2,440	1,400	835	828	702
8	1,680	2,830	3,230	1,720	1,930	5,060	4,780	2,120	1,270	1,560	893	681
9	1,530	2,260	3,210	1,880	2,060	5,780	4,400	2,010	1,330	2,410	911	666
10	1,410	1,910	8,550	1,920	2,450	5,000	3,570	1,880	1,340	1,680	1,370	655
11	1,310	1,670	10,900	1,930	2,540	4,390	3,100	1,810	1,340	1,260	1,120	647
12	1,230	1,730	8,830	1,970	2,340	4,030	2,890	1,750	1,230	1,110	1,010	635
13	1,290	4,680	7,230	1,970	2,210	3,740	2,850	1,570	1,140	1,060	958	628
14	1,470	4,570	5,810	11,400	2,180	3,580	2,680	1,500	1,110	1,030	884	618
15	1,580	3,440	4,530	13,900	2,400	3,180	2,390	1,540	1,080	1,480	853	612
16	1,450	2,890	3,520	8,160	2,610	2,810	2,160	1,580	998	1,830	854	622
17	1,300	2,580	2,950	6,290	2,580	2,650	1,970	1,520	937	2,010	1,030	610
18	1,210	2,320	2,680	5,080	2,440	2,560	1,890	1,410	898	1,790	1,190	605
19	1,180	2,140	2,490	4,110	2,270	2,420	1,840	1,250	889	1,530	1,030	594
20	1,190	2,470	2,310	3,530	2,130	2,280	1,790	1,740	905	1,360	916	587
21	1,200	2,500	2,030	3,110	2,080	2,190	1,730	2,540	913	1,220	922	582
22	1,180	2,230	1,920	2,780	2,180	2,110	2,030	2,900	898	1,120	853	579
23	1,200	2,070	2,050	2,570	2,360	2,440	4,080	2,470	871	1,120	801	579
24	1,200	2,170	3,230	2,170	2,360	3,910	5,500	2,120	836	1,150	766	575
25	1,290	8,190	3,840	2,040	2,370	4,800	4,370	2,000	806	1,030	740	574
26	1,340	9,150	3,310	1,950	2,310	4,430	4,360	1,740	785	937	723	585
27	1,330	6,430	2,740	1,870	2,260	4,070	3,950	1,590	767	887	811	603
28	1,300	5,850	2,340	1,790	2,300	9,300	3,030	1,480	761	861	1,050	590
29	1,280	5,800	2,130	1,630	---	22,200	2,450	1,380	758	1,890	1,090	579
30	1,260	5,070	2,060	1,630	---	14,700	2,520	1,250	819	1,470	992	572
31	1,230	---	1,970	1,710	---	10,300	---	1,220	---	1,260	1,200	---
TOTAL	56,180	99,330	139,620	99,280	60,970	147,200	127,290	66,690	31,271	39,727	29,174	20,017
MEAN	1,812	3,311	4,504	3,203	2,178	4,748	4,243	2,151	1,042	1,282	941	667
MAX	6,880	9,150	10,900	13,900	2,610	22,200	13,400	4,350	1,400	2,410	1,370	1,130
MIN	1,180	1,150	1,920	1,630	1,720	2,080	1,730	1,220	758	835	723	572

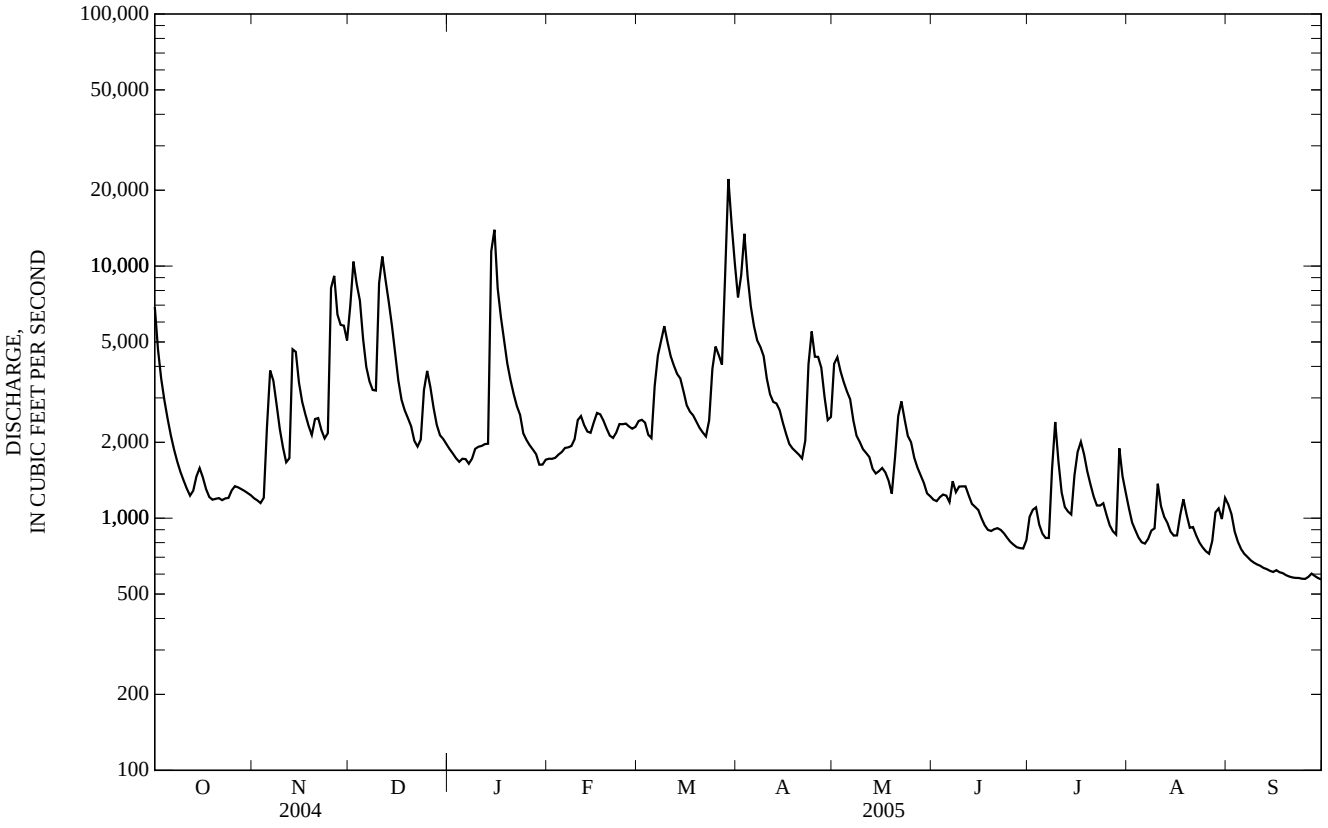
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	1,184	2,078	2,370	3,196	3,929	4,921	4,504	3,264	2,229	1,104	1,034	1,327
MAX	5,679	10,190	6,450	10,310	11,270	12,790	16,170	8,908	8,649	2,905	3,834	5,200
(WY)	(1990)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(2003)	(1984)	(2004)
MIN	419	452	453	396	604	922	1,081	1,457	626	553	338	361
(WY)	(1981)	(2002)	(1981)	(1981)	(2002)	(1981)	(1995)	(2000)	(1999)	(1999)	(1981)	(1981)

02019500 JAMES RIVER AT BUCHANAN, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	1,092,100		916,749			
ANNUAL MEAN	2,984		2,512		2,586	
HIGHEST ANNUAL MEAN					4,432	2003
LOWEST ANNUAL MEAN					1,092	1981
HIGHEST DAILY MEAN	48,500	Sep 29	22,200	Mar 29	102,000	Nov 5, 1985
LOWEST DAILY MEAN	608	aSep 5	572	Sep 30	257	Oct 1, 1981
ANNUAL SEVEN-DAY MINIMUM	637	Sep 1	580	Sep 20	268	Sep 29, 1981
MAXIMUM PEAK FLOW			25,200	Mar 29	b179,000	Nov 5, 1985
MAXIMUM PEAK STAGE			14.41	Mar 29	b,c38.84	Nov 5, 1985
INSTANTANEOUS LOW FLOW			561	Sep 30	d,f230	gJan 11, 1981
ANNUAL RUNOFF (CFSM)	1.44		1.21		1.25	
ANNUAL RUNOFF (INCHES)	19.58		16.44		16.93	
10 PERCENT EXCEEDS	5,520		5,020		5,550	
50 PERCENT EXCEEDS	2,080		1,830		1,300	
90 PERCENT EXCEEDS	876		804		547	

a Also Sept. 6, 2004.
b Prior to regulation, 1898-1979, maximum peak flow, 115,000 ft^3/s, Mar. 27, 1913, gage height, 31.00 ft, from floodmarks.
c From floodmarks.
d Prior to regulation, 1898-1979, instantaneous low flow, 202 ft^3/s, Sept. 8, 1966.
f Result of freezeup.
g Also Jan. 12, 1981.



02020500 CALFPASTURE RIVER ABOVE MILL CREEK, AT GOSHEN, VA

LOCATION.--Lat 37°59'16", long 79°29'37", NAD83, Rockbridge County, Hydrologic Unit 02080202, on left bank 20 ft upstream from bridge on State Highway 42, at Goshen and 400 ft upstream from Mill Creek.

DRAINAGE AREA.--144 mi^2.

PERIOD OF RECORD.--October 1938 to September 1996. October 1998 to current year. Monthly discharge only for some periods, published in WSP 1303.

REVISED RECORDS.--WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,382.84 ft NGVD of 1929. Prior to Oct. 1, 1998, at datum 2.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Virginia Department of Emergency Services gage-height radio transmitter at station. Maximum discharge, 56,300 ft^3/s, from rating curve extended above 9,200 ft^3/s on basis of slope-area measurement at gage heights 12.78 ft and 20.23 ft. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	1245	*3,220	*7.51

No other peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	419	39	1,100	112	75	156	360	511	60	25	69	36
2	268	39	1,090	103	71	142	907	414	56	39	52	31
3	195	39	619	95	70	127	1,210	324	56	31	41	28
4	152	52	396	89	71	119	664	257	54	50	35	24
5	124	129	295	91	71	145	422	209	52	37	29	20
6	104	182	238	91	68	176	317	176	53	30	27	18
7	89	155	217	87	67	333	263	156	51	28	28	16
8	78	129	212	89	68	709	263	139	54	75	22	15
9	69	108	285	90	71	691	221	121	75	123	25	14
10	63	92	1,560	88	75	445	196	107	71	76	28	13
11	57	83	1,270	92	75	331	179	98	64	56	29	12
12	52	113	721	97	74	268	163	91	57	44	35	11
13	58	200	461	97	75	220	160	87	52	38	38	10
14	66	210	333	2,090	81	197	143	81	48	85	56	10
15	64	189	255	1,280	88	167	126	77	43	113	48	9.5
16	60	166	207	663	89	149	111	72	39	82	46	11
17	53	146	179	428	91	140	100	66	35	75	41	11
18	49	130	158	305	92	132	95	63	32	71	30	9.0
19	46	126	142	251	89	123	90	60	30	61	27	8.3
20	44	169	124	215	88	115	86	91	28	54	24	7.9
21	42	170	120	189	90	110	83	321	27	46	21	7.6
22	40	167	102	161	122	107	144	258	26	38	18	7.5
23	39	159	132	136	130	148	762	192	24	33	16	7.4
24	41	189	267	e110	140	324	640	166	22	29	15	7.2
25	41	1,120	273	e120	145	357	404	137	20	26	14	7.3
26	39	742	232	112	145	309	293	116	19	23	13	7.8
27	39	449	198	104	147	261	234	100	18	21	19	8.1
28	40	501	165	90	155	704	192	89	17	22	22	7.5
29	40	461	147	e78	---	1,290	164	80	17	47	18	6.9
30	41	369	135	80	---	742	253	72	20	55	17	6.0
31	40	---	122	79	---	484	---	66	---	44	45	---
TOTAL	2,552	6,823	11,755	7,712	2,623	9,721	9,245	4,797	1,220	1,577	948	388.0
MEAN	82.3	227	379	249	93.7	314	308	155	40.7	50.9	30.6	12.9
MAX	419	1,120	1,560	2,090	155	1,290	1,210	511	75	123	69	36
MIN	39	39	102	78	67	107	83	60	17	21	13	6.0
CFSM	0.57	1.58	2.63	1.73	0.65	2.18	2.14	1.07	0.28	0.35	0.21	0.09
IN.	0.66	1.76	3.04	1.99	0.68	2.51	2.39	1.24	0.32	0.41	0.24	0.10

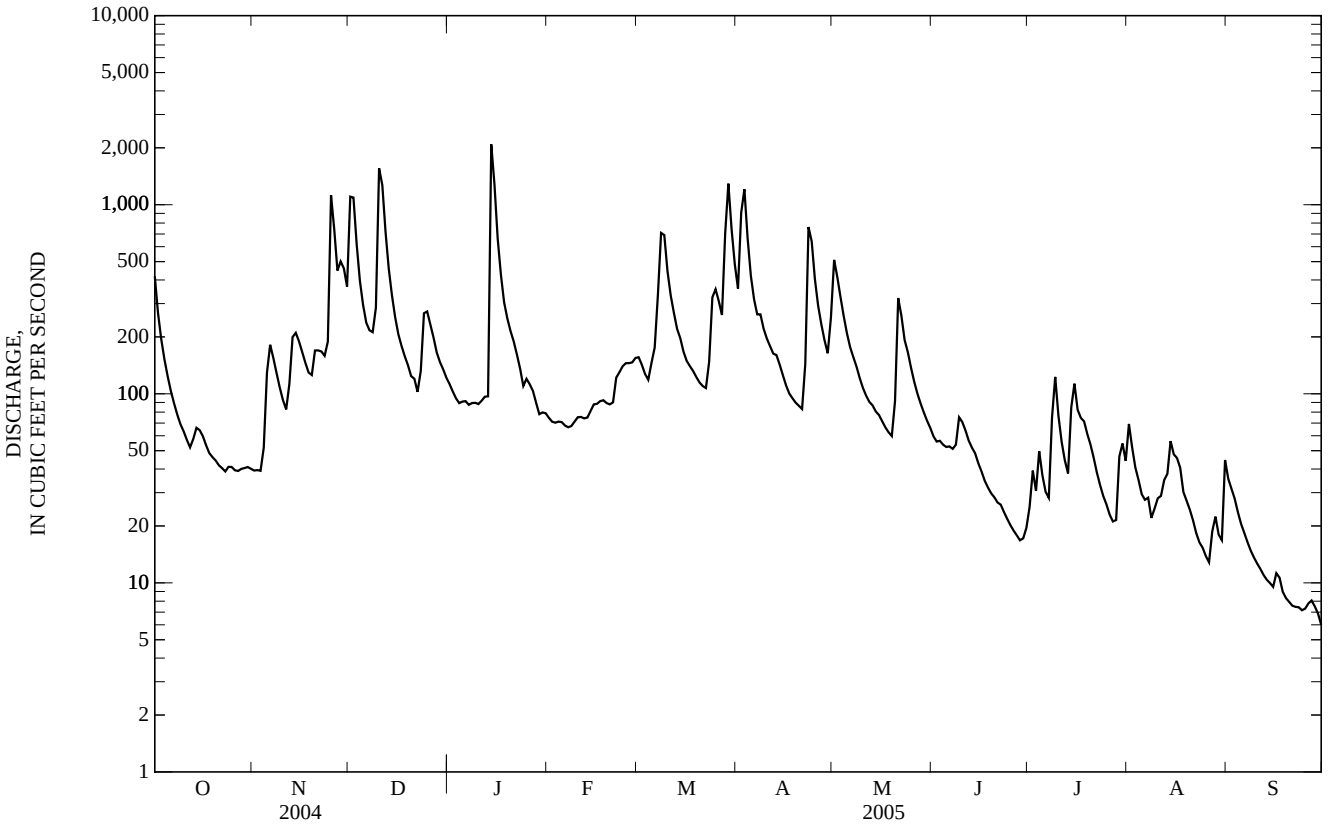
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1996, 1999 - 2005, BY WATER YEAR (WY)

MEAN	73.3	131	192	222	258	354	268	220	136	49.1	56.1	68.6
MAX	469	1,540	768	931	651	849	992	638	600	352	458	799
(WY)	(1977)	(1986)	(1974)	(1996)	(1994)	(1993)	(1987)	(1942)	(1982)	(1972)	(1940)	(1996)
MIN	3.90	5.52	8.38	7.82	22.4	50.9	47.3	29.0	10.2	3.77	2.73	2.08
(WY)	(1942)	(2002)	(1999)	(1981)	(2002)	(1981)	(1995)	(1977)	(1964)	(1966)	(1999)	(1970)

02020500 CALFPASTURE RIVER ABOVE MILL CREEK, AT GOSHEN, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 1996 1999 - 2005	
ANNUAL TOTAL	71,605		59,361.0			
ANNUAL MEAN	196		163		169	
HIGHEST ANNUAL MEAN					310	2003
LOWEST ANNUAL MEAN					64.1	2002
HIGHEST DAILY MEAN	5,220	Sep 9	2,090	Jan 14	21,900	Nov 5, 1985
LOWEST DAILY MEAN	10	Sep 6	6.0	Sep 30	a0.00	bSep 5, 1957
ANNUAL SEVEN-DAY MINIMUM	11	Sep 1	7.3	Sep 24	0.67	Sep 9, 2002
MAXIMUM PEAK FLOW			3,220	Jan 14	56,300	Nov 4, 1985
MAXIMUM PEAK STAGE			7.51	Jan 14	20.23	Nov 4, 1985
INSTANTANEOUS LOW FLOW			5.4	Sep 30	a0.00	bSep 5, 1957
ANNUAL RUNOFF (CFSM)	1.36		1.13		1.17	
ANNUAL RUNOFF (INCHES)	18.50		15.33		15.90	
10 PERCENT EXCEEDS	373		358		377	
50 PERCENT EXCEEDS	101		89		64	
90 PERCENT EXCEEDS	25		19		7.6	

a Result of diversion.
b Also Sept. 6, 1957, and Sept. 28, 1959.
e Estimated.



02021500 MAURY RIVER AT ROCKBRIDGE BATHS, VA

LOCATION.--Lat 37°54'26", long 79°25'19", NAD83, Rockbridge County, Hydrologic Unit 02080202, on right bank at Rockbridge Baths, 1,200 ft upstream from bridge on State Highway 39, and 1.0 mi upstream from Hays Creek.

DRAINAGE AREA.--329 mi^2.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1303. Prior to October 1945, published as North River at Rockbridge Baths.

REVISED RECORDS.--WSP 972: 1929-40, 1941(M). WSP 1002: 1930(m). WSP 1553: 1931(m).

GAGE.--Water-stage recorder. Datum of gage is 1,100.33 ft NGVD of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. Since 1966, some regulation at times by Lake Merriweather on Little Calfpasture River. National Weather Service gage-height telemeter at station. Maximum discharge, 87,700 ft^3/s, from rating curve extended above 16,000 ft^3/s on basis of slope-area measurement 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	1245	*5,750	*7.06	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	998	103	2,260	322	209	385	974	1,040	150	57	97	145
2	716	102	2,120	292	197	345	2,250	970	139	88	91	104
3	561	102	1,370	269	198	304	2,730	792	150	88	75	85
4	443	133	987	257	204	291	1,640	648	146	90	68	72
5	350	286	771	264	205	378	1,160	547	134	87	62	63
6	285	345	644	265	196	559	907	471	134	78	63	133
7	245	300	598	243	194	827	769	419	134	69	113	147
8	215	258	575	251	198	1,250	817	377	127	305	76	162
9	191	219	708	253	207	1,280	711	330	142	257	88	180
10	174	192	2,940	238	214	969	627	292	162	163	122	149
11	157	175	2,520	240	203	780	568	268	146	118	104	86
12	144	368	1,580	255	196	651	518	252	129	98	96	173
13	167	730	1,140	250	194	556	547	238	121	89	82	176
14	207	599	869	3,790	206	544	497	226	116	163	99	159
15	178	509	686	2,460	226	483	433	223	104	223	87	140
16	155	437	577	1,420	220	434	376	201	94	186	150	139
17	138	379	513	1,040	218	409	343	183	85	160	192	126
18	126	333	452	776	213	381	321	171	79	166	109	98
19	122	326	409	631	204	344	300	171	76	134	88	114
20	122	463	346	578	198	317	284	411	74	132	78	88
21	116	426	303	520	213	295	271	645	71	105	68	49
22	114	398	288	441	320	277	415	559	72	94	59	35
23	110	378	514	372	333	398	1,290	433	70	81	53	32
24	114	484	878	287	339	909	1,230	371	65	71	51	29
25	123	1,990	743	315	346	850	840	326	61	64	48	29
26	114	1,420	632	286	345	741	579	272	57	60	46	31
27	109	993	550	287	343	646	477	236	55	57	59	32
28	109	1,250	451	232	375	1,570	396	208	54	55	83	30
29	109	1,110	413	208	---	2,240	344	186	54	67	66	28
30	109	906	381	217	---	1,600	477	169	54	101	61	26
31	107	---	345	221	---	1,220	---	166	---	84	185	---
TOTAL	6,928	15,714	27,563	17,480	6,714	22,233	23,091	11,801	3,055	3,590	2,719	2,860
MEAN	223	524	889	564	240	717	770	381	102	116	87.7	95.3
MAX	998	1,990	2,940	3,790	375	2,240	2,730	1,040	162	305	192	180
MIN	107	102	288	208	194	277	271	166	54	55	46	26
CFSM	0.68	1.59	2.70	1.71	0.73	2.18	2.34	1.16	0.31	0.35	0.27	0.29
IN.	0.78	1.78	3.12	1.98	0.76	2.51	2.61	1.33	0.35	0.41	0.31	0.32

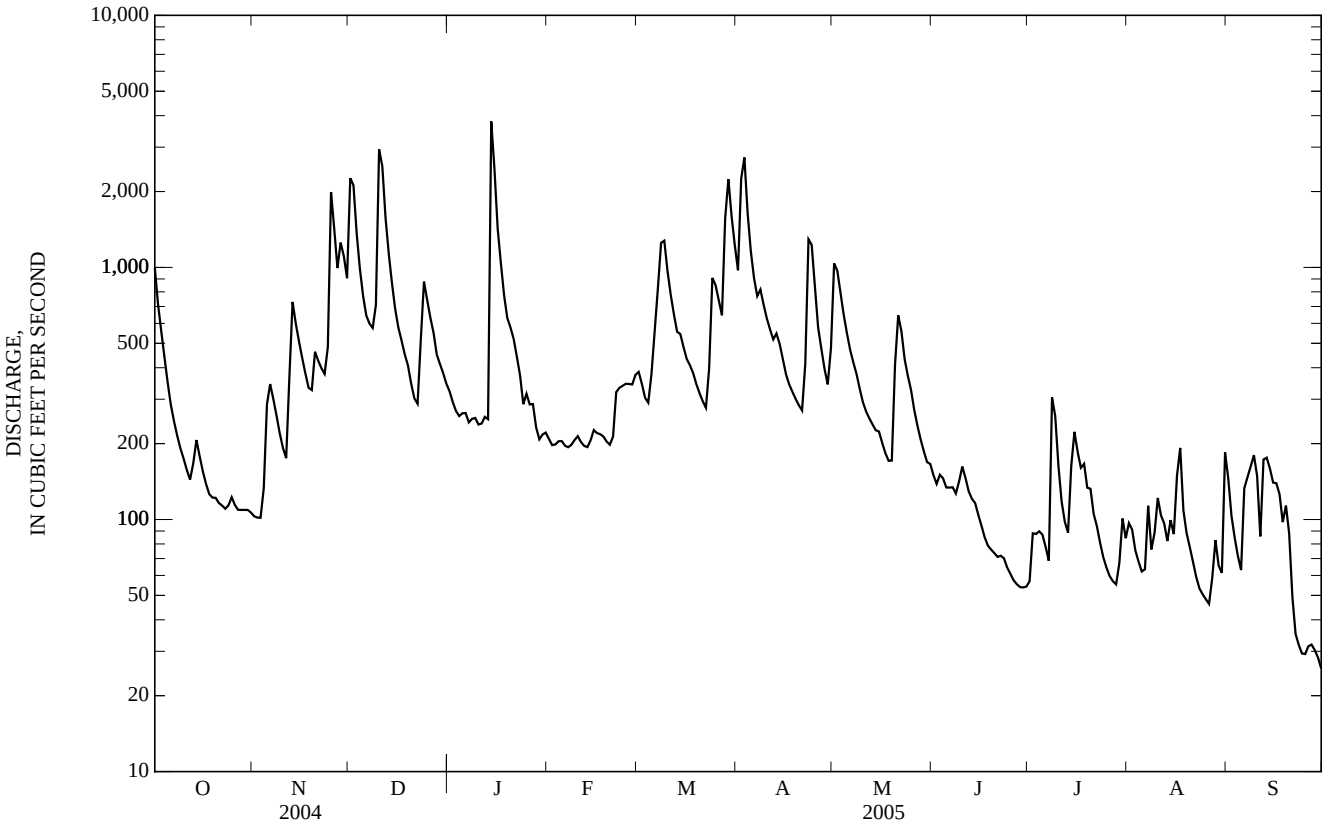
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

MEAN	188	284	413	536	609	831	628	471	278	121	134	150
MAX	1,254	2,689	1,450	1,895	1,530	2,017	2,245	1,463	1,374	807	1,016	1,388
(WY)	(1980)	(1986)	(1974)	(1998)	(1998)	(1936)	(1987)	(1989)	(1995)	(1972)	(1969)	(1996)
MIN	16.5	20.9	26.6	32.3	50.9	117	122	81.0	34.7	14.6	14.9	16.1
(WY)	(1931)	(2002)	(1966)	(1981)	(1934)	(1981)	(1995)	(1930)	(1964)	(1966)	(1964)	(1930)

02021500 MAURY RIVER AT ROCKBRIDGE BATHS, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	177,659		143,748			
ANNUAL MEAN	485		394		386	
HIGHEST ANNUAL MEAN					696	2003
LOWEST ANNUAL MEAN					132	2002
HIGHEST DAILY MEAN	7,370	Sep 9	3,790	Jan 14	41,500	Nov 5, 1985
LOWEST DAILY MEAN	35	Sep 5	26	Sep 30	7.1	Sep 10, 1966
ANNUAL SEVEN-DAY MINIMUM	39	Aug 30	29	Sep 24	8.2	Sep 7, 1966
MAXIMUM PEAK FLOW			5,750	Jan 14	87,700	Nov 5, 1985
MAXIMUM PEAK STAGE			7.06	Jan 14	a19.19	Nov 5, 1985
INSTANTANEOUS LOW FLOW			25	Sep 30	5.8	Sep 10, 1966
ANNUAL RUNOFF (CFSM)	1.48		1.20		1.17	
ANNUAL RUNOFF (INCHES)	20.09		16.25		15.93	
10 PERCENT EXCEEDS	923		906		900	
50 PERCENT EXCEEDS	314		223		157	
90 PERCENT EXCEEDS	90		69		30	

a From floodmarks.



02022500 KERRS CREEK NEAR LEXINGTON, VA

LOCATION.--Lat 37°49'32", long 79°26'35", NAD83, Rockbridge County, Hydrologic Unit 02080202, on right bank 100 ft upstream from bridge on Interstate Highway 64, 1.4 mi upstream from mouth, and 2.9 mi north of Lexington.

DRAINAGE AREA.--35.0 mi^2.

PERIOD OF RECORD.--October 1926 to current year. Monthly discharge only for some periods, published in WSP 1303.

REVISED RECORDS.--WSP 1203: 1927-29, 1930-34(M), 1935-40, 1941(M), 1942, 1943-48(M), 1949. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 980.32 ft NGVD of 1929 (levels by U.S. Army Corps of Engineers). Jan. 27, 1927, to Sept. 30, 1953, nonrecording gage at site 1,000 ft downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 23,000 ft^3/s, from rating curve extended above 800 ft^3/s on basis of contracted-opening and slope-area measurements of 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.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	0530	765	5.85	Apr 2	0845	1,370	6.95
Mar 28	1015	*1,500	*7.15				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	16	180	31	25	29	78	67	23	12	11	21
2	55	16	108	29	25	27	430	54	23	15	10	17
3	43	16	82	28	25	26	185	48	24	13	9.5	15
4	36	23	65	27	25	26	117	43	23	12	9.4	14
5	30	25	54	27	25	48	92	39	21	12	9.1	13
6	27	21	49	26	25	63	77	37	20	12	23	12
7	25	20	45	24	25	61	71	35	20	13	44	11
8	24	19	40	27	25	81	65	32	19	40	16	11
9	23	18	153	25	26	67	55	30	21	17	66	11
10	22	17	229	24	26	57	50	28	22	14	34	11
11	20	17	157	24	25	51	46	27	20	13	21	11
12	20	82	104	24	24	46	43	26	18	13	17	10
13	24	77	82	23	24	41	45	26	18	13	15	10
14	25	49	65	344	25	46	40	31	18	22	17	10
15	20	40	55	120	24	42	36	30	16	17	21	9.9
16	19	34	49	84	24	40	34	25	16	15	16	9.6
17	18	30	44	65	23	38	33	24	15	14	23	9.5
18	17	28	41	52	22	36	31	24	15	13	16	9.6
19	18	29	38	47	22	34	30	26	15	13	16	9.2
20	17	28	33	44	21	32	29	122	16	12	14	9.1
21	16	25	31	41	23	30	34	63	16	12	13	9.1
22	16	24	30	37	26	29	82	47	17	12	12	9.1
23	17	24	106	32	24	49	108	40	16	11	11	9.0
24	19	100	90	e28	25	58	71	38	14	10	11	8.9
25	20	150	64	30	25	49	57	36	14	10	11	9.5
26	18	79	54	30	26	46	49	30	13	9.7	11	10
27	18	61	46	28	26	46	44	28	13	9.6	18	9.8
28	17	121	41	25	29	475	39	26	13	10	18	9.2
29	17	77	38	25	---	215	37	24	13	13	14	9.1
30	17	64	35	27	---	122	63	24	12	11	15	8.8
31	16	---	33	25	---	94	---	26	---	14	44	---
TOTAL	750	1,330	2,241	1,423	690	2,104	2,171	1,156	524	427.3	586.0	326.4
MEAN	24.2	44.3	72.3	45.9	24.6	67.9	72.4	37.3	17.5	13.8	18.9	10.9
MAX	76	150	229	344	29	475	430	122	24	40	66	21
MIN	16	16	30	23	21	26	29	24	12	9.6	9.1	8.8
CFSM	0.69	1.27	2.07	1.31	0.70	1.94	2.07	1.07	0.50	0.39	0.54	0.31
IN.	0.80	1.41	2.38	1.51	0.73	2.24	2.31	1.23	0.56	0.45	0.62	0.35

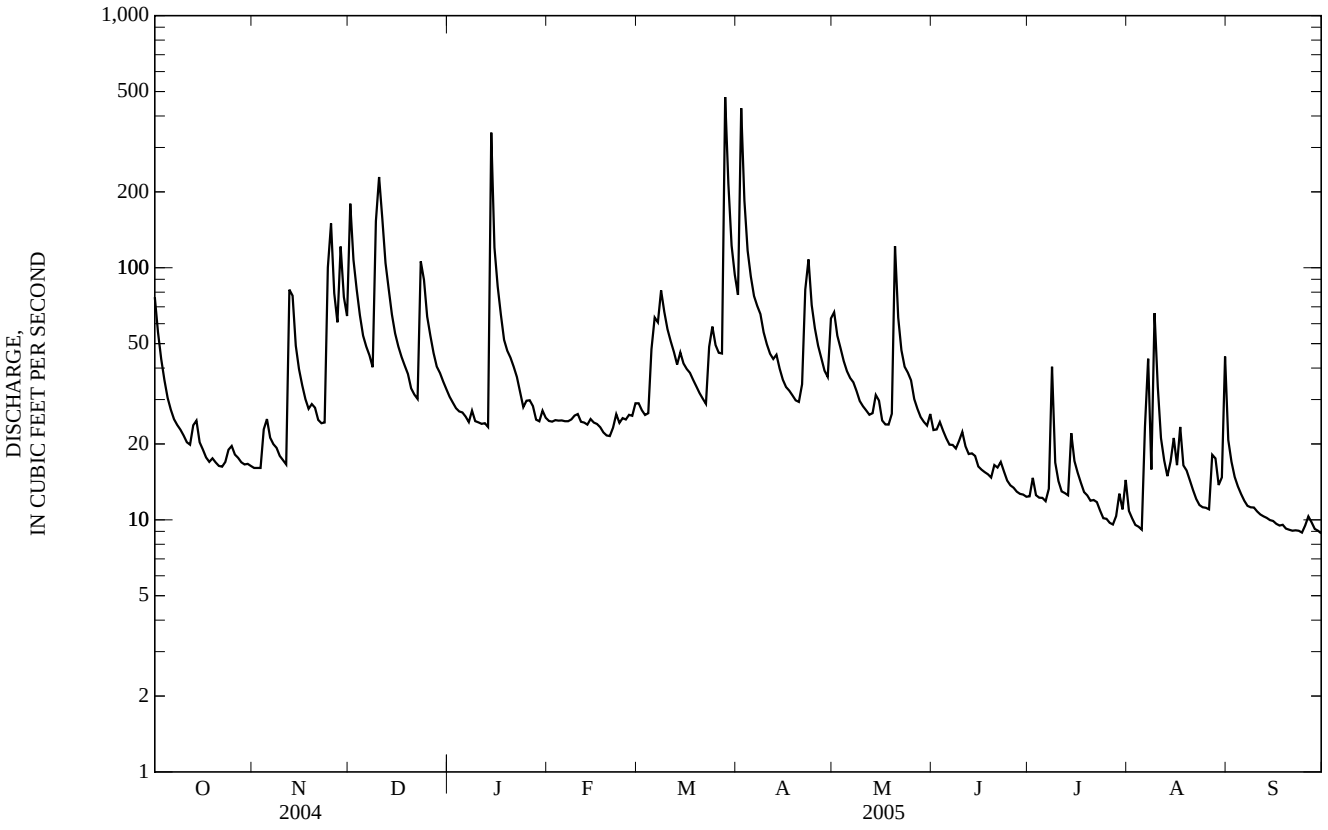
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2005, BY WATER YEAR (WY)

MEAN	22.1	24.7	33.1	45.0	54.2	71.7	57.8	38.7	28.8	17.4	22.9	20.5
MAX	141	209	129	163	150	357	306	159	194	99.5	162	188
(WY)	(1938)	(1986)	(1949)	(1937)	(1998)	(1936)	(1987)	(1989)	(1995)	(1972)	(1969)	(1950)
MIN	5.24	6.34	5.88	5.15	5.46	11.6	10.3	12.0	6.42	5.56	4.11	4.36
(WY)	(1964)	(2002)	(1966)	(1966)	(2002)	(2002)	(1942)	(1956)	(2002)	(1966)	(2002)	(2002)

02022500 KERRS CREEK NEAR LEXINGTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1927 - 2005	
ANNUAL TOTAL	18,461.7		13,728.7			
ANNUAL MEAN	50.4		37.6		36.3	
HIGHEST ANNUAL MEAN					75.5	1936
LOWEST ANNUAL MEAN					10.4	2002
HIGHEST DAILY MEAN	1,130	Sep 28	475	Mar 28	e4,840	Mar 17, 1936
LOWEST DAILY MEAN	8.4	Sep 5	8.8	Sep 30	3.3	aOct 10, 2002
ANNUAL SEVEN-DAY MINIMUM	8.9	Aug 31	9.1	Sep 19	3.5	bSep 1, 2002
MAXIMUM PEAK FLOW			1,500	Mar 28	23,000	Sep 10, 1950
MAXIMUM PEAK STAGE			7.15	Mar 28	c15.44	Jun 28, 1995
INSTANTANEOUS LOW FLOW			7.9	Jul 3	d0.90	Jul 22, 1966
ANNUAL RUNOFF (CFSM)	1.44		1.07		1.04	
ANNUAL RUNOFF (INCHES)	19.62		14.59		14.10	
10 PERCENT EXCEEDS	87		71		68	
50 PERCENT EXCEEDS	29		25		17	
90 PERCENT EXCEEDS	15		11		7.4	

a Also Oct. 15, 2002.
b Also Sept. 2-8, 2002.
c From high-water mark in gage house.
d Result of temporary dam upstream.
e Estimated.



02024000 MAURY RIVER NEAR BUENA VISTA, VA

LOCATION.--Lat 37°45'45", long 79°23'29", NAD83, Rockbridge County, Hydrologic Unit 02080202, on right bank 0.5 mi downstream from South River and 2.8 mi northwest of Buena Vista.

DRAINAGE AREA.--646 mi^2.

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1303. Prior to October 1945, published as North River near Buena Vista.

REVISED RECORDS.--WSP 952: 1940-41. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 846.58 ft NGVD of 1929.

REMARKS.--No estimated daily discharges. Records good. Since 1966, some regulation at times by Lake Merriweather on Little Calfpasture River. Maximum discharge, 105,000 ft^3/s, from rating curve extended above 17,000 ft^3/s on basis of slope-area measurement of 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 OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of about 22 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	1600	*8,430	*8.19

Date	Time	Discharge (ft^3/s)	Gage height (ft)
No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,740	239	2,830	624	484	633	1,780	1,530	372	166	168	293
2	1,240	235	3,280	578	465	592	3,560	1,550	354	193	183	211
3	967	234	2,200	539	460	545	4,570	1,310	368	214	161	177
4	785	278	1,630	515	467	525	2,950	1,100	365	182	145	155
5	646	433	1,290	511	464	620	2,150	944	349	193	137	138
6	548	514	1,080	510	451	877	1,720	837	325	194	154	127
7	486	480	987	480	440	1,130	1,480	764	327	182	258	239
8	434	430	928	483	444	1,750	1,530	702	310	476	201	185
9	399	385	1,090	484	456	2,100	1,350	636	307	429	218	243
10	371	348	3,890	457	470	1,650	1,190	581	364	324	268	254
11	341	324	3,890	449	456	1,350	1,070	543	332	251	231	178
12	321	573	2,590	460	437	1,150	991	520	306	217	198	138
13	363	1,390	1,910	456	429	987	1,020	495	291	203	178	270
14	431	1,100	1,490	5,370	437	979	952	491	285	243	165	216
15	389	893	1,200	4,460	460	902	850	642	263	347	182	217
16	342	763	1,020	2,570	455	826	766	492	241	304	210	197
17	313	666	905	1,890	445	788	707	443	226	296	297	215
18	289	591	818	1,450	432	744	673	416	215	283	233	179
19	285	557	749	1,190	419	693	642	418	208	269	191	150
20	281	671	658	1,080	410	649	610	844	220	257	173	174
21	275	656	582	984	429	614	596	1,050	212	226	155	136
22	269	607	590	872	525	583	844	983	210	209	137	99
23	266	586	908	769	569	664	1,760	796	210	185	125	87
24	270	710	1,800	621	563	1,290	1,990	697	188	164	119	85
25	281	2,550	1,430	681	577	1,310	1,490	651	178	152	114	83
26	273	2,250	1,180	626	572	1,200	1,060	561	170	144	110	86
27	259	1,580	1,010	619	569	1,070	904	500	163	136	145	91
28	258	1,900	856	538	604	2,760	786	458	159	151	180	89
29	254	1,840	775	486	---	4,000	705	423	157	160	165	85
30	253	1,510	721	519	---	2,860	840	395	159	180	151	80
31	246	---	663	509	---	2,200	---	421	---	188	275	---
TOTAL	13,875	25,293	44,950	31,780	13,389	38,041	41,536	22,193	7,834	7,118	5,627	4,877
MEAN	448	843	1,450	1,025	478	1,227	1,385	716	261	230	182	163
MAX	1,740	2,550	3,890	5,370	604	4,000	4,570	1,550	372	476	297	293
MIN	246	234	582	449	410	525	596	395	157	136	110	80
CFSM	0.69	1.31	2.24	1.59	0.74	1.90	2.14	1.11	0.40	0.36	0.28	0.25
IN.	0.80	1.46	2.59	1.83	0.77	2.19	2.39	1.28	0.45	0.41	0.32	0.28

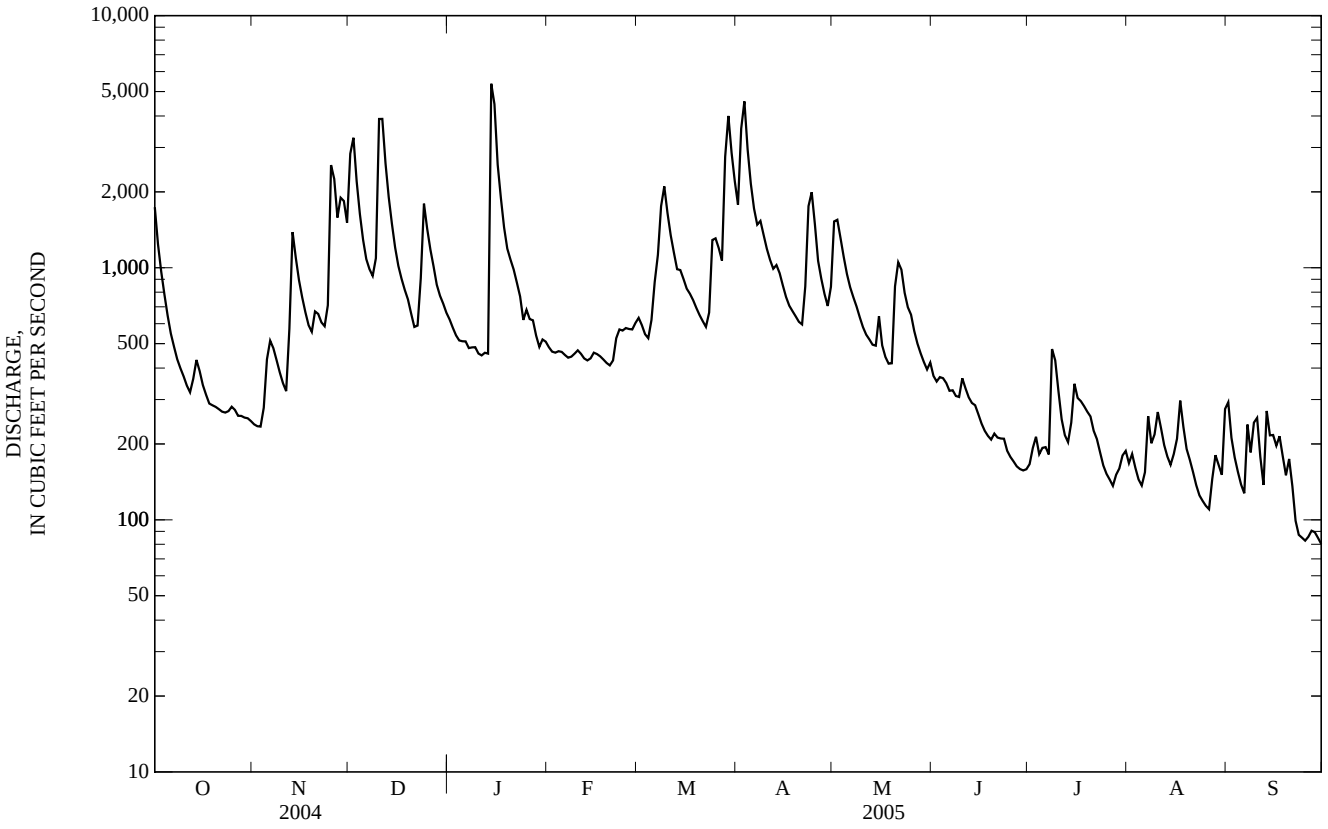
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2005, BY WATER YEAR (WY)

MEAN	355	496	712	882	1,048	1,337	1,068	816	557	281	315	324
MAX	1,997	3,400	2,430	2,891	3,140	3,187	3,672	2,373	2,647	1,351	3,060	2,087
(WY)	(1980)	(1986)	(1949)	(1998)	(1998)	(1993)	(1987)	(1989)	(1995)	(1972)	(1969)	(1996)
MIN	66.0	79.6	76.4	100	111	240	276	224	81.1	53.7	47.9	59.2
(WY)	(2002)	(2002)	(1966)	(1981)	(2002)	(1981)	(1995)	(1941)	(2002)	(1966)	(2002)	(2002)

02024000 MAURY RIVER NEAR BUENA VISTA, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 2005	
ANNUAL TOTAL	322,784		256,513			
ANNUAL MEAN	882		703		681	
HIGHEST ANNUAL MEAN					1,205	2003
LOWEST ANNUAL MEAN					210	2002
HIGHEST DAILY MEAN	9,990	Sep 9	5,370	Jan 14	56,000	Aug 20, 1969
LOWEST DAILY MEAN	122	Sep 5	80	Sep 30	22	Oct 10, 1941
ANNUAL SEVEN-DAY MINIMUM	127	Aug 31	86	Sep 24	40	Sep 8, 2002
MAXIMUM PEAK FLOW			8,430	Jan 14	105,000	Aug 20, 1969
MAXIMUM PEAK STAGE			8.19	Jan 14	31.23	Aug 20, 1969
INSTANTANEOUS LOW FLOW			78	aSep 25	b20	Oct 10, 1941
ANNUAL RUNOFF (CFSM)	1.37		1.09		1.05	
ANNUAL RUNOFF (INCHES)	18.59		14.77		14.31	
10 PERCENT EXCEEDS	1,570		1,530		1,510	
50 PERCENT EXCEEDS	639		465		347	
90 PERCENT EXCEEDS	256		164		105	

a Also Sept. 30, 2005.
b Occurred during filling of small reservoir 2 mi upstream, otherwise, minimum discharge, 36 ft^3/s, Sept. 12-14, 2002.



02024915 PEDLAR RIVER AT FOREST ROAD NEAR BUENA VISTA , VA

LOCATION.--Lat 37°41'51", long 79°16'42", NAD83, Amherst County, Hydrologic Unit Code 02080203, on right bank at bridge on Forest Road, 5 mi southeast of Buena Vista.

DRAINAGE AREA.--27.1 mi^2.

PERIOD OF RECORD.--November 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,135 ft NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	24	92	63	44	41	100	62	28	18	17	12
2	63	24	82	58	42	38	184	56	29	17	16	9.9
3	55	24	76	55	43	37	175	53	34	16	14	8.8
4	49	34	70	52	42	37	141	50	31	14	13	7.9
5	44	40	64	51	42	43	119	47	29	14	15	7.3
6	40	33	60	48	41	46	104	46	27	19	14	7.0
7	38	32	58	45	41	61	98	45	26	16	13	6.5
8	35	30	53	45	42	114	100	44	25	45	12	6.3
9	33	29	e60	43	43	107	86	42	28	22	14	6.0
10	31	28	e80	42	47	85	80	40	33	17	23	5.7
11	29	28	75	41	42	74	76	39	26	16	15	5.8
12	28	56	68	40	41	68	73	39	25	16	13	5.4
13	38	76	62	39	40	61	74	39	25	19	11	5.1
14	47	59	56	283	41	68	66	38	24	29	10	4.9
15	36	51	51	171	40	63	62	37	22	55	9.5	5.0
16	32	46	48	120	39	59	58	36	20	34	9.6	5.3
17	30	43	47	97	38	58	56	34	19	39	15	5.2
18	28	41	45	e78	37	55	54	34	19	41	11	4.6
19	30	40	44	e72	36	52	52	34	19	31	12	4.2
20	29	39	e43	71	36	50	50	66	29	31	11	4.1
21	28	37	e42	66	40	48	50	42	23	25	10	4.1
22	28	35	41	62	45	47	57	36	21	27	8.5	3.9
23	28	36	281	e50	39	62	72	34	22	23	8.0	3.9
24	30	60	268	e48	40	63	58	36	18	20	7.9	3.6
25	29	145	167	e54	39	64	54	35	17	18	7.8	4.3
26	27	95	125	53	39	63	51	32	16	17	7.4	6.4
27	27	79	101	50	38	64	50	30	16	17	15	8.3
28	26	107	87	e43	42	157	47	29	15	27	15	6.0
29	26	88	80	e41	---	177	48	28	15	25	11	5.0
30	26	80	73	e50	---	136	60	27	18	21	12	4.4
31	25	---	67	46	---	114	---	32	---	19	21	---
TOTAL	1,090	1,539	2,566	2,077	1,139	2,212	2,355	1,242	699	748	391.7	176.9
MEAN	35.2	51.3	82.8	67.0	40.7	71.4	78.5	40.1	23.3	24.1	12.6	5.90
MAX	75	145	281	283	47	177	184	66	34	55	23	12
MIN	25	24	41	39	36	37	47	27	15	14	7.4	3.6
CFSM	1.30	1.89	3.05	2.47	1.50	2.63	2.90	1.48	0.86	0.89	0.47	0.22
IN.	1.50	2.11	3.52	2.85	1.56	3.04	3.23	1.70	0.96	1.03	0.54	0.24

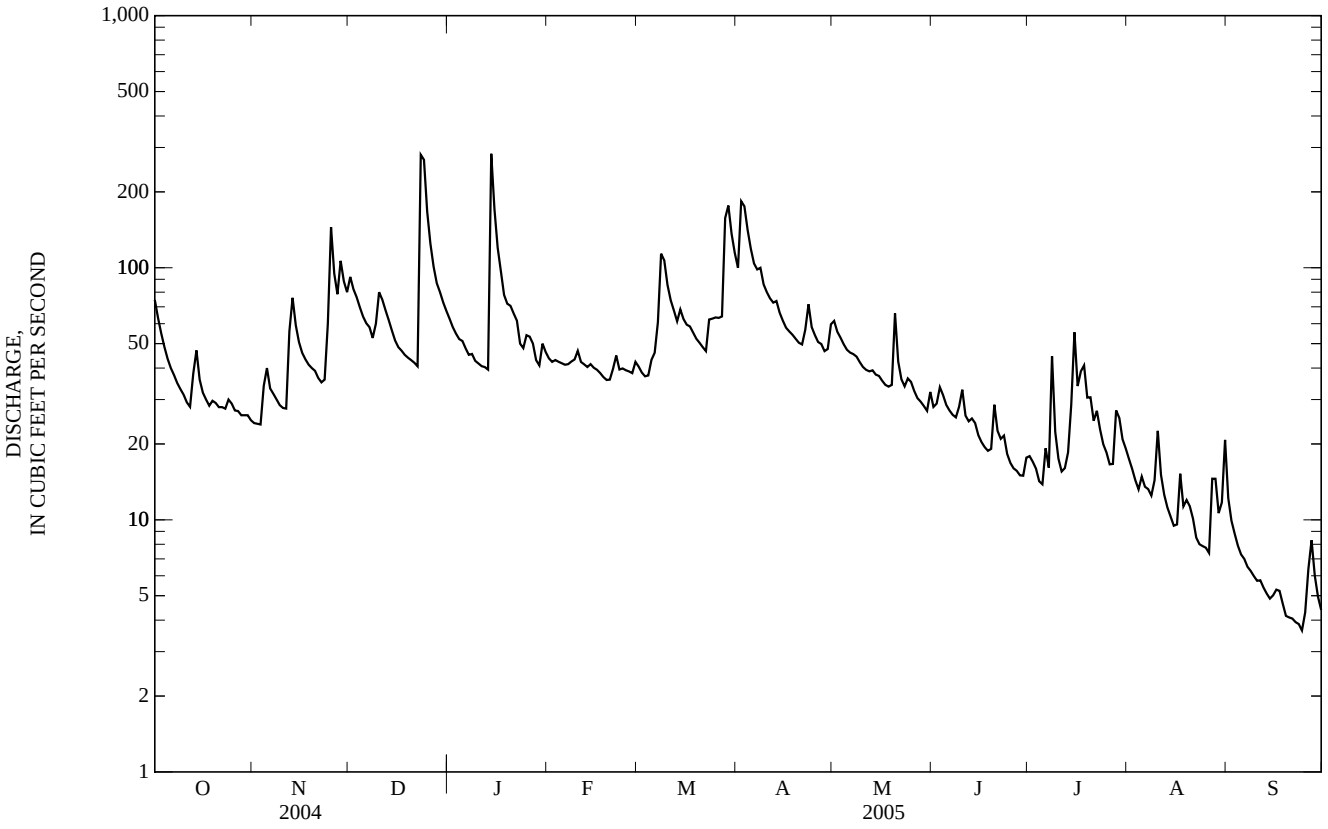
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2005, BY WATER YEAR (WY)

MEAN	39.5	85.8	72.4	51.1	59.6	66.8	78.2	55.9	54.8	38.9	22.6	50.8
MAX	43.9	120	98.3	67.0	69.5	86.1	92.6	76.8	96.0	63.3	37.1	91.6
(WY)	(2004)	(2004)	(2004)	(2005)	(2004)	(2003)	(2003)	(2003)	(2003)	(2004)	(2003)	(2003)
MIN	35.2	51.3	36.2	36.2	40.7	42.8	63.4	40.1	23.3	24.1	12.6	5.90
(WY)	(2005)	(2005)	(2003)	(2003)	(2005)	(2004)	(2004)	(2005)	(2005)	(2005)	(2005)	(2005)

02024915 PEDLAR RIVER AT FOREST ROAD NEAR BUENA VISTA , VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2003 - 2005	
ANNUAL TOTAL	19,093.4		16,235.6			
ANNUAL MEAN	52.2		44.5		52.2	
HIGHEST ANNUAL MEAN					59.9	2004
LOWEST ANNUAL MEAN					44.5	2005
HIGHEST DAILY MEAN	441	Jul 4	283	Jan 14	605	Sep 19, 2003
LOWEST DAILY MEAN	9.1	Sep 5	3.6	Sep 24	3.6	Sep 24, 2005
ANNUAL SEVEN-DAY MINIMUM	10	Aug 31	4.0	Sep 19	4.0	Sep 19, 2005
MAXIMUM PEAK FLOW			759	Dec 23	1,180	Sep 19, 2003
MAXIMUM PEAK STAGE			6.00	Dec 23	7.27	Sep 19, 2003
INSTANTANEOUS LOW FLOW			3.6	aSep 23	3.6	Sep 23, 2005
ANNUAL RUNOFF (CFSM)	1.93		1.64		1.93	
ANNUAL RUNOFF (INCHES)	26.21		22.29		26.17	
10 PERCENT EXCEEDS	80		79		95	
50 PERCENT EXCEEDS	43		39		43	
90 PERCENT EXCEEDS	24		10		15	

a Also Sept. 24, 25, 2005.
e Estimated.



02025500 JAMES RIVER AT HOLCOMB ROCK, VA

LOCATION.--Lat 37°30'05", long 79°15'45", NAD83, Bedford County, Hydrologic Unit 02080203, on right bank at Holcomb Rock, 0.9 mi downstream from Pedlar River, and at mile 268.6.

DRAINAGE AREA.--3,259 mi^2.

PERIOD OF RECORD.--January 1900 to September 1915 (gage heights only), October 1926 to current year. Monthly discharge only for some periods, published in WSP 1303. Published as "at Salt Creek" December 1926 to June 1931 and as "at Holcombs Rock" June 1931 to September 1990.

REVISED RECORDS.--WSP 972: 1913(M), 1932-33, 1935(M), 1936. WSP 1303: 1928(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 548.53 ft NGVD of 1929. January 1900 to September 1915, nonrecording gage in powerhouse of Owens Illinois Glass Company 1,000 ft upstream at different datum. December 1926 to June 1931, water-stage recorder at site 2 mi downstream at different datum.

REMARKS.--Records fair except for period Mar. 5 to May 2, which is poor. Some diurnal fluctuation caused by powerplants upstream from station. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 117.4 mi upstream; since October 1984 by Back Creek Lake 145.4 mi upstream; and since January 1985 by Little Back Creek Lake 148.5 mi upstream, amount unknown. Statistics of monthly mean data and summary statistics for water years 1927 - 1979 (unregulated flow) are available in previous data books, water years 1991 - 1998. National Weather Service gage-height telemeter at station. Maximum discharge, 207,000 ft^3/s, from rating curve extended above 73,000 ft^3/s on basis of records for other stations in James River Basin. 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 March 1913 reached a stage of 31.3 ft, from floodmarks, discharge, 118,000 ft^3/s, from rating curve extended as explained above.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 25,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 15	0300	25,600	14.57	Mar 29	1330	*29,600	*15.64

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,500	2,070	8,240	3,250	2,800	3,350	12,400	4,720	1,870	1,370	1,520	1,590
2	7,180	2,040	14,100	3,120	2,780	3,410	12,100	6,640	1,850	1,450	1,320	1,450
3	5,420	2,020	11,400	3,010	2,770	3,380	18,600	5,940	1,920	1,570	1,280	1,270
4	4,510	2,000	9,750	2,900	2,770	3,300	16,400	5,340	1,930	1,490	1,170	1,140
5	4,240	2,060	7,700	2,860	2,780	3,140	12,800	4,840	1,900	1,370	1,140	1,100
6	3,970	3,780	5,740	2,870	2,810	3,780	10,400	4,420	1,840	1,330	1,140	1,060
7	3,720	4,490	5,120	2,790	2,850	5,660	8,680	4,050	1,850	1,350	1,230	1,050
8	3,460	4,190	4,590	2,670	2,860	6,850	7,540	3,430	1,940	1,900	1,260	1,090
9	3,190	3,700	4,490	2,720	2,920	8,170	6,740	3,130	1,850	2,860	1,280	1,060
10	2,950	3,140	9,410	2,780	3,080	7,900	5,960	2,900	2,010	2,430	1,460	1,070
11	2,730	2,770	15,100	2,790	3,360	6,830	5,280	2,730	1,960	1,780	1,620	1,070
12	2,560	2,570	12,300	2,800	3,330	6,110	4,750	2,630	1,870	1,560	1,380	1,010
13	2,450	4,870	10,000	2,840	3,140	5,610	4,360	2,460	1,790	1,500	1,290	980
14	2,750	6,760	8,150	13,800	3,070	5,240	4,110	2,300	1,740	1,590	1,260	1,050
15	2,900	5,230	6,560	21,400	3,100	4,900	3,800	2,360	1,680	1,860	1,180	1,020
16	2,970	4,440	5,290	12,800	3,300	4,340	3,440	2,350	1,580	2,260	1,200	999
17	2,910	4,370	4,460	9,530	3,410	3,910	3,180	2,270	1,490	2,290	1,430	1,010
18	2,770	4,220	4,490	7,650	3,330	3,680	2,990	2,160	1,440	2,300	1,480	991
19	2,650	3,830	4,330	6,370	3,180	3,460	2,830	1,970	1,430	1,980	1,470	936
20	2,560	3,540	4,000	5,480	3,020	3,250	2,710	2,530	1,430	1,920	1,320	928
21	2,470	3,660	3,670	4,950	2,960	3,040	2,610	3,320	1,460	1,690	1,230	948
22	2,400	3,570	3,370	4,500	2,980	2,840	2,540	3,940	1,440	1,590	1,180	894
23	2,330	3,370	5,130	4,180	3,130	2,770	3,300	3,870	1,410	1,480	1,120	894
24	2,270	3,440	6,930	3,800	3,240	3,710	6,330	3,090	1,360	1,480	1,120	729
25	2,230	8,420	6,550	3,450	3,270	5,160	5,660	3,000	1,320	1,430	1,080	849
26	2,200	13,000	5,760	3,390	3,260	5,220	5,110	2,600	1,220	1,320	1,010	936
27	2,200	9,050	4,750	3,210	3,210	4,860	5,130	2,400	1,250	1,220	1,080	846
28	2,180	8,340	4,210	3,050	3,230	8,560	4,600	2,240	1,230	1,200	1,280	879
29	2,150	8,420	3,890	2,860	---	25,700	3,870	2,070	1,240	1,450	1,390	839
30	2,130	7,330	3,620	e2,770	---	20,100	3,670	1,960	1,260	2,060	1,360	818
31	2,100	---	3,420	2,780	---	15,500	---	1,940	---	1,590	1,410	---
TOTAL	101,050	140,690	206,520	153,370	85,940	193,730	191,890	99,600	48,560	52,670	39,690	30,506
MEAN	3,260	4,690	6,662	4,947	3,069	6,249	6,396	3,213	1,619	1,699	1,280	1,017
MAX	10,500	13,000	15,100	21,400	3,410	25,700	18,600	6,640	2,010	2,860	1,620	1,590
MIN	2,100	2,000	3,370	2,670	2,770	2,770	2,540	1,940	1,220	1,200	1,010	729

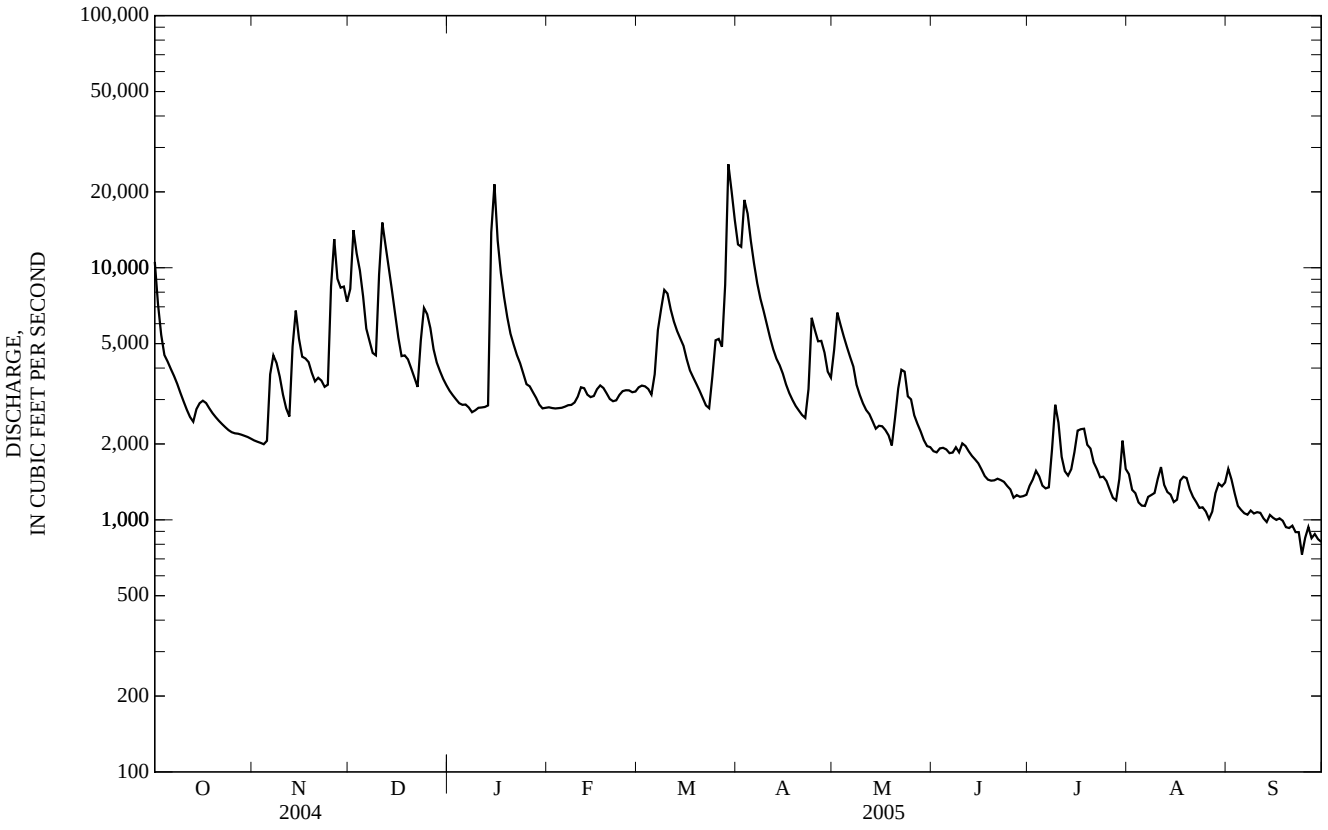
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	1,862	3,109	3,468	4,467	5,384	6,763	6,374	4,465	3,218	1,601	1,479	1,991
MAX	7,966	17,270	9,246	13,540	16,260	16,910	21,670	12,380	11,720	4,562	5,640	7,233
(WY)	(1980)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(1995)	(1984)	(1996)
MIN	630	635	839	730	851	1,472	1,616	1,959	796	750	581	637
(WY)	(2002)	(2002)	(2002)	(1981)	(2002)	(1981)	(1995)	(2000)	(2002)	(1999)	(2002)	(2002)

02025500 JAMES RIVER AT HOLCOMB ROCK, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	1,600,990		1,344,216			
ANNUAL MEAN	4,374		3,683		3,669	
HIGHEST ANNUAL MEAN					6,045	2003
LOWEST ANNUAL MEAN					1,361	2002
HIGHEST DAILY MEAN	62,200	Sep 29	25,700	Mar 29	180,000	Nov 5, 1985
LOWEST DAILY MEAN	1,030	Sep 6	729	Sep 24	244	Aug 28, 1981
ANNUAL SEVEN-DAY MINIMUM	1,060	Sep 1	842	Sep 24	401	Aug 26, 1981
MAXIMUM PEAK FLOW			29,600	Mar 29	a207,000	Nov 5, 1985
MAXIMUM PEAK STAGE			15.64	Mar 29	a,b42.15	Nov 5, 1985
INSTANTANEOUS LOW FLOW			c331	Sep 24	c,d20	Oct 29, 1987
ANNUAL RUNOFF (CFSM)	1.34		1.13		1.13	
ANNUAL RUNOFF (INCHES)	18.27		15.34		15.30	
10 PERCENT EXCEEDS	7,440		7,240		7,950	
50 PERCENT EXCEEDS	3,280		2,840		1,920	
90 PERCENT EXCEEDS	1,520		1,180		803	

a Prior to regulation, 1927-79, maximum peak flow, 150,000 ft^3/s, Aug. 20, 1969, gage height, 35.50 ft.
b From high-water mark in gage house.
c Result of regulation.
d Prior to regulation, 1927-79, instantaneous low flow, 71 ft^3/s, Oct. 24, 1963.
e Estimated.



02026000 JAMES RIVER AT BENT CREEK, VA

LOCATION.--Lat 37°32'11", long 78°49'46", NAD83, Nelson County, Hydrologic Unit 02080203, on left bank at town of Bent Creek, 150 ft downstream from Bent Creek, 525 ft upstream from bridge on U.S. Highway 60, 1.3 mi southeast of Gladstone, and at mile 227.8.

DRAINAGE AREA.--3,683 mi^2.

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1303. Prior to 1926, published as "at Bent Creek, near Gladstone."

REVISED RECORDS.--WSP 742: 1931(m). WSP 972: 1935-36. WSP 1066: 1940. WSP 1203: 1942. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 381.39 ft NGVD of 1929. Prior to Sept. 12, 1930, nonrecording gage at same site and datum.

REMARKS.--Records fair. Large diurnal fluctuation caused by powerplants upstream from station. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 158.3 mi upstream; since October 1984 by Back Creek Lake 186.3 mi upstream; and since January 1985 by Little Back Creek Lake 189.4 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. National Weather Service gage-height telemeter at station. Maximum discharge, 226,000 ft^3/s, from rating curve extended above 177,000 ft^3/s on basis of slope-area measurement of 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 26,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 29	2000	*29,700	*10.93	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12,300	2,240	7,870	3,510	2,920	3,910	12,100	4,830	2,300	1,420	1,610	1,400
2	8,340	2,160	13,200	3,580	3,170	3,940	11,000	6,940	1,990	1,400	1,550	1,530
3	6,360	2,180	12,300	3,250	3,080	3,830	19,000	6,630	2,240	1,660	1,520	1,360
4	5,230	2,320	10,600	3,240	3,200	3,790	16,000	5,950	2,290	1,720	1,390	1,290
5	4,420	2,820	8,980	3,240	3,180	3,650	11,700	5,420	2,120	1,640	1,230	1,170
6	3,840	3,540	6,620	3,120	3,150	4,070	9,570	5,020	2,110	1,530	1,250	1,130
7	3,360	5,140	5,860	3,140	3,200	5,800	8,450	4,750	2,050	1,510	1,300	1,050
8	3,070	4,720	5,250	3,130	3,230	7,340	7,960	4,090	2,100	2,790	1,300	1,040
9	2,920	4,040	5,100	3,100	3,310	8,740	7,490	3,740	1,980	2,580	1,330	1,010
10	2,740	3,350	8,050	3,350	3,460	8,730	6,780	3,500	2,210	3,320	1,410	987
11	2,790	3,180	15,300	3,190	3,800	7,350	5,790	3,340	2,250	2,370	1,690	987
12	2,790	3,740	13,400	3,120	3,750	6,640	5,350	3,250	2,010	1,850	1,570	994
13	3,070	5,780	11,000	3,210	3,580	6,090	5,240	3,150	2,070	1,740	1,440	970
14	4,020	7,680	9,180	13,500	3,480	5,830	5,090	2,990	1,980	1,900	1,310	964
15	3,430	6,260	7,480	23,500	3,470	5,550	4,670	2,860	1,860	1,980	1,280	978
16	3,020	5,090	6,230	14,800	3,720	5,020	4,330	2,970	1,770	2,420	1,270	968
17	3,100	4,400	5,230	10,500	3,830	4,690	4,010	2,890	1,740	2,690	1,310	958
18	2,810	4,290	4,640	8,520	3,780	4,510	3,740	2,860	1,620	2,770	1,510	915
19	2,650	3,730	4,300	7,160	3,610	4,300	3,620	2,820	2,040	2,490	1,480	937
20	2,570	3,450	4,070	6,190	3,410	4,090	3,510	3,060	1,560	2,200	1,480	917
21	2,510	3,850	3,800	5,730	3,340	3,870	3,440	3,810	1,450	1,980	1,350	849
22	2,460	3,960	3,540	5,050	3,350	3,740	3,550	4,400	1,420	1,900	1,270	827
23	2,380	3,680	3,450	4,680	3,600	3,940	4,590	4,650	1,510	1,710	1,240	869
24	2,390	3,900	7,840	4,090	3,690	5,240	7,860	4,120	1,510	1,630	1,220	820
25	2,130	7,070	7,080	3,860	3,840	6,710	7,700	3,760	1,490	1,630	1,190	640
26	2,190	13,800	6,620	3,630	3,680	7,040	6,440	3,510	1,460	1,600	1,120	704
27	2,400	10,200	5,590	3,710	3,660	6,570	6,430	3,030	1,350	1,500	1,100	921
28	2,400	8,990	4,810	3,370	3,720	8,910	5,660	2,960	1,320	1,450	1,110	733
29	2,350	9,080	4,190	3,200	---	23,800	4,640	2,520	1,340	1,420	1,190	783
30	2,320	8,160	4,000	3,100	---	21,600	4,290	2,450	1,510	1,950	1,400	612
31	2,280	---	3,730	3,410	---	15,400	---	2,270	---	1,880	1,420	---
TOTAL	108,640	152,800	219,310	170,180	97,210	214,690	210,000	118,540	54,650	60,630	41,840	29,313
MEAN	3,505	5,093	7,075	5,490	3,472	6,925	7,000	3,824	1,822	1,956	1,350	977
MAX	12,300	13,800	15,300	23,500	3,840	23,800	19,000	6,940	2,300	3,320	1,690	1,530
MIN	2,130	2,160	3,450	3,100	2,920	3,650	3,440	2,270	1,320	1,400	1,100	612

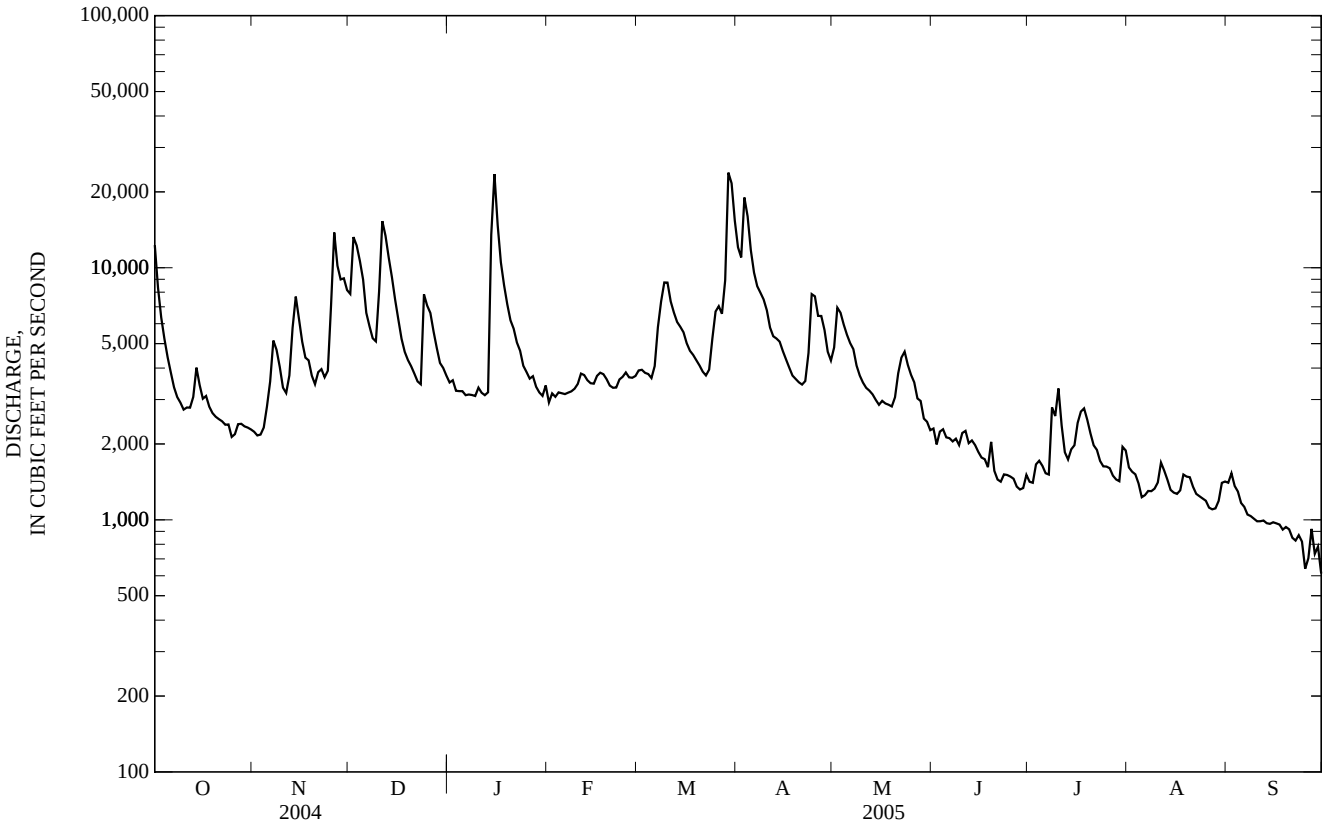
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	2,244	3,437	4,071	5,038	6,136	7,621	7,140	5,151	3,782	2,024	1,830	2,476
MAX	9,173	16,910	10,380	11,680	17,200	18,860	24,090	13,990	12,860	5,423	6,027	9,873
(WY)	(1980)	(1986)	(1997)	(1991)	(1998)	(1993)	(1987)	(1989)	(2003)	(2003)	(1984)	(1996)
MIN	716	750	987	858	1,125	1,626	1,842	2,286	963	904	632	727
(WY)	(2002)	(2002)	(1981)	(1981)	(2002)	(1981)	(1995)	(2000)	(2002)	(1999)	(2002)	(2002)

02026000 JAMES RIVER AT BENT CREEK, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	1,777,650		1,477,803			
ANNUAL MEAN	4,857		4,049		4,232	
HIGHEST ANNUAL MEAN					6,855	2003
LOWEST ANNUAL MEAN					1,562	2002
HIGHEST DAILY MEAN	53,200	Sep 29	23,800	Mar 29	142,000	Nov 5, 1985
LOWEST DAILY MEAN	1,120	aSep 5	612	Sep 30	b409	Sep 12, 2002
ANNUAL SEVEN-DAY MINIMUM	1,180	Sep 1	745	Sep 24	460	Sep 8, 2002
MAXIMUM PEAK FLOW			29,700	Mar 29	c226,000	Nov 5, 1985
MAXIMUM PEAK STAGE			10.93	Mar 29	c,d30.76	Nov 5, 1985
INSTANTANEOUS LOW FLOW			575	Sep 30	b,f338	Oct 17, 2001
ANNUAL RUNOFF (CFSM)	1.32		1.10		1.15	
ANNUAL RUNOFF (INCHES)	17.96		14.93		15.61	
10 PERCENT EXCEEDS	8,040		7,860		9,030	
50 PERCENT EXCEEDS	3,740		3,250		2,460	
90 PERCENT EXCEEDS	1,970		1,270		949	

a Also Sept. 6, 2004.
b Result of regulation.
c Prior to regulation, 1925-79, maximum peak flow, 176,000 ft^3/s, June 21, 1972, gage height, 27.13 ft, from floodmark.
d From floodmarks.
f Prior to regulation, 1925-79, instantaneous low flow, 222 ft^3/s, Oct. 13, 14, 1930.



02027000 TYE RIVER NEAR LOVINGSTON, VA

LOCATION.--Lat 37°42'56", long 78°58'54", NAD83, Nelson County, Hydrologic Unit 02080203, on right bank at downstream side of bridge on State Highway 158, 3.5 mi downstream from Hat Creek, 4.8 mi upstream from Piney River, and 6.8 mi southwest of Lovingston.

DRAINAGE AREA.--92.8 mi^2.

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WSP 892: 1938. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.39 ft NGVD of 1929. Prior to Sept. 15, 1969, at same site and at datum 3.00 ft lower. Sept. 15, 1969 to Oct. 15, 1970, nonrecording gage at same site and different datum. Oct. 15, 1970 to Sept. 3, 2004, water-stage recorder at same site and different datum. After Sept. 3, 2004, at same site and at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 80,000 ft^3/s, from rating curve extended above 7,600 ft^3/s on basis of slope-area measurement of 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.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 23	1515	*3,510	*8.98	Jul 13	2315	2,740	8.09
Mar 28	1430	1,670	6.67				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	307	61	455	205	119	103	344	180	78	46	55	41
2	249	59	359	186	113	97	759	159	86	43	49	32
3	206	59	320	175	114	94	743	153	116	42	44	29
4	179	98	279	164	112	96	531	146	99	43	40	27
5	154	120	238	155	109	115	410	139	104	55	38	24
6	137	90	212	146	106	115	339	133	90	55	41	23
7	126	84	203	137	105	127	305	128	85	49	70	22
8	111	80	181	140	106	226	304	122	81	353	46	22
9	104	76	222	128	109	234	260	115	90	110	51	21
10	98	74	300	122	110	206	238	109	149	79	80	19
11	92	73	252	119	101	187	219	105	108	66	60	17
12	86	161	227	116	99	172	209	101	98	62	46	16
13	104	229	209	114	98	157	225	102	94	204	40	16
14	127	184	191	849	102	181	196	98	86	674	38	16
15	102	162	174	448	100	160	179	100	77	451	35	16
16	87	147	162	332	98	149	169	92	71	305	37	15
17	81	134	155	279	94	147	161	86	65	237	52	15
18	76	126	146	235	90	141	154	84	62	208	38	14
19	76	121	140	214	87	135	148	90	63	158	39	14
20	77	118	123	205	88	131	142	229	69	132	38	13
21	73	108	120	191	94	126	137	141	62	113	34	14
22	71	100	121	177	109	122	175	118	60	107	29	13
23	72	104	1,180	e155	96	175	230	108	59	93	26	13
24	76	247	1,130	e142	96	177	187	106	53	81	26	13
25	77	620	684	e130	96	173	173	105	49	75	26	14
26	73	412	485	e145	95	176	160	96	46	66	24	20
27	68	322	368	e130	94	182	154	88	44	61	36	25
28	69	609	305	121	103	868	144	83	42	66	48	20
29	66	449	271	118	---	872	142	79	67	68	35	15
30	65	366	241	138	---	555	181	76	59	66	36	14
31	63	---	217	128	---	416	---	98	---	62	63	---
TOTAL	3,352	5,593	9,670	6,044	2,843	6,815	7,718	3,569	2,312	4,230	1,320	573
MEAN	108	186	312	195	102	220	257	115	77.1	136	42.6	19.1
MAX	307	620	1,180	849	119	872	759	229	149	674	80	41
MIN	63	59	120	114	87	94	137	76	42	42	24	13
CFSM	1.17	2.01	3.36	2.10	1.09	2.37	2.77	1.24	0.83	1.47	0.46	0.21
IN.	1.34	2.24	3.88	2.42	1.14	2.73	3.09	1.43	0.93	1.70	0.53	0.23

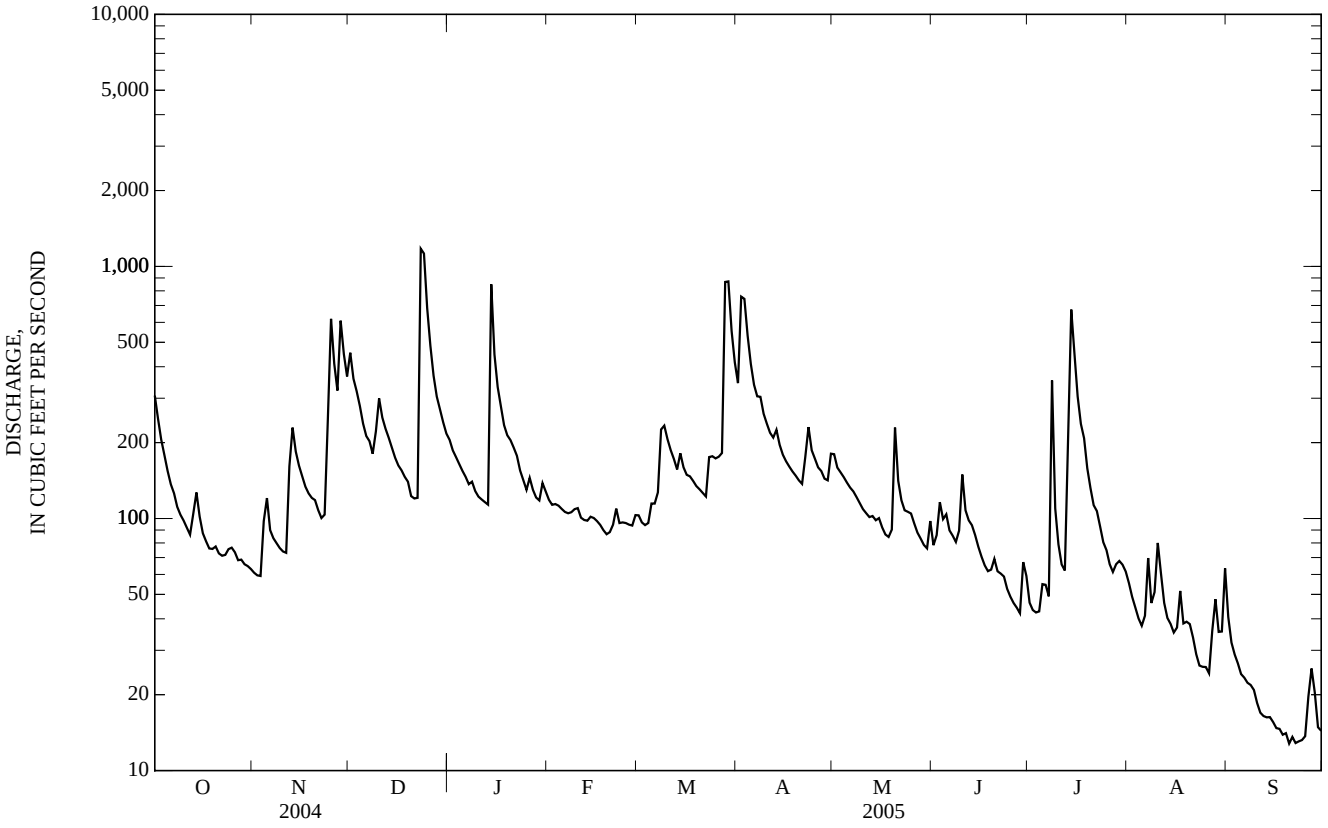
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2005, BY WATER YEAR (WY)

MEAN	102	136	172	187	214	256	236	178	136	78.3	103	101
MAX	550	765	499	568	773	568	692	492	676	382	1,541	556
(WY)	(1943)	(1986)	(1997)	(1998)	(1998)	(1993)	(1987)	(1989)	(1972)	(1972)	(1969)	(1979)
MIN	8.69	15.3	23.7	14.7	34.1	64.0	63.1	53.1	19.2	8.46	1.56	6.46
(WY)	(1942)	(1942)	(1981)	(1981)	(2002)	(1981)	(1966)	(1941)	(2002)	(2002)	(2002)	(2002)

02027000 TYE RIVER NEAR LOVINGSTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 2005	
ANNUAL TOTAL	64,591		54,039			
ANNUAL MEAN	176		148		158	
HIGHEST ANNUAL MEAN					280	1973
LOWEST ANNUAL MEAN					44.5	2002
HIGHEST DAILY MEAN	1,270	Sep 9	1,180	Dec 23	e32,600	Aug 20, 1969
LOWEST DAILY MEAN	23	Sep 5	13	aSep 20	e0.53	Aug 25, 2002
ANNUAL SEVEN-DAY MINIMUM	29	Aug 31	13	bSep 18	0.61	Aug 20, 2002
MAXIMUM PEAK FLOW			3,510	Dec 23	80,000	Aug 20, 1969
MAXIMUM PEAK STAGE			8.98	Dec 23	c,d29.00	Aug 20, 1969
INSTANTANEOUS LOW FLOW			11	fSep 22	0.50	gSep 10, 1966
ANNUAL RUNOFF (CFSM)	1.90		1.60		1.70	
ANNUAL RUNOFF (INCHES)	25.89		21.66		23.14	
10 PERCENT EXCEEDS	321		287		322	
50 PERCENT EXCEEDS	130		107		101	
90 PERCENT EXCEEDS	61		35		22	

a Also Sept. 22-24, 2005.
b Also Sept. 19, 2005.
c At datum then in use.
d From floodmarks.
e Estimated.
f Also Sept. 23, 24, 2005.
g Also Sept. 11, 1966.



02027500 PINEY RIVER AT PINEY RIVER, VA

LOCATION.--Lat 37°42'09", long 79°01'39", NAD83, Nelson County, Hydrologic Unit 02080203, on left bank at upstream side of bridge on State Highway 151, 0.2 mi southwest of Piney River Post Office, 1.7 mi downstream from Indian Creek, and 2.5 mi southeast of Lowesville.

DRAINAGE AREA.--47.6 mi^2.

PERIOD OF RECORD.--July 1949 to current year.

REVISED RECORDS.--WSP 2104: Drainage area. WDR VA-72-1: 1971(M).

GAGE.--Water-stage recorder. Datum of gage is 631.58 ft NGVD of 1929. Prior to May 27, 1969, water-stage recorder, and Nov. 4, 1969, to Feb. 26, 1970, nonrecording gage at site 20 ft downstream from former highway bridge at same datum. Feb. 26, 1970, to Sept. 20, 1973, on right bank 20 ft upstream from bridge at same datum. Sept. 20, 1973 to Apr. 29, 1999, at same site, at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Periodic dewatering of upstream quarries adds small amount of inflow at times. Maximum discharge, 38,000 ft^3/s, from rating curve extended above 6,000 ft^3/s on basis of slope-area measurement of 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.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1949 reached a stage of 9.9 ft, from floodmarks.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 23	1530	*1,180	*5.79

No other peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	43	259	136	69	66	261	93	51	35	41	21
2	194	42	228	123	67	64	380	86	58	35	37	19
3	164	42	211	112	67	64	366	85	68	33	35	17
4	138	64	190	106	65	65	323	85	65	35	33	16
5	111	65	169	100	65	76	279	85	69	44	36	16
6	97	58	154	94	63	73	243	83	66	51	33	15
7	85	58	141	89	62	82	218	81	75	47	35	15
8	75	57	127	89	62	129	210	77	71	202	31	14
9	69	56	145	81	63	154	184	72	104	76	45	13
10	63	55	156	78	65	150	172	68	195	60	44	13
11	59	54	140	75	62	139	157	66	158	53	34	13
12	55	104	134	72	63	127	148	65	134	49	30	12
13	75	123	130	70	63	118	145	65	119	67	28	11
14	90	120	123	254	64	129	129	62	102	185	26	11
15	63	115	115	170	63	112	119	61	88	256	24	11
16	57	107	108	162	62	108	111	56	77	267	26	11
17	53	98	101	151	62	105	103	54	69	206	38	12
18	50	91	96	136	60	100	97	52	63	164	26	10
19	50	86	92	126	58	97	93	52	59	131	26	10
20	49	80	81	119	58	94	88	123	70	110	25	9.4
21	47	73	79	113	62	92	86	79	57	92	23	9.3
22	47	69	75	e102	66	90	99	73	53	83	22	9.0
23	46	71	480	e92	61	122	112	69	49	74	20	8.8
24	49	147	551	e88	63	122	90	70	46	65	20	8.4
25	47	305	385	e82	62	135	86	67	43	61	20	9.8
26	45	246	306	e84	61	134	84	62	40	55	19	14
27	44	211	253	e78	61	137	83	59	38	50	27	18
28	44	288	215	e72	68	410	80	57	36	53	28	12
29	44	253	190	e69	---	484	81	55	42	50	21	10
30	46	231	168	e74	---	374	99	51	38	47	23	9.1
31	44	---	151	73	---	307	---	62	---	44	29	---
TOTAL	2,331	3,412	5,753	3,270	1,767	4,459	4,726	2,175	2,203	2,780	905	377.8
MEAN	75.2	114	186	105	63.1	144	158	70.2	73.4	89.7	29.2	12.6
MAX	231	305	551	254	69	484	380	123	195	267	45	21
MIN	44	42	75	69	58	64	80	51	36	33	19	8.4
CFSM	1.58	2.39	3.90	2.22	1.33	3.02	3.31	1.47	1.54	1.88	0.61	0.26
IN.	1.82	2.67	4.50	2.56	1.38	3.48	3.69	1.70	1.72	2.17	0.71	0.30

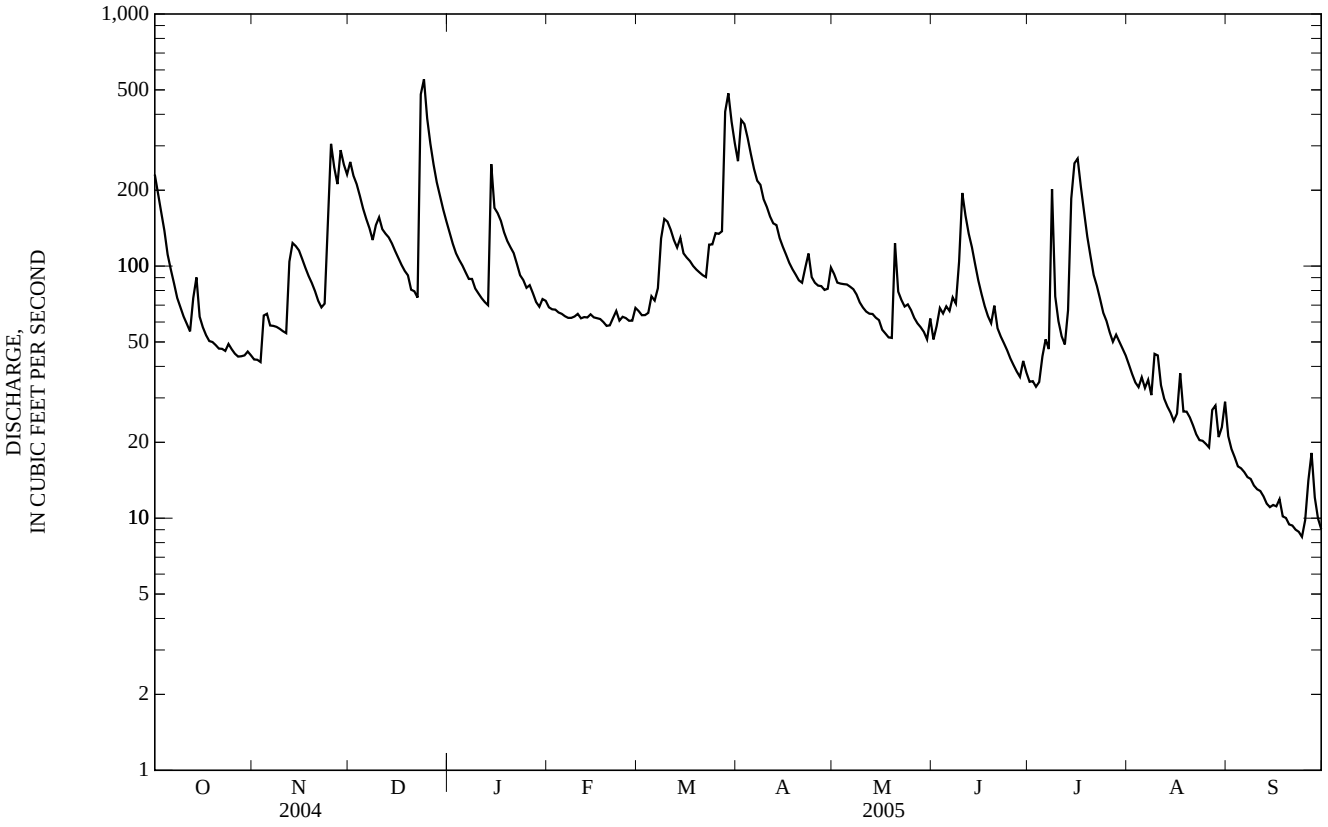
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2005, BY WATER YEAR (WY)

MEAN	63.3	90.0	107	113	126	155	144	108	89.5	40.5	56.5	55.8
MAX	313	644	297	339	347	311	417	352	541	213	1,239	388
(WY)	(1991)	(1986)	(1997)	(1998)	(1998)	(1993)	(1987)	(1989)	(1972)	(1972)	(1969)	(1996)
MIN	4.75	7.75	10.3	7.94	26.5	37.8	38.4	35.8	14.6	8.93	2.51	3.75
(WY)	(1964)	(1999)	(1999)	(1981)	(2002)	(1981)	(1966)	(1963)	(1999)	(1999)	(2002)	(1998)

02027500 PINEY RIVER AT PINEY RIVER, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1950 - 2005	
ANNUAL TOTAL	37,115		34,158.8			
ANNUAL MEAN	101		93.6		95.4	
HIGHEST ANNUAL MEAN					188	1969
LOWEST ANNUAL MEAN					29.3	2002
HIGHEST DAILY MEAN	744	Sep 9	551	Dec 24	25,000	Aug 20, 1969
LOWEST DAILY MEAN	15	Sep 5	8.4	Sep 24	0.31	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	17	Aug 31	9.2	Sep 19	0.66	Sep 9, 2002
MAXIMUM PEAK FLOW			1,180	Dec 23	38,000	Aug 20, 1969
MAXIMUM PEAK STAGE			5.79	Dec 23	a13.80	Aug 20, 1969
INSTANTANEOUS LOW FLOW			8.1	bSep 23	0.29	Sep 14, 2002
ANNUAL RUNOFF (CFSM)	2.13		1.97		2.00	
ANNUAL RUNOFF (INCHES)	29.01		26.70		27.24	
10 PERCENT EXCEEDS	199		190		200	
50 PERCENT EXCEEDS	74		69		60	
90 PERCENT EXCEEDS	43		23		11	

a From floodmarks.
b Also Sept. 24, 25, 2005.
e Estimated.



02028500 ROCKFISH RIVER NEAR GREENFIELD, VA

LOCATION.--Lat 37°52'11", long 78°49'24", NAD83, Nelson County, Hydrologic Unit 02080203, on left bank 50 ft downstream from bridge on State Highway 634, 2.8 mi downstream from confluence of North and South Forks, and 4.1 mi south of Greenfield.

DRAINAGE AREA.--94.6 mi^2.

PERIOD OF RECORD.--April 1943 to current year.

REVISED RECORDS.--WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 530.29 ft NGVD of 1929. Prior to Aug. 21, 1943, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 70,000 ft^3/s, from rating curve extended above 8,500 ft^3/s on basis of contracted-opening measurement at gage height 18.11 ft, slope-area measurements at gage heights 17.2 ft, 23.4 ft, and 31.2 ft, and peak runoff comparison with nearby stations. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1942, reached a stage of 23.4 ft, from floodmarks, discharge, about 30,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 23	1600	*4,520	*8.78	Mar 28	1300	1,510	4.94
Jan 14	0545	1,610	5.11	Jul 8	0500	1,650	5.19

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403	72	345	195	129	116	303	160	80	52	51	32
2	317	71	291	182	125	109	701	141	99	47	45	27
3	260	70	260	175	127	107	571	136	155	45	40	24
4	221	112	234	167	126	112	439	129	136	44	37	22
5	187	128	214	164	122	139	361	123	120	43	34	20
6	167	100	200	157	117	148	311	120	107	48	38	19
7	151	94	197	147	116	177	283	118	103	56	69	19
8	137	88	178	149	116	262	283	112	92	657	43	18
9	129	83	221	139	116	258	241	106	99	182	54	17
10	120	81	290	135	115	230	220	101	156	125	58	16
11	110	80	239	130	102	209	204	96	103	99	45	16
12	105	198	216	127	102	189	193	93	91	86	40	15
13	120	241	204	125	103	171	200	96	86	82	35	14
14	143	187	182	878	108	201	179	95	79	216	32	14
15	112	167	168	483	107	173	167	115	70	213	39	14
16	99	153	164	358	104	163	157	93	64	168	35	14
17	90	142	157	297	99	158	153	86	60	188	37	13
18	85	139	151	248	91	151	149	83	58	180	32	12
19	85	137	146	224	88	144	143	86	71	139	35	11
20	85	142	129	214	92	139	138	196	67	131	34	11
21	84	128	128	199	100	135	137	133	77	104	31	11
22	87	121	130	e180	118	130	163	113	77	92	26	11
23	85	127	1,290	e160	102	185	215	106	63	80	24	11
24	96	302	915	e150	102	179	171	117	56	71	23	11
25	93	554	555	e145	102	167	162	124	52	65	22	14
26	85	357	405	e155	103	167	151	107	50	58	22	18
27	81	287	323	e142	103	179	147	96	48	53	29	19
28	82	516	274	e130	117	717	138	91	45	54	37	15
29	80	365	253	e125	---	612	137	86	60	60	29	13
30	78	317	229	146	---	436	163	81	69	59	33	12
31	75	---	210	136	---	354	---	93	---	56	59	---
TOTAL	4,052	5,559	8,898	6,362	3,052	6,617	6,980	3,432	2,493	3,553	1,168	483
MEAN	131	185	287	205	109	213	233	111	83.1	115	37.7	16.1
MAX	403	554	1,290	878	129	717	701	196	156	657	69	32
MIN	75	70	128	125	88	107	137	81	45	43	22	11
CFSM	1.38	1.96	3.03	2.17	1.15	2.26	2.46	1.17	0.88	1.21	0.40	0.17
IN.	1.59	2.19	3.50	2.50	1.20	2.60	2.74	1.35	0.98	1.40	0.46	0.19

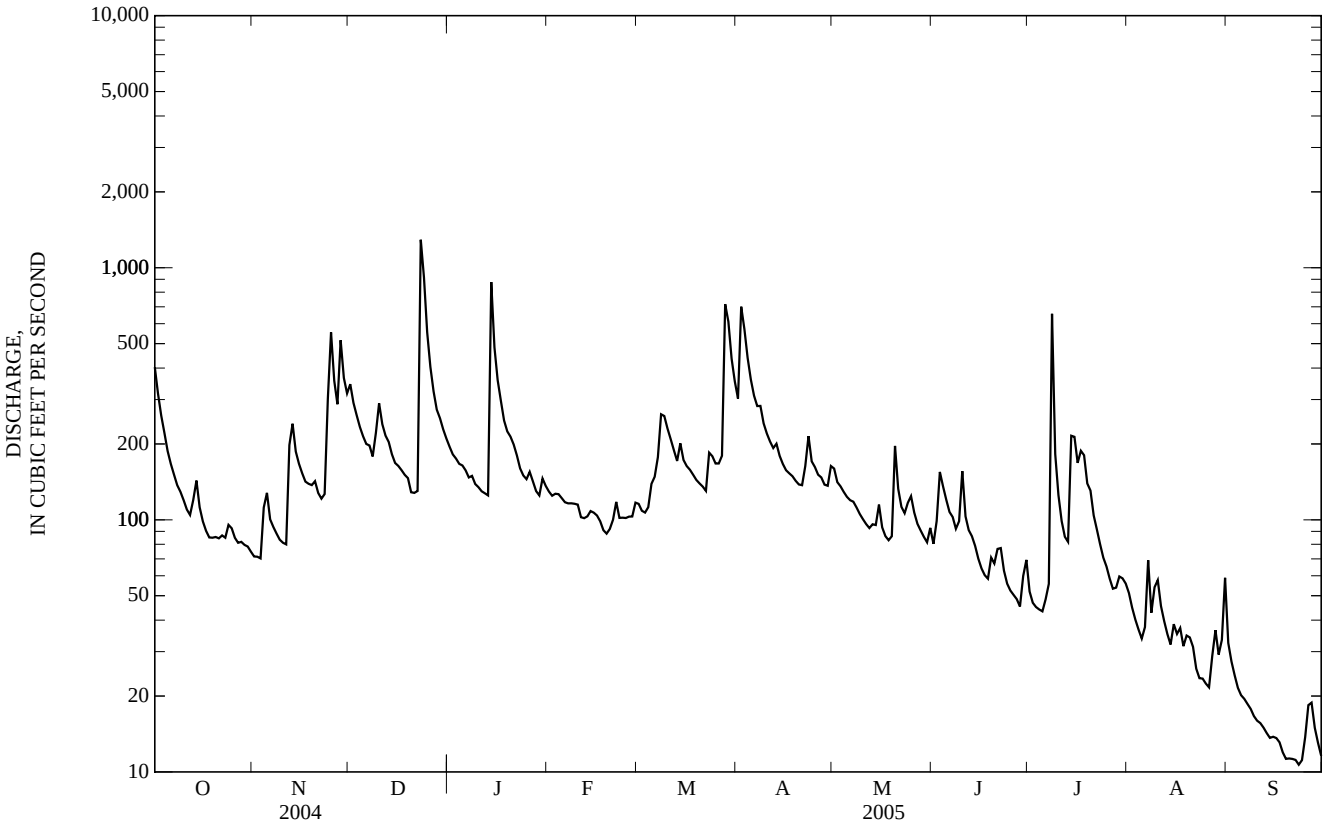
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2005, BY WATER YEAR (WY)

MEAN	92.7	126	151	166	191	240	217	158	121	73.1	83.4	92.7
MAX	394	733	445	480	723	629	698	369	696	327	1,246	506
(WY)	(1991)	(1986)	(1951)	(1996)	(1998)	(1993)	(1983)	(1990)	(1995)	(1972)	(1969)	(1979)
MIN	7.35	10.0	18.5	22.2	23.4	55.9	52.5	39.5	6.53	2.60	0.74	2.52
(WY)	(2002)	(2002)	(1966)	(2002)	(2002)	(1981)	(1981)	(2002)	(2002)	(2002)	(2002)	(2002)

02028500 ROCKFISH RIVER NEAR GREENFIELD, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1943 - 2005	
ANNUAL TOTAL	62,413		52,649			
ANNUAL MEAN	171		144		143	
HIGHEST ANNUAL MEAN					290	1973
LOWEST ANNUAL MEAN					22.5	2002
HIGHEST DAILY MEAN	1,790	Sep 28	1,290	Dec 23	e28,800	Aug 20, 1969
LOWEST DAILY MEAN	22	Sep 5	11	aSep 19	0.07	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	29	Aug 23	11	Sep 18	0.12	Sep 11, 2002
MAXIMUM PEAK FLOW			4,520	Dec 23	70,000	Aug 20, 1969
MAXIMUM PEAK STAGE			8.78	Dec 23	b31.20	Aug 20, 1969
INSTANTANEOUS LOW FLOW			10	cSep 23	0.07	dAug 14, 2002
ANNUAL RUNOFF (CFSM)	1.80		1.52		1.51	
ANNUAL RUNOFF (INCHES)	24.54		20.70		20.49	
10 PERCENT EXCEEDS	312		261		300	
50 PERCENT EXCEEDS	123		117		86	
90 PERCENT EXCEEDS	63		30		18	

a Also Sept. 20-24, 2005.
b From floodmarks.
c Also Sept. 24, 2005.
d Also Aug. 15, 18, 26-28 and Sept. 13-15, 2002.
e Estimated.



02029000 JAMES RIVER AT SCOTTSVILLE, VA

LOCATION.--Lat 37°47'51", long 78°29'29", NAD83, Albemarle County, 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.--4,584 mi^2.

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). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 253.18 ft NGVD of 1929. Prior to Nov. 28, 1928, nonrecording gage at same 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. National Weather Service gage-height telemeter at station. Maximum discharge, 301,000 ft^3/s, from rating curve extended above 120,000 ft^3/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 ft^3/s, and flood in November 1877 reached a stage of 27.9 ft, discharge, about 160,000 ft^3/s, from information by local resident. Flood in March 1913 reached a stage of 25.16 ft, from floodmarks, discharge, 121,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 30	0230	*34,700	*14.33				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18,900	2,660	10,300	5,110	4,360	5,080	16,800	5,920	3,130	1,790	2,560	1,750
2	12,100	2,670	13,600	4,870	4,270	5,020	15,300	7,460	2,890	1,450	2,210	1,640
3	9,080	2,540	16,700	4,670	4,270	5,020	21,600	8,500	3,230	1,570	1,930	1,650
4	7,500	2,800	13,600	4,580	4,370	4,980	22,900	7,580	3,530	1,900	1,750	1,380
5	6,300	3,990	11,700	4,420	4,270	4,960	16,800	6,940	3,260	1,810	1,390	1,270
6	5,410	3,740	9,430	4,500	4,310	5,210	13,400	6,390	3,140	1,630	1,590	1,180
7	4,950	5,370	7,830	4,220	4,290	6,300	11,600	5,970	3,020	1,690	1,870	1,140
8	4,290	5,800	7,150	4,260	4,380	8,450	10,700	5,520	2,850	4,510	1,750	1,090
9	3,860	5,320	6,630	4,270	4,310	10,500	10,100	4,840	3,050	5,420	1,680	1,080
10	3,580	4,580	8,980	4,220	4,430	11,100	9,200	4,500	3,370	3,790	1,880	1,040
11	3,180	3,840	16,400	4,300	4,640	9,860	8,120	4,180	3,720	4,130	1,990	1,030
12	3,170	4,120	17,800	4,240	4,950	8,680	7,230	4,030	3,220	2,740	2,550	1,040
13	2,970	8,720	14,300	4,010	4,720	7,920	6,970	4,170	2,900	2,270	2,080	1,040
14	4,830	8,500	11,800	19,400	4,470	7,560	6,770	3,830	2,860	4,270	1,670	1,000
15	4,960	8,670	9,790	30,000	4,610	7,390	6,420	3,780	2,630	3,950	1,440	980
16	3,870	7,140	8,220	22,300	4,540	6,870	5,760	3,580	2,390	4,180	1,440	1,000
17	3,650	6,170	7,110	15,100	4,800	6,420	5,460	3,610	2,200	4,290	1,570	996
18	3,840	5,600	6,190	11,800	4,840	6,200	5,040	3,470	2,070	4,290	1,950	987
19	3,040	5,350	5,730	9,830	4,660	5,830	4,700	3,400	2,130	4,250	2,090	963
20	3,000	4,740	5,450	8,530	4,410	5,520	4,650	4,400	2,550	3,690	1,990	966
21	2,960	4,660	5,070	7,750	4,400	5,340	4,520	5,160	1,690	3,280	1,830	e890
22	2,910	5,080	4,800	7,100	4,340	5,000	4,640	5,320	1,720	2,760	1,430	864
23	2,850	4,990	4,740	6,420	4,450	5,140	5,590	5,770	1,810	2,700	1,340	891
24	2,820	5,130	11,800	5,780	4,690	6,500	7,560	5,610	1,810	2,320	1,300	903
25	2,910	8,830	10,800	5,680	4,890	7,610	10,200	4,800	1,720	1,980	1,270	862
26	2,400	14,900	9,440	4,970	4,770	8,810	8,600	4,650	1,660	2,120	1,260	757
27	2,800	14,900	8,270	5,180	4,720	8,450	7,810	3,930	1,610	1,860	1,140	749
28	2,890	12,200	7,050	4,790	4,750	11,500	7,470	3,670	1,400	1,550	1,230	946
29	2,920	12,100	6,260	4,500	---	25,200	6,460	3,490	1,460	1,560	1,280	855
30	2,790	11,200	5,760	4,320	---	30,200	5,570	3,180	1,680	1,700	1,370	826
31	2,800	---	5,470	4,770	---	21,700	---	3,160	---	2,890	1,720	---
TOTAL	143,530	196,310	288,170	235,890	126,910	274,320	277,940	150,810	74,700	88,340	52,550	31,765
MEAN	4,630	6,544	9,296	7,609	4,532	8,849	9,265	4,865	2,490	2,850	1,695	1,059
MAX	18,900	14,900	17,800	30,000	4,950	30,200	22,900	8,500	3,720	5,420	2,560	1,750
MIN	2,400	2,540	4,740	4,010	4,270	4,960	4,520	3,160	1,400	1,450	1,140	749

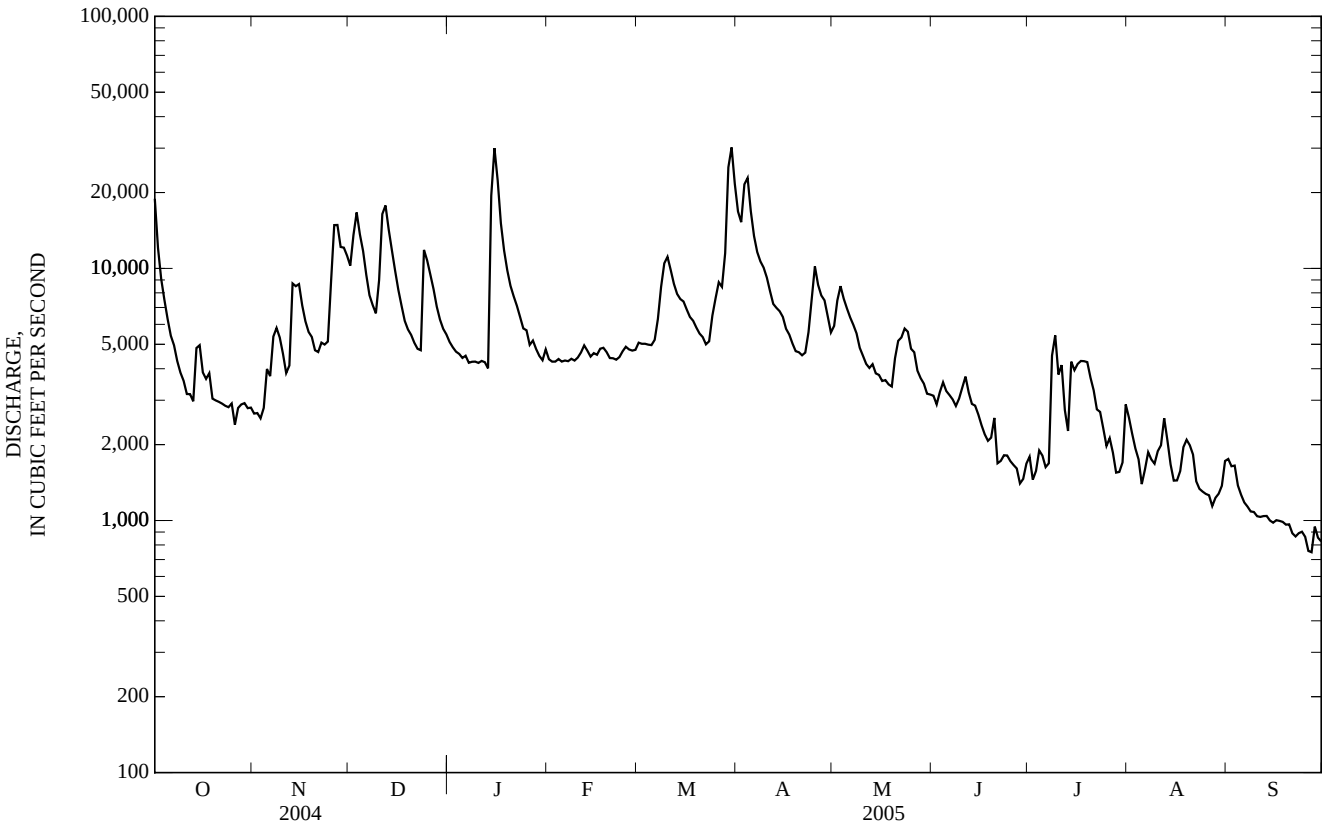
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	2,878	4,516	5,203	6,534	7,729	9,532	9,167	6,551	4,777	2,587	2,340	3,226
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	875	883	1,318	1,165	1,274	1,961	2,493	3,309	1,028	981	800	754
(WY)	(2002)	(2002)	(1981)	(1981)	(2002)	(1981)	(1995)	(2000)	(2002)	(1999)	(2002)	(2002)

02029000 JAMES RIVER AT SCOTTSVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	2,228,560		1,941,235			
ANNUAL MEAN	6,089		5,318		5,403	
HIGHEST ANNUAL MEAN					8,819	2003
LOWEST ANNUAL MEAN					1,852	2002
HIGHEST DAILY MEAN	57,800	Sep 30	30,200	Mar 30	199,000	Nov 6, 1985
LOWEST DAILY MEAN	1,260	Sep 1	749	Sep 27	452	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	1,390	Sep 1	843	Sep 24	499	Sep 9, 2002
MAXIMUM PEAK FLOW			34,700	Mar 30	a243,000	Nov 6, 1985
MAXIMUM PEAK STAGE			14.33	Mar 30	a31.77	Nov 6, 1985
INSTANTANEOUS LOW FLOW			690	Sep 27	b418	cSep 13, 2002
ANNUAL RUNOFF (CFSM)	1.33		1.16		1.18	
ANNUAL RUNOFF (INCHES)	18.09		15.75		16.01	
10 PERCENT EXCEEDS	10,700		10,400		11,500	
50 PERCENT EXCEEDS	4,920		4,400		3,190	
90 PERCENT EXCEEDS	2,250		1,400		1,130	

a Prior to regulation, 1925-79, maximum peak flow, 301,000 ft^3/s, June 22, 1972, gage height, 34.02 ft, from floodmarks.
b Prior to regulation, 1925-79, instantaneous low flow, 302 ft^3/s, Oct. 1, 1930, probably lower during period of doubtful record in September 1966.
c Also Sept. 14, 2002.
e Estimated.



02030000 HARDWARE RIVER BELOW BRIERY CREEK, NEAR SCOTTSVILLE, VA

LOCATION.--Lat 37°48'46", long 78°27'19", NAD83, Fluvanna County, Hydrologic Unit 02080203, on left bank 75 ft upstream from bridge on State Highway 637, 0.8 mi downstream from Briery Creek, 2.4 mi northeast of Scottsville, and 10.8 mi upstream from mouth.

DRAINAGE AREA.--116 mi^2.

PERIOD OF RECORD.--October 1938 to September 1995, October 1996 to current year. Monthly discharge only for some periods, published in WSP 1303. Published as "below Briery Run" prior to October 1990.

REVISED RECORDS.--WSP 952: 1941(M). WSP 1002: 1940, 1943. WSP 1032: 1940, 1944.

GAGE.--Water-stage recorder. Datum of gage is 294.96 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 52,000 ft^3/s, from rating curve extended above 18,000 ft^3/s on basis of slope-area measurements at gage heights 23.8 ft and 31.0 ft. Several measurements of water temperature were made during the year.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	1515	*3,890	*13.28	Mar 28	1900	2,240	10.42

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192	60	172	88	126	127	216	152	79	47	38	25
2	151	59	162	84	118	122	601	120	83	39	33	19
3	127	59	138	82	147	121	456	108	163	38	28	16
4	111	90	123	81	131	119	291	102	139	36	25	13
5	97	146	113	81	125	147	233	96	106	36	31	13
6	87	89	109	79	116	183	203	93	90	36	90	12
7	82	77	116	76	113	170	188	92	82	42	54	12
8	78	71	112	81	113	219	205	90	77	366	32	12
9	75	65	131	79	112	201	177	81	74	135	32	11
10	74	63	329	74	112	166	162	78	111	82	39	11
11	69	62	209	71	102	150	153	77	87	66	31	10
12	68	150	160	70	98	137	145	75	75	58	25	9.9
13	72	246	137	71	97	124	146	74	71	59	21	9.5
14	90	136	120	2,140	100	149	137	76	68	58	19	9.4
15	77	108	109	610	102	136	126	100	62	65	33	8.9
16	70	96	104	329	98	124	118	84	56	58	130	8.6
17	65	89	102	249	95	120	117	72	51	50	90	8.4
18	62	89	98	199	91	115	116	67	49	71	40	7.9
19	64	87	97	178	87	109	113	66	55	56	37	7.1
20	66	99	90	172	87	106	111	360	53	83	34	6.6
21	65	89	86	e160	95	102	114	200	52	55	28	6.5
22	66	83	88	e148	115	98	160	136	66	48	23	6.5
23	66	87	178	e140	100	183	228	111	70	44	20	6.8
24	70	152	350	e132	100	215	161	123	52	39	18	7.2
25	78	319	169	e125	107	154	132	134	47	36	17	8.5
26	68	182	132	131	107	144	121	112	45	34	16	9.6
27	64	140	116	136	115	144	117	97	43	31	21	11
28	66	274	102	e113	119	1,130	106	88	40	35	36	9.9
29	66	196	100	e108	---	651	102	84	39	35	29	8.0
30	65	156	98	135	---	334	125	79	67	38	23	7.0
31	64	---	93	143	---	248	---	88	---	43	30	---
TOTAL	2,515	3,619	4,243	6,365	3,028	6,248	5,380	3,315	2,152	1,919	1,123	311.3
MEAN	81.1	121	137	205	108	202	179	107	71.7	61.9	36.2	10.4
MAX	192	319	350	2,140	147	1,130	601	360	163	366	130	25
MIN	62	59	86	70	87	98	102	66	39	31	16	6.5
CFSM	0.70	1.04	1.18	1.77	0.93	1.74	1.55	0.92	0.62	0.53	0.31	0.09
IN.	0.81	1.16	1.36	2.04	0.97	2.00	1.73	1.06	0.69	0.62	0.36	0.10

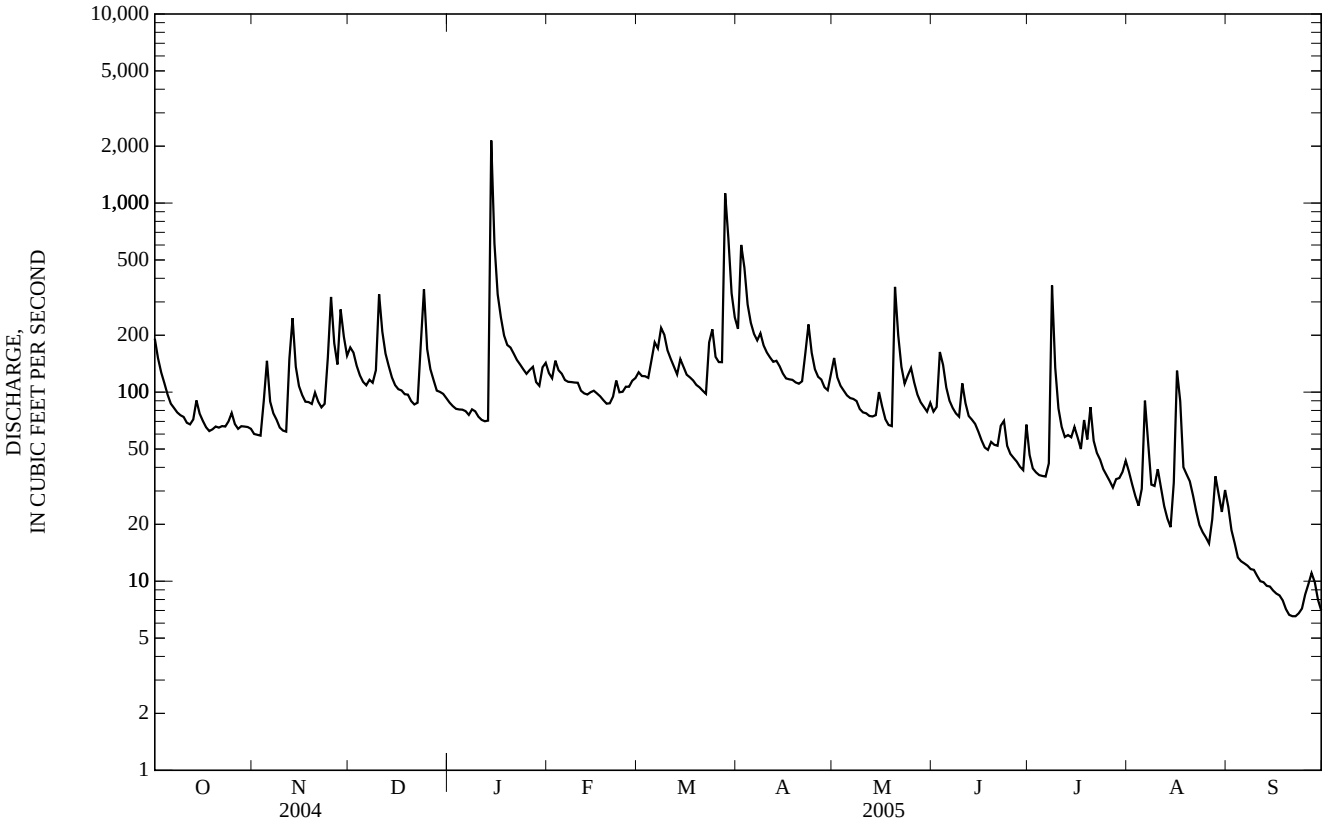
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1995, 1997 - 2005, BY WATER YEAR (WY)

MEAN	87.9	100	132	151	184	212	180	135	106	79.1	94.2	87.6
MAX	370	514	514	448	664	613	604	398	560	401	1,155	750
(WY)	(1977)	(1986)	(1949)	(1998)	(1998)	(1993)	(1983)	(1989)	(1972)	(2003)	(1969)	(1944)
MIN	11.3	12.0	20.5	24.1	23.3	35.1	39.5	21.9	4.27	1.69	0.46	2.66
(WY)	(2002)	(2002)	(1966)	(2002)	(2002)	(1981)	(1981)	(2002)	(2002)	(2002)	(2002)	(2002)

02030000 HARDWARE RIVER BELOW BRIERY CREEK, NEAR SCOTTSVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 1995 1997 - 2005	
ANNUAL TOTAL	44,521		40,218.3			
ANNUAL MEAN	122		110		129	
HIGHEST ANNUAL MEAN					249	1973
LOWEST ANNUAL MEAN					17.4	2002
HIGHEST DAILY MEAN	991	Feb 7	2,140	Jan 14	28,400	Aug 20, 1969
LOWEST DAILY MEAN	22	Sep 5	6.5	aSep 21	0.00	Aug 27, 2002
ANNUAL SEVEN-DAY MINIMUM	27	Aug 23	6.9	Sep 18	0.01	Aug 21, 2002
MAXIMUM PEAK FLOW			3,890	Jan 14	52,000	Aug 20, 1969
MAXIMUM PEAK STAGE			13.28	Jan 14	b31.00	Aug 20, 1969
INSTANTANEOUS LOW FLOW			6.1	Sep 23	0.00	cAug 26, 2002
ANNUAL RUNOFF (CFSM)	1.05		0.950		1.11	
ANNUAL RUNOFF (INCHES)	14.28		12.90		15.08	
10 PERCENT EXCEEDS	187		178		237	
50 PERCENT EXCEEDS	107		89		81	
90 PERCENT EXCEEDS	46		22		24	

a Also Sept. 22, 2005.
b From floodmarks.
c Also part or all of each day Aug. 27, 28, 2002.
e Estimated.



02031000 MECHUMS RIVER NEAR WHITE HALL, VA

LOCATION.--Lat 38°06'09", long 78°35'34", NAD83, Albemarle County, Hydrologic Unit 02080204, on right bank 20 ft downstream from bridge on State Highway 614, 1.5 mi downstream from Rocky Run, 4.0 mi southeast of White Hall, and 4.9 mi upstream from confluence with Moormans River.

DRAINAGE AREA.--95.4 mi^2.

PERIOD OF RECORD.--October 1942 to September 1951, October 1979 to current year. Prior to September 1951, published as Mechum River near Ivy.

GAGE.--Water-stage recorder. Datum of gage is 429.75 ft NGVD of 1929. Oct. 1, 1942, to Sept. 30, 1951, on right bank 20 ft downstream from former highway bridge at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 20,000 ft^3/s, from rating curve extended above 8,000 ft^3/s. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 6, 1979, reached a stage of 24.5 ft, from floodmarks, discharge, about 13,500 ft^3/s, from rating curve extended above 8,300 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 23	1815	*3,610	*11.81	Mar 28	1415	1,560	8.56
Jan 14	0815	2,220	9.67	Apr 2	1315	1,320	8.12

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	302	61	175	134	106	123	198	125	62	39	31	33
2	222	61	152	127	102	115	626	109	71	34	26	23
3	180	63	139	124	104	112	368	102	125	32	23	19
4	153	90	128	122	105	115	254	97	103	29	21	18
5	130	124	119	124	102	139	209	92	84	29	20	16
6	114	84	115	124	99	151	185	90	74	32	20	16
7	105	75	124	117	98	184	170	88	69	31	48	15
8	96	71	115	118	98	210	176	85	63	439	31	14
9	90	67	153	111	98	196	154	79	62	125	e28	13
10	86	65	293	108	99	175	142	76	131	80	e30	12
11	78	65	191	105	92	160	135	73	87	62	e25	12
12	75	199	158	105	91	146	128	70	72	55	e22	12
13	85	271	143	105	90	133	128	69	68	53	20	11
14	111	166	127	1,080	94	164	120	72	64	57	21	11
15	87	136	116	427	94	144	112	94	56	77	39	11
16	74	120	110	281	93	136	107	77	50	67	52	12
17	68	109	107	224	91	133	105	71	45	68	43	18
18	64	106	104	186	87	128	103	69	43	96	29	13
19	65	111	102	168	85	121	101	68	45	65	29	11
20	68	134	92	156	85	118	99	127	44	62	29	10
21	68	112	94	e145	93	114	100	102	43	53	33	10
22	69	103	90	e135	119	109	123	83	49	52	23	9.7
23	68	102	984	e125	101	159	176	81	47	42	19	11
24	79	181	611	e118	104	162	128	92	40	36	18	12
25	80	392	321	e112	105	138	115	101	37	33	17	13
26	70	195	233	e120	107	134	107	87	35	30	16	15
27	67	157	196	124	107	138	103	77	33	27	20	17
28	67	345	171	e105	120	678	96	72	31	28	29	14
29	66	214	160	e102	---	430	96	69	38	33	24	12
30	66	172	150	116	---	276	120	66	64	34	27	10
31	64	---	141	112	---	225	---	68	---	33	71	---
TOTAL	3,017	4,151	5,914	5,360	2,769	5,466	4,784	2,631	1,835	1,933	884	423.7
MEAN	97.3	138	191	173	98.9	176	159	84.9	61.2	62.4	28.5	14.1
MAX	302	392	984	1,080	120	678	626	127	131	439	71	33
MIN	64	61	90	102	85	109	96	66	31	27	16	9.7
CFSM	1.02	1.45	2.00	1.81	1.04	1.85	1.67	0.89	0.64	0.65	0.30	0.15
IN.	1.18	1.62	2.31	2.09	1.08	2.13	1.87	1.03	0.72	0.75	0.34	0.17

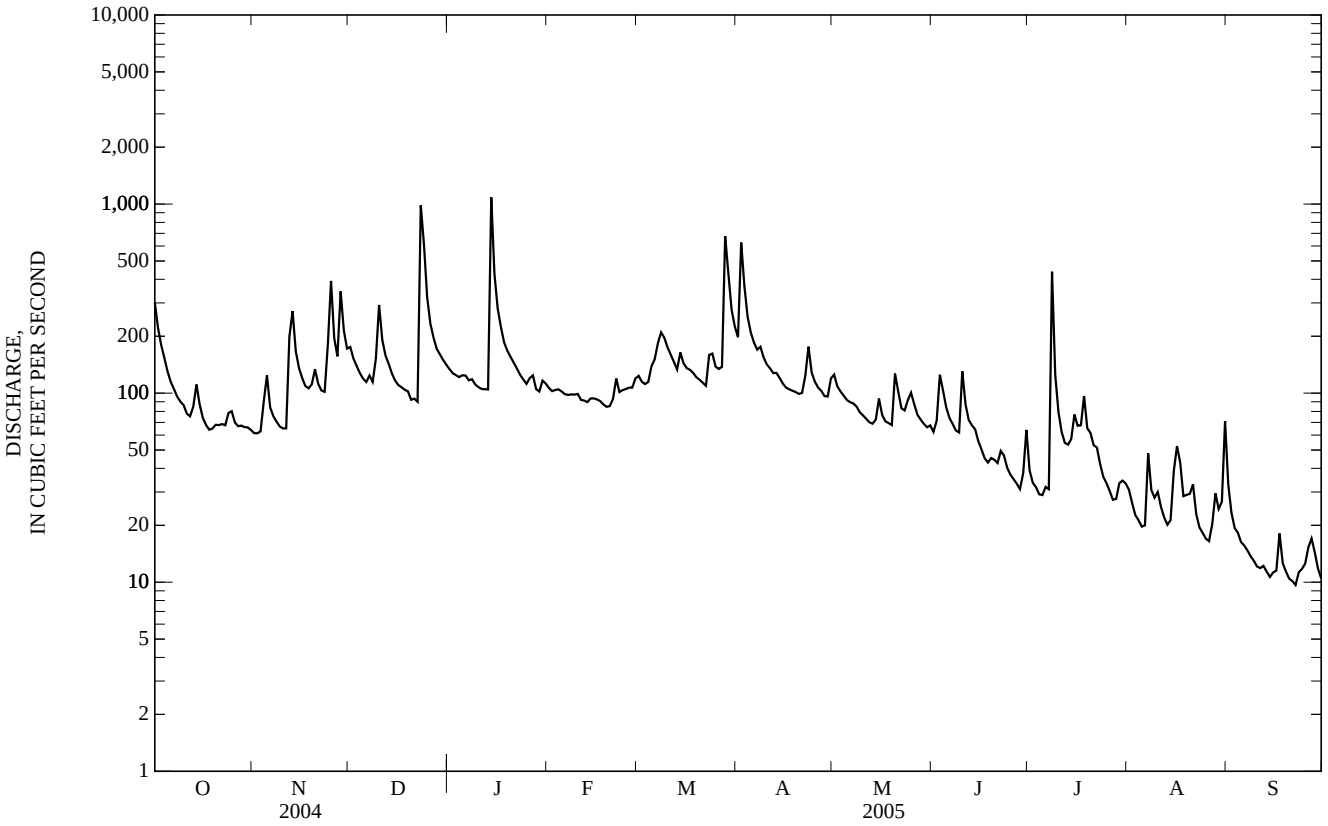
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1951, 1979 - 2005, BY WATER YEAR (WY)

MEAN	81.4	101	117	124	143	161	163	117	89.3	62.1	54.0	95.5
MAX	606	636	329	425	550	473	703	289	322	192	245	422
(WY)	(1943)	(1986)	(1949)	(1996)	(1998)	(1993)	(1983)	(1989)	(1995)	(1991)	(1949)	(1987)
MIN	8.65	13.1	17.2	16.2	14.6	34.5	37.1	24.4	5.95	1.98	0.29	0.34
(WY)	(1944)	(2002)	(2002)	(2002)	(2002)	(2002)	(1981)	(2002)	(2002)	(2002)	(2002)	(2002)

02031000 MECHUMS RIVER NEAR WHITE HALL, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1943 - 1951, 1979 - 2005	
ANNUAL TOTAL	49,797		39,167.7			
ANNUAL MEAN	136		107		109	
HIGHEST ANNUAL MEAN					178	1996
LOWEST ANNUAL MEAN					15.0	2002
HIGHEST DAILY MEAN	2,500	Sep 28	1,080	Jan 14	10,600	Oct 15, 1942
LOWEST DAILY MEAN	25	Sep 5	9.7	Sep 22	0.00	aAug 24, 2002
ANNUAL SEVEN-DAY MINIMUM	29	Aug 31	11	bSep 18	0.00	cSep 4, 2002
MAXIMUM PEAK FLOW			3,610	Dec 23	20,000	Oct 15, 1942
MAXIMUM PEAK STAGE			11.81	Dec 23	d30.30	Oct 15, 1942
INSTANTANEOUS LOW FLOW			8.6	fSep 22	0.00	gAug 18, 2002
ANNUAL RUNOFF (CFSM)	1.43		1.12		1.14	
ANNUAL RUNOFF (INCHES)	19.42		15.27		15.49	
10 PERCENT EXCEEDS	216		178		196	
50 PERCENT EXCEEDS	96		94		68	
90 PERCENT EXCEEDS	53		21		19	

a Also Aug. 25-27 and Sept. 4-25, 2002.
b Also Sept. 19, 2005.
c Many days in September 2002.
d From floodmarks, datum then in use.
e Estimated.
f Also Sept. 23, 2005.
g Also no flow part or all of each day August 23-28 and Sept. 3-26, 2002.



02032640 NORTH FORK RIVANNA RIVER NEAR EARLYSVILLE, VA

LOCATION.--Lat 38°09'48", long 78°25'29", NAD83, Albemarle County, Hydrologic Unit 02080204, on right bank at downstream side of bridge on State Highway 606, 0.4 mi upstream from mouth of Jacobs Run, 1.9 mi downstream from mouth of Marsh Run, and 2.1 mi southeast of Advance Mills.

DRAINAGE AREA.--108 mi^2.

PERIOD OF RECORD.--October 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 365 ft NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 30,100 ft^3/s, from rating curve extended above 6,730 ft^3/s on basis of slope-area measurement of peak flow. Several measurements of water temperature were made during the year.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 1992 reached a stage of 19.92 ft, from floodmark, by the Virginia Department of Highways.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 23	1700	*3,910	*9.47	Jan 14	0545	3,350	8.76

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	387	51	302	108	107	138	240	138	49	25	29	47
2	272	48	248	97	102	135	681	108	51	22	25	30
3	209	47	210	90	103	125	533	97	76	18	22	23
4	164	82	175	86	105	120	356	90	72	17	19	18
5	136	132	149	94	104	135	276	84	60	16	17	16
6	112	88	130	90	98	139	227	80	54	29	45	14
7	97	75	136	83	96	146	196	79	51	23	108	13
8	87	67	123	85	96	243	206	75	47	411	37	12
9	78	60	227	79	97	267	167	70	44	140	29	11
10	74	56	446	75	98	231	145	66	148	72	29	10
11	64	54	300	72	89	201	133	63	67	51	25	9.9
12	61	357	233	70	85	176	122	60	53	41	22	9.2
13	60	459	194	66	83	154	121	59	47	42	19	8.6
14	75	243	159	1,640	87	170	111	60	43	86	17	8.1
15	66	170	133	672	90	147	102	65	38	88	18	7.9
16	59	132	119	433	86	135	93	60	33	153	36	8.8
17	53	109	111	323	83	129	90	57	30	108	47	23
18	48	96	101	254	79	123	89	54	28	142	31	13
19	47	91	96	220	74	117	86	53	30	115	25	10
20	48	91	82	202	74	113	84	125	30	143	25	8.2
21	52	78	82	181	81	108	83	95	29	75	22	7.5
22	52	70	76	e158	149	105	92	69	28	66	17	6.9
23	51	67	952	e145	120	180	158	62	27	51	15	7.2
24	61	142	702	e135	119	192	108	71	24	41	14	13
25	74	426	378	e125	120	163	93	79	23	35	13	12
26	60	258	265	e130	123	157	85	70	22	31	12	13
27	54	193	205	134	121	155	82	61	21	27	14	14
28	58	574	159	e108	127	731	77	57	19	32	20	11
29	56	347	143	e102	---	612	74	54	25	37	18	9.2
30	59	260	129	119	---	385	118	52	23	35	16	7.9
31	55	---	117	116	---	293	---	52	---	34	124	---
TOTAL	2,829	4,923	6,882	6,292	2,796	6,225	5,028	2,265	1,292	2,206	910	402.4
MEAN	91.3	164	222	203	99.9	201	168	73.1	43.1	71.2	29.4	13.4
MAX	387	574	952	1,640	149	731	681	138	148	411	124	47
MIN	47	47	76	66	74	105	74	52	19	16	12	6.9
CFSM	0.84	1.52	2.05	1.88	0.92	1.86	1.55	0.68	0.40	0.66	0.27	0.12
IN.	0.97	1.69	2.37	2.16	0.96	2.14	1.73	0.78	0.44	0.76	0.31	0.14

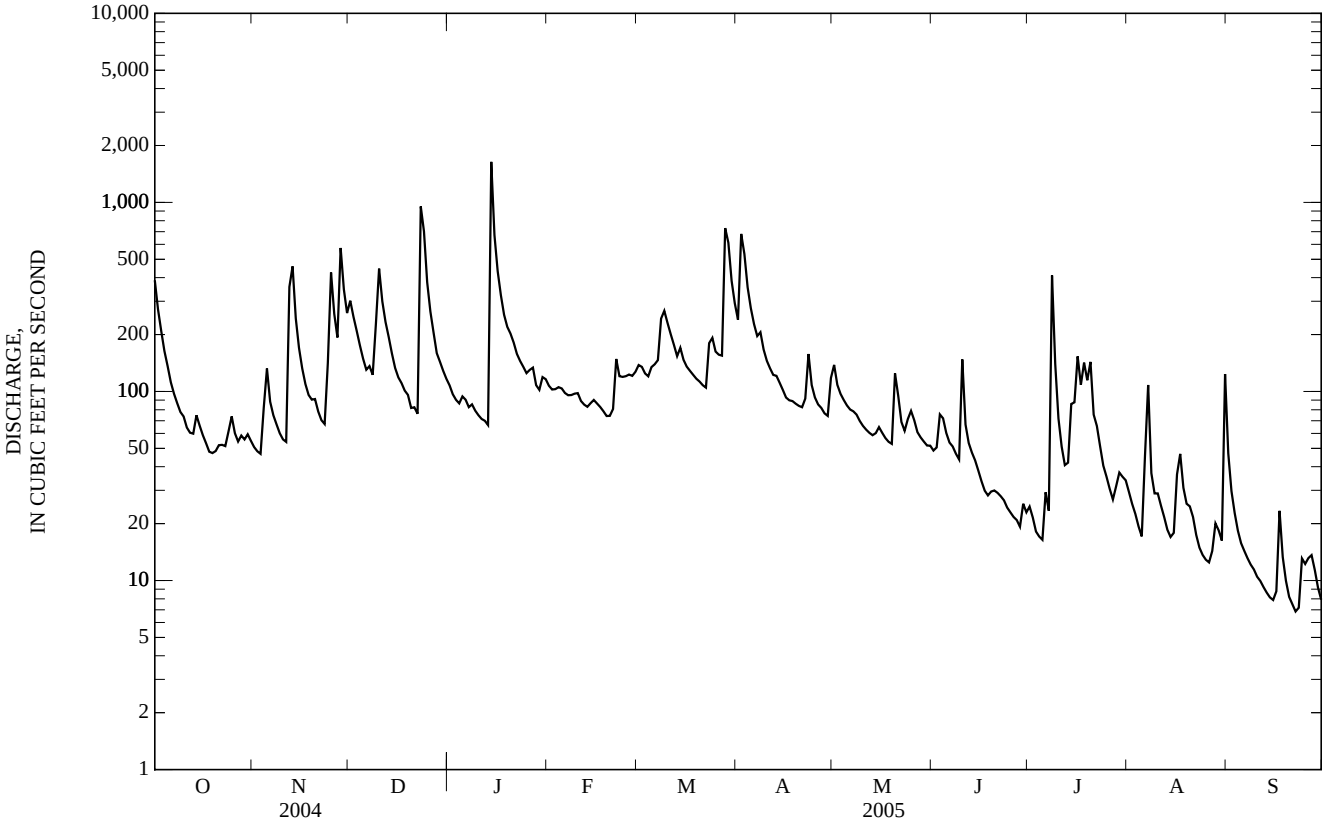
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2005, BY WATER YEAR (WY)

MEAN	65.7	129	153	214	193	203	157	125	117	69.3	45.2	179
MAX	195	330	367	574	624	406	260	421	316	195	151	682
(WY)	(1996)	(2004)	(1997)	(1996)	(1998)	(1994)	(2003)	(1998)	(1995)	(1995)	(2003)	(1996)
MIN	12.8	16.7	27.7	28.2	26.8	74.3	60.1	47.4	11.4	9.62	1.63	1.40
(WY)	(2002)	(1999)	(1999)	(2002)	(2002)	(2002)	(1995)	(1999)	(1999)	(1999)	(2002)	(2002)

02032640 NORTH FORK RIVANNA RIVER NEAR EARLYSVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1994 - 2005	
ANNUAL TOTAL	55,290		42,050.4			
ANNUAL MEAN	151		115		137	
HIGHEST ANNUAL MEAN					246	1996
LOWEST ANNUAL MEAN					34.9	2002
HIGHEST DAILY MEAN	2,120	Sep 9	1,640	Jan 14	e11,000	Sep 6, 1996
LOWEST DAILY MEAN	10	aSep 4	6.9	Sep 22	0.28	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	12	Aug 31	8.9	Sep 10	0.40	Sep 9, 2002
MAXIMUM PEAK FLOW			3,910	Dec 23	30,100	Sep 6, 1996
MAXIMUM PEAK STAGE			9.47	Dec 23	b23.56	Sep 6, 1996
INSTANTANEOUS LOW FLOW			6.6	cSep 22	0.25	Sep 14, 2002
ANNUAL RUNOFF (CFSM)	1.40		1.07		1.27	
ANNUAL RUNOFF (INCHES)	19.02		14.46		17.19	
10 PERCENT EXCEEDS	282		232		279	
50 PERCENT EXCEEDS	97		82		70	
90 PERCENT EXCEEDS	40		18		13	

a Also Sept. 5, 2004.
b From floodmarks.
c Also Sept. 23, 2005.
e Estimated.



02034000 RIVANNA RIVER AT PALMYRA, VA

LOCATION.--Lat 37°51'29", long 78°15'57", NAD83, Fluvanna County, Hydrologic Unit 02080204, on left bank 10 ft upstream from bridge on U.S. Highway 15 at Palmyra, 0.5 mi upstream from Cunningham Creek, and 15 mi upstream from mouth.

DRAINAGE AREA.--664 mi^2.

PERIOD OF RECORD.--October 1933 to current year. Monthly discharge only for some periods, published in WSP 1303.

REVISED RECORDS.--WSP 802: 1936(M). WSP 852: 1937. WSP 892: 1934-35. WSP 1303: 1945-46(M). WSP 1503: 1956. WSP 2104: Drainage area. WDR VA-72-1: 1969(M).

GAGE.--Water-stage recorder. Datum of gage is 210.39 ft NGVD of 1929. Prior to Oct. 24, 1942, water-stage recorder at site 200 ft downstream at same datum. Oct. 24, 1942, to Dec. 18, 1947, nonrecording gage 10 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some diurnal fluctuation at times mostly at low and medium flow caused by South Fork Rivanna River Reservoir, diversions. National Weather Service gage-height telemeter at station. Maximum discharge, 86,000 ft^3/s, from rating curve extended above 76,000 ft^3/s on basis of contracted-opening measurement of peak flow and velocity-area study. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 24	0500	7,150	11.92	Mar 28	2045	9,200	14.43
Jan 14	1900	*16,800	*20.78	Apr 2	2230	6,910	11.62

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1,610	372	1,110	680	661	726	1,170	899	365	245	165	303
2	1,090	356	1,110	663	625	711	3,580	778	362	208	152	172
3	896	356	960	663	622	669	3,970	680	575	169	136	127
4	729	476	873	623	643	654	1,810	639	650	154	123	110
5	647	824	800	623	642	694	1,330	619	522	143	111	95
6	568	612	741	643	620	850	1,120	594	445	203	106	87
7	510	500	766	609	607	826	991	584	394	171	390	86
8	472	465	806	599	607	1,020	1,030	577	364	1,090	238	78
9	446	425	771	611	609	1,190	953	569	338	962	171	73
10	434	397	2,060	570	612	1,030	839	531	550	419	161	66
11	407	381	1,500	558	581	921	779	514	553	293	150	64
12	365	749	1,160	547	548	844	746	497	399	231	133	64
13	392	2,030	1,020	545	536	758	737	475	344	217	118	61
14	463	1,170	905	9,490	529	812	717	468	334	449	109	60
15	477	904	803	5,540	557	799	676	562	314	371	169	57
16	421	768	734	2,080	530	707	636	536	286	383	441	55
17	379	684	699	1,450	522	678	615	483	246	362	404	62
18	356	634	670	1,150	502	663	620	452	233	340	283	81
19	348	605	648	1,010	483	637	612	434	225	371	202	76
20	370	695	623	949	467	616	613	1,290	224	505	188	67
21	373	638	552	915	484	599	600	981	223	345	164	58
22	381	588	578	862	664	580	719	604	228	360	146	57
23	380	566	846	800	650	838	940	519	222	286	128	51
24	389	696	4,380	e740	593	1,190	856	674	214	219	105	50
25	463	1,620	1,750	e700	635	909	705	865	196	180	102	64
26	445	1,320	1,250	e685	624	839	651	641	171	166	95	68
27	398	1,020	1,060	e690	643	779	635	527	168	152	93	69
28	383	1,960	918	666	650	3,970	614	455	165	154	126	71
29	386	1,630	838	607	---	4,710	589	385	153	143	140	68
30	387	1,180	794	e683	---	2,010	657	383	189	164	124	62
31	384	---	735	722	---	1,400	---	374	---	181	132	---
TOTAL	15,749	24,621	32,460	37,673	16,446	33,629	30,510	18,589	9,652	9,636	5,305	2,462
MEAN	508	821	1,047	1,215	587	1,085	1,017	600	322	311	171	82.1
MAX	1,610	2,030	4,380	9,490	664	4,710	3,970	1,290	650	1,090	441	303
MIN	348	356	552	545	467	580	589	374	153	143	93	50
CFSM	0.77	1.24	1.58	1.83	0.88	1.63	1.53	0.90	0.48	0.47	0.26	0.12
IN.	0.88	1.38	1.82	2.11	0.92	1.88	1.71	1.04	0.54	0.54	0.30	0.14

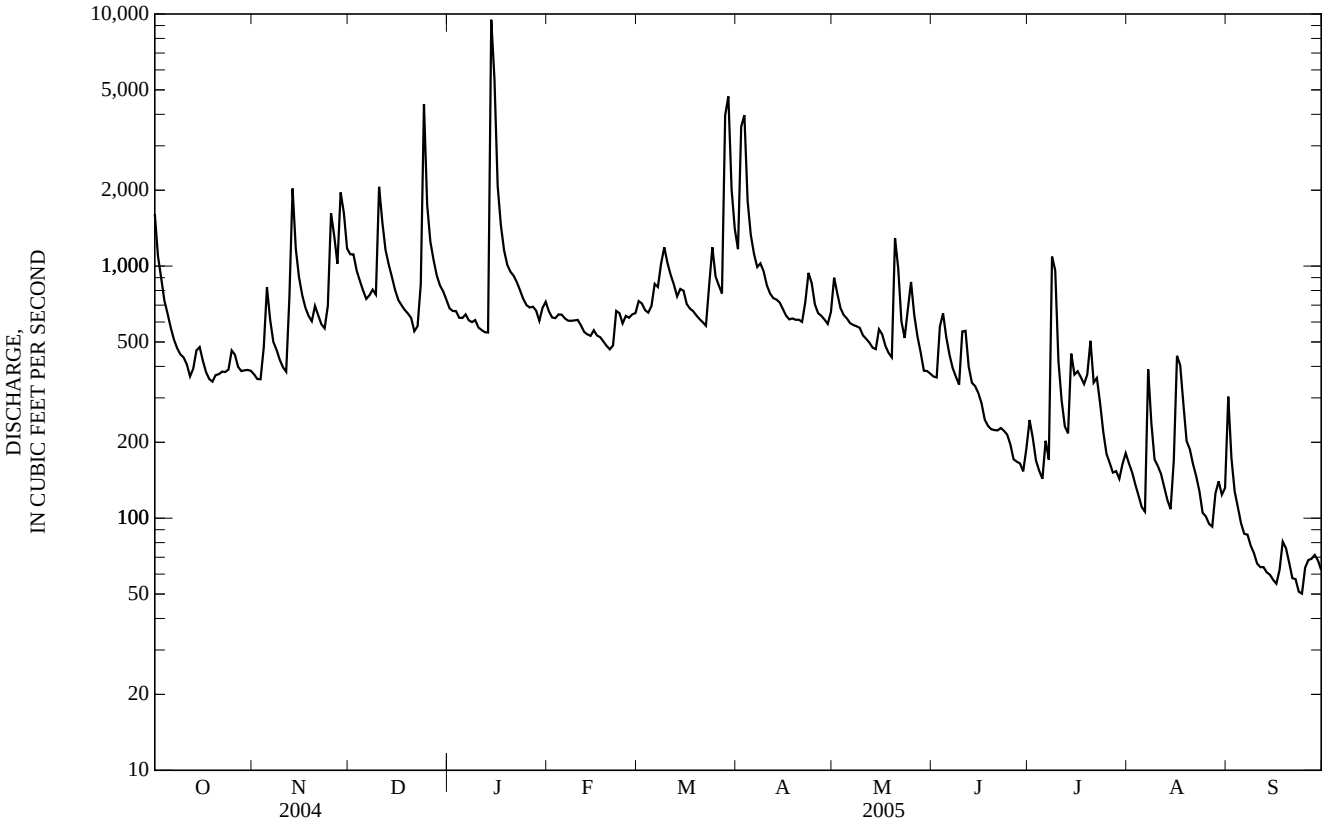
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2005, BY WATER YEAR (WY)

MEAN	541	590	762	921	1,030	1,181	1,036	758	593	397	449	496
MAX	3,535	3,521	2,667	2,620	3,468	3,415	3,662	2,472	4,473	1,524	3,404	2,915
(WY)	(1943)	(1986)	(1949)	(1936)	(1998)	(1993)	(1937)	(1989)	(1972)	(1975)	(1969)	(1979)
MIN	46.4	64.7	88.9	104	103	225	214	204	95.9	39.0	20.2	19.1
(WY)	(1942)	(2002)	(1966)	(1966)	(2002)	(1981)	(1981)	(2002)	(1999)	(1966)	(1966)	(1954)

02034000 RIVANNA RIVER AT PALMYRA, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1935 - 2005	
ANNUAL TOTAL	292,243		236,732			
ANNUAL MEAN	798		649		728	
HIGHEST ANNUAL MEAN					1,401	1973
LOWEST ANNUAL MEAN					129	2002
HIGHEST DAILY MEAN	9,330	Sep 29	9,490	Jan 14	68,000	Jun 22, 1972
LOWEST DAILY MEAN	122	Sep 6	50	Sep 24	5.2	aSep 9, 1966
ANNUAL SEVEN-DAY MINIMUM	139	Sep 1	59	Sep 20	5.6	Sep 7, 1966
MAXIMUM PEAK FLOW			16,800	Jan 14	86,000	Aug 20, 1969
MAXIMUM PEAK STAGE			20.78	Jan 14	39.85	Aug 20, 1969
INSTANTANEOUS LOW FLOW			48	bSep 23	5.2	aSep 9, 1966
ANNUAL RUNOFF (CFSM)	1.20		0.977		1.10	
ANNUAL RUNOFF (INCHES)	16.37		13.26		14.89	
10 PERCENT EXCEEDS	1,200		1,070		1,400	
50 PERCENT EXCEEDS	616		566		418	
90 PERCENT EXCEEDS	323		124		105	

a Also Sept. 10, 11, 1966.
b Also Sept. 24, 2005.
e Estimated.



02035000 JAMES RIVER AT CARTERSVILLE, VA

LOCATION.--Lat 37°40'16", long 78°05'09", NAD83, Goochland County, Hydrologic Unit 02080205, on left bank 200 ft downstream from bridge on State Highway 45 at Cartersville, 1.8 mi downstream from Willis River, and at mile 156.4.

DRAINAGE AREA.--6,257 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1303.

REVISED RECORDS.--WSP 972: 1936(M). WSP 1203: 1901-2(M), 1923-25(M), 1928(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 163.90 ft NGVD of 1929. Prior to June 4, 1927, nonrecording gage at same site and datum.

REMARKS.--Records good. Moderate diurnal fluctuation caused by powerplants upstream from station. Since 1982, low flows during summer months are augmented by releases from Lake Moomaw, station 02011795. National Weather Service gage-height telemeter at station. Maximum discharge, 362,000 ft^3/s, from rating curve extended above 160,000 ft^3/s on basis of slope-conveyance study.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 15	0215	*58,300	*17.78	Mar 30	0945	42,000	14.39

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33,200	3,500	13,600	6,830	6,740	6,740	22,800	7,660	4,170	2,420	2,960	2,370
2	16,800	3,330	14,500	6,560	5,940	7,110	22,900	8,410	4,160	2,160	2,340	2,350
3	12,300	3,270	20,300	6,340	6,090	7,050	30,700	10,300	4,320	1,890	2,140	2,310
4	9,690	3,430	17,200	6,090	5,980	6,840	31,500	9,520	5,550	2,210	1,930	2,060
5	8,100	5,300	15,000	5,970	6,120	6,890	24,500	8,640	5,090	2,260	1,760	1,920
6	6,850	5,990	12,700	6,070	5,970	7,780	19,000	7,970	4,420	2,190	1,910	1,700
7	6,010	5,410	10,200	5,870	5,920	8,120	15,900	7,490	4,160	2,160	2,220	1,590
8	5,410	7,250	9,510	5,760	5,860	10,900	14,700	7,150	3,920	4,200	2,210	1,490
9	4,860	6,610	8,670	6,000	5,860	14,500	14,000	6,420	3,750	8,910	2,160	1,410
10	4,560	5,760	13,600	5,650	5,880	14,700	12,500	5,940	3,920	5,080	2,320	1,390
11	4,080	5,040	19,400	5,750	5,950	13,500	11,200	5,650	4,960	4,850	2,210	1,320
12	3,790	6,520	23,200	5,650	6,170	11,600	9,830	5,330	4,430	3,990	2,160	1,300
13	3,810	18,100	18,900	5,580	6,120	10,400	9,150	5,360	3,850	2,830	2,380	1,320
14	4,290	13,800	15,600	24,500	5,970	9,740	9,060	5,370	3,680	2,900	1,950	1,310
15	6,430	13,300	13,100	51,400	5,830	9,720	8,470	5,140	3,470	5,690	1,720	1,240
16	5,380	11,000	10,900	33,800	5,910	8,970	7,760	5,120	3,140	4,450	2,170	1,210
17	4,510	8,830	9,440	22,300	6,030	8,210	7,190	4,890	2,870	4,710	2,540	1,250
18	4,310	7,690	8,210	16,600	6,080	7,820	6,840	4,710	2,710	4,620	2,520	1,240
19	4,210	7,240	7,510	13,300	5,990	7,540	6,470	4,570	2,480	4,650	2,560	1,240
20	3,680	6,790	7,040	11,500	5,780	7,160	6,230	6,840	3,090	4,480	2,410	1,210
21	3,700	6,360	6,590	10,200	5,570	6,840	6,120	9,500	2,630	4,060	2,280	1,210
22	3,620	6,330	6,290	9,500	5,880	6,510	6,540	7,400	2,220	3,540	2,040	1,160
23	3,590	6,750	6,140	8,540	6,070	6,740	7,100	7,220	2,250	2,980	1,790	1,040
24	3,570	7,190	15,100	7,670	6,020	9,930	8,930	7,640	2,390	2,790	1,680	1,040
25	3,650	10,500	e13,800	7,040	6,320	10,400	12,000	7,390	2,260	2,390	1,610	1,120
26	3,610	16,400	e12,600	7,070	6,550	11,500	11,000	6,610	2,130	2,160	1,580	1,040
27	3,260	20,300	e11,400	6,770	6,400	11,300	9,460	5,910	2,050	2,190	1,590	833
28	3,560	16,900	9,690	6,750	6,400	16,000	9,350	5,030	1,940	1,920	1,460	875
29	3,620	17,400	8,490	6,090	---	36,200	8,310	4,780	1,720	1,780	1,750	1,270
30	3,580	15,300	7,710	6,180	---	40,000	7,350	4,390	1,890	1,820	1,840	964
31	3,490	---	7,320	6,640	---	29,600	---	4,300	---	2,060	1,980	---
TOTAL	191,520	271,590	373,710	333,970	169,400	370,310	376,860	202,650	99,620	104,340	64,170	41,782
MEAN	6,178	9,053	12,060	10,770	6,050	11,950	12,560	6,537	3,321	3,366	2,070	1,393
MAX	33,200	20,300	23,200	51,400	6,740	40,000	31,500	10,300	5,550	8,910	2,960	2,370
MIN	3,260	3,270	6,140	5,580	5,570	6,510	6,120	4,300	1,720	1,780	1,460	833
CFSM	0.99	1.45	1.93	1.72	0.97	1.91	2.01	1.04	0.53	0.54	0.33	0.22
IN.	1.14	1.61	2.22	1.99	1.01	2.20	2.24	1.20	0.59	0.62	0.38	0.25

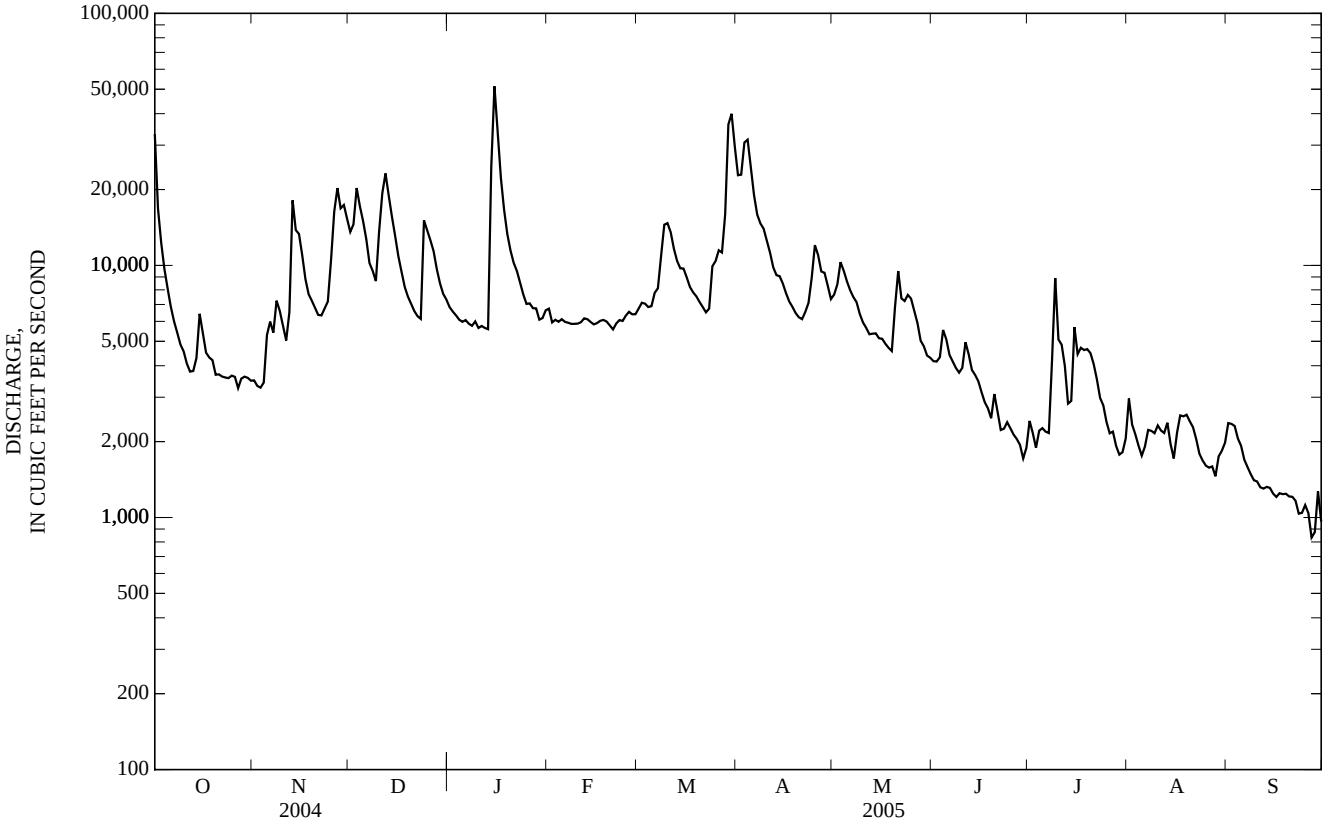
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 2005, BY WATER YEAR (WY)

MEAN	4,116	4,843	7,029	9,404	10,750	12,940	11,050	7,980	6,085	3,797	3,946	3,687
MAX	20,830	28,210	25,990	26,480	33,750	31,810	33,500	23,530	30,330	15,070	20,490	18,140
(WY)	(1907)	(1986)	(1949)	(1936)	(1998)	(1993)	(1987)	(1989)	(1972)	(1919)	(1969)	(1996)
MIN	528	924	1,054	1,353	1,528	2,646	3,286	2,710	1,162	605	652	561
(WY)	(1931)	(1931)	(1966)	(1956)	(2002)	(1981)	(1995)	(1930)	(2002)	(1966)	(1930)	(1930)

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1899 - 2005	
ANNUAL TOTAL	2,962,200		2,599,922			
ANNUAL MEAN	8,093		7,123		7,097	
HIGHEST ANNUAL MEAN					12,410	1973
LOWEST ANNUAL MEAN					2,126	2002
HIGHEST DAILY MEAN	68,800	Sep 30	51,400	Jan 15	280,000	Jun 22, 1972
LOWEST DAILY MEAN	1,650	Sep 6	833	Sep 27	330	Sep 14, 1966
ANNUAL SEVEN-DAY MINIMUM	1,790	Sep 2	1,020	Sep 22	386	Sep 8, 1966
MAXIMUM PEAK FLOW			a58,300	aJan 15	362,000	Jun 22, 1972
MAXIMUM PEAK STAGE			a17.78	aJan 15	b37.87	Jun 22, 1972
INSTANTANEOUS LOW FLOW			731	cSep 27	316	Sep 13, 1966
ANNUAL RUNOFF (CFSM)	1.29		1.14		1.13	
ANNUAL RUNOFF (INCHES)	17.61		15.46		15.41	
10 PERCENT EXCEEDS	14,500		14,200		15,000	
50 PERCENT EXCEEDS	6,480		5,940		4,430	
90 PERCENT EXCEEDS	3,230		1,810		1,420	

a Maximum instantaneous discharge, 63,700 ft^3/sec, Oct. 1, 2004, gage height 18.82 ft, stage falling, peak occurred Sept. 30, 2004.
b From floodmarks.
c Also Sept. 28, 2005.
e Estimated.



02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1930, 1948, 1967 to current year.

PERIOD OF CONTINUOUS (15-MINUTE INTERVAL) RECORD.--
SPECIFIC CONDUCTANCE: December 2003 to current.
WATER TEMPERATURE: December 2003 to current.
pH: December 2003 to current.
TURBIDITY: December 2003 to current.

INSTRUMENTATION.-- Water-quality monitor December 2003 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1968 to January 1976, October 1980 to May 1981, October 1991 to September 1994.
WATER TEMPERATURE: April 1968 to January 1976, October 1980 to May 1981, October 1991 to September 1994.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to May 1981.

COOPERATION.--Water samples were collected by the U.S. Geological Survey and analyzed by either the U.S. Geological Survey (Agency Code 1028) or by the Virginia Division of Consolidated Laboratory Services (VDCLS, Agency Code 85116), using analytical methods approved by the U.S. Geological Survey. Analyses performed by VDCLS are reported to U.S. Geological Survey rounding specifications. Results of chemical analyses provided by VDCLS were quality-assured and approved by the U.S. Geological Survey.

REMARKS.--Median daily values have been plotted for continuous turbidity, pH, specific conductance, and water temperature.

EXTREMES FOR CURRENT YEAR.--
TURBIDITY: Maximum, 700 NTU, Mar. 30; minimum, 0.0 NTU, on several days.
pH: Maximum, 9.9 standard units, Aug. 5; minimum, 6.6 standard units, Mar. 8.
SPECIFIC CONDUCTANCE: Maximum, 339 microsiemens/cm, Sept. 30; minimum, 56 microsiemens/cm, Dec. 24, Jan. 15.
WATER TEMPERATURE: Maximum, 33.4°C, July 27; minimum, 0.0°C, Jan. 25.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
OCT												
19...	1115	Environmental	85116	2.67	4,230	2.1	753	10.7	106	7.9	202	19.5
19...	1130	Replicate	85116	--	--	--	--	--	--	--	--	--
NOV												
15...	1215	Environmental	85116	6.74	13,700	37	770	11.1	95	7.2	134	15.0
DEC												
03...	1145	Environmental	85116	9.18	21,300	30	763	11.8	99	7.5	140	18.5
16...	1010	Blank	85116	--	--	--	--	--	--	--	--	--
16...	1015	Environmental	85116	5.81	11,100	10	770	14.9	116	7.8	124	-1.5
JAN												
15...	1230	Environmental	85116	16.48	51,900	230	777	10.1	89	7.2	88	10.0
25...	1045	Environmental	85116	3.88	6,550	9.5	759	14.5	100	7.8	142	.0
FEB												
15...	1030	Environmental	85116	3.47	5,730	--	762	12.5	102	7.7	200	22.0
MAR												
22...	1015	Environmental	85116	3.84	6,470	3.2	764	11.5	103	8.5	156	12.0
29...	1100	Environmental	85116	13.11	36,400	450	751	10.7	96	7.2	101	22.0
APR												
19...	1330	Environmental	85116	3.82	6,430	--	762	--	--	8.0	160	28.5
19...	1345	Replicate	85116	--	--	--	--	--	--	--	--	--
MAY												
25...	1045	Environmental	85116	4.29	7,420	--	755	8.4	92	7.8	201	16.0
JUN												
21...	1015	Environmental	85116	1.85	2,600	--	761	8.3	100	8.3	178	26.0
JUL												
20...	1225	Blank	85116	--	--	--	--	--	--	--	--	--
20...	1230	Environmental	85116	3.15	4,550	9.3	760	7.2	96	8.0	190	32.0
AUG												
23...	1000	Environmental	85116	1.72	1,790	2.0	756	7.0	92	8.3	278	22.5
SEP												
20...	0930	Environmental	85116	1.24	1,270	--	758	7.1	89	8.4	308	28.0

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Temperature, water, deg C (00010)	Silica, water, fltrd, mg/L (00955)	Residue fixed non-filterable, mg/L (00540)	Residue total at 105 deg. C, suspended, mg/L (00530)	Residue volatile, suspended, mg/L (00535)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)
OCT													
19...	14.6	8.20	<3	3	<3	.005	.20	.196	<.002	.31	--	.016	.026
19...	--	8.20	3	3	<3	.006	.19	.194	<.002	.33	--	.016	.027
NOV													
15...	8.8	9.10	35	41	6	.016	.28	.282	<.002	.53	.68	.018	.026
DEC													
03...	8.2	8.40	19	22	3	.006	.30	.304	<.002	.40	.54	.017	.034
16...	--	.10	<3	<3	<3	.010	<.004	<.004	<.002	.01	<.10	.002	.001
16...	5.0	8.70	9	10	<3	.005	.34	.341	<.002	.43	.44	.018	.021
JAN													
15...	10.7	6.80	398	438	40	.035	.33	.336	.003	.72	1.6	.012	.035
25...	.2	9.70	<3	3	<3	.020	.45	.454	<.002	.55	.58	.014	.017
FEB													
15...	6.6	8.60	3	3	<3	.007	.32	.317	<.002	.45	.44	.014	.051
MAR													
22...	10.5	5.60	3	4	<3	<.004	.11	.111	<.002	.23	.24	.006	.017
29...	9.6	7.60	268	298	30	.029	.28	.277	.002	.50	1.3	.011	.019
APR													
19...	17.4	7.60	4	5	<3	<.004	.21	.216	<.002	.34	.34	.011	.021
19...	--	7.40	4	5	<3	<.004	.22	.217	<.002	.34	.36	.012	.020
MAY													
25...	19.1	6.50	12	14	<3	.023	.25	.252	.003	.46	.53	.015	.039
JUN													
21...	24.4	8.60	<3	3	<3	.004	.24	.236	<.002	.43	.48	.028	.044
JUL													
20...	--	1.40	<3	<3	<3	<.004	<.004	<.004	<.002	.02	<.10	.002	.002
20...	30.4	8.80	9	11	<3	.008	.30	.298	<.002	.48	.52	.029	.051
AUG													
23...	28.9	6.70	<3	3	<3	.011	.12	.123	<.002	.35	.35	.017	.033
SEP													
20...	26.4	3.00	<3	<3	<3	.004	.08	.080	<.002	.30	.33	.020	.020

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, suspnd sedimnt total, mg/L (00601)	Phos-phorus, suspnd sedimnt total, mg/L (00667)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor-ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, water, fltrd, mg/L (00681)	Pheo-phytin a, phyto-plank-ton, ug/L (62360)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT										
19...	--	<.01	.007	.2	<.02	2.1	<.5	.6	54	6
19...	--	<.01	.007	.2	<.02	2.2	<.5	.8	50	8
NOV										
15...	.110	.18	--	2.0	M	3.5	2.6	1.9	82	48
DEC										
03...	.100	.16	.046	1.9	<.02	2.6	1.6	.8	65	55
16...	<.010	<.01	.001	<.02	<.02	<2.0	<.5	<.5	--	<.5
16...	.040	.07	.015	.5	<.02	2.0	<.5	<.5	75	14
JAN										
15...	.720	--	.416	14.9	.2	6.3	4.2	4.2	82	524
25...	.040	.03	.017	.5	<.02	<2.0	<.5	.5	88	11
FEB										
15...	.030	<.01	.010	.3	<.02	2.0	<.5	<.5	75	2
MAR										
22...	.020	.03	.011	.4	<.02	<2.0	<.5	1.5	63	7
29...	.390	.72	.292	7.7	<.02	3.2	8.7	9.7	76	404
APR										
19...	.030	.02	.011	.5	<.02	<2.0	<.5	<.5	94	9
19...	.030	.01	.011	.6	.1	<2.0	<.5	<.5	77	6
MAY										
25...	.050	.10	.023	.9	<.02	2.6	<.5	5.7	94	14
JUN										
21...	.050	.08	.009	.4	<.02	2.3	<.5	1.1	89	3
JUL										
20...	.010	<.01	<.001	<.02	<.02	<2.0	<.5	<.5	--	<1
20...	.070	.09	.020	.7	<.02	2.5	<.5	1.7	91	10
AUG										
23...	.040	.06	.008	.4	<.02	3.1	<.5	1.2	79	5
SEP										
20...	.040	.03	.007	.2	<.02	3.3	<.5	<.5	38	2

Remark codes used in this table:
< -- Less than.
M-- Presence verified but not quantified.

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

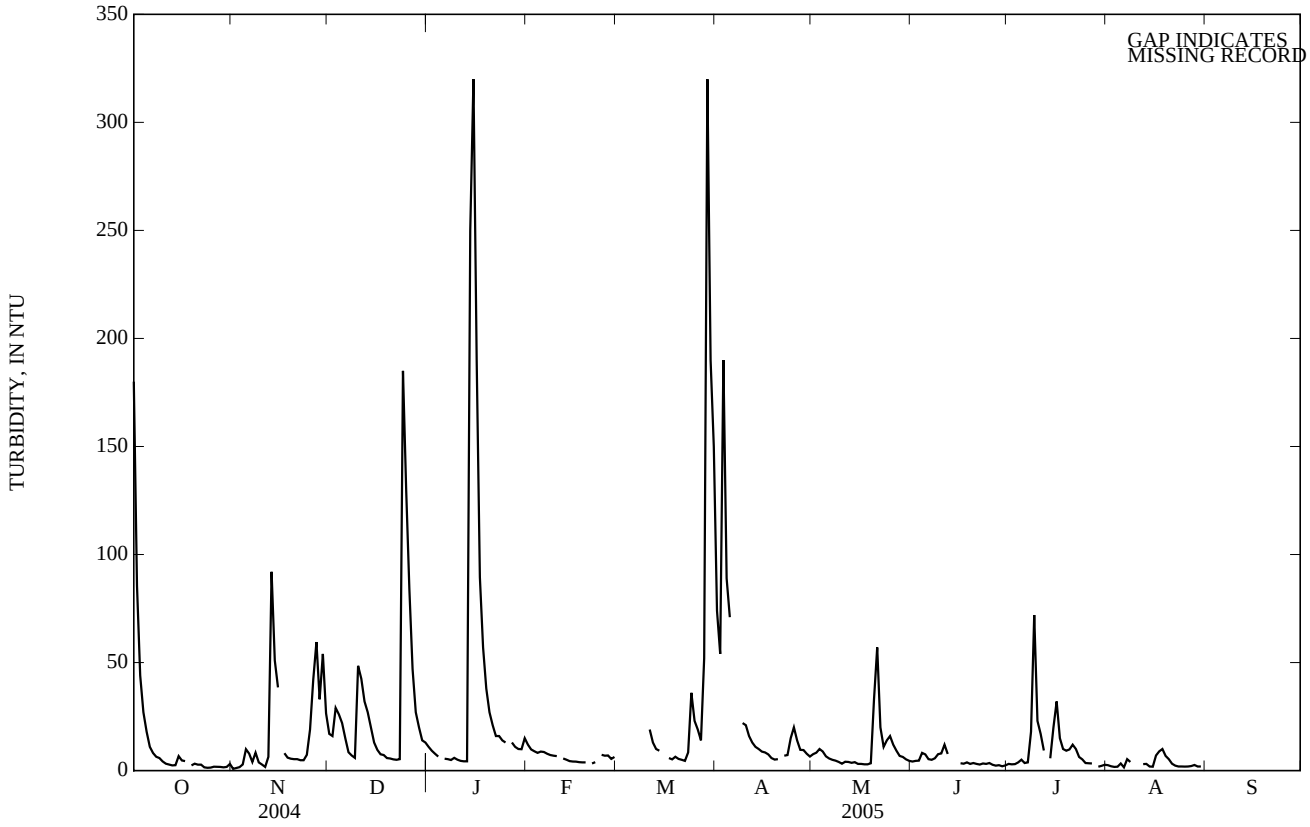
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	240	120	180	1.7	0.4	0.8	26	15	17	14	9.1	11
2	130	59	86	3.8	0.7	1.2	19	15	16	19	7.4	9.2
3	65	33	44	9.9	0.6	1.6	32	19	29	18	6.4	7.8
4	35	21	27	16	0.8	2.9	30	23	26	22	5.9	6.5
5	31	14	18	26	3.1	9.9	25	18	22	---	---	---
6	26	8.5	11	9.5	4.0	7.8	22	11	15	8.3	4.8	5.5
7	11	6.2	8.2	5.8	2.8	4.0	17	6.9	8.5	6.1	4.3	5.3
8	9.3	5.5	6.4	22	4.9	8.3	9.4	5.4	7.0	5.7	4.3	4.9
9	7.4	4.3	5.8	69	2.9	3.8	9.0	4.7	5.9	7.8	5.0	5.9
10	9.7	3.1	4.2	7.8	0.7	2.8	70	8.6	48	6.2	4.0	5.0
11	16	2.4	3.2	31	0.1	1.7	53	37	42	5.0	3.8	4.5
12	16	2.2	2.8	240	0.3	6.3	43	29	32	5.7	3.8	4.3
13	2.9	1.7	2.4	480	62	92	32	23	27	5.5	3.5	4.3
14	9.5	1.9	2.5	79	38	51	23	15	20	650	4.9	250
15	9.9	4.1	6.7	64	21	38	16	11	13	440	200	320
16	5.7	4.1	4.7	---	---	---	12	7.9	9.6	210	140	190
17	5.3	3.2	4.4	10	6.3	8.1	10	6.6	7.5	140	71	90
18	---	---	---	6.8	4.8	6.0	9.9	6.4	7.2	71	44	57
19	14	1.8	2.4	11	4.8	5.5	8.5	5.1	5.8	44	32	38
20	5.0	2.3	3.2	5.9	4.6	5.3	6.3	5.1	5.6	32	23	27
21	16	1.3	2.8	7.6	4.7	5.3	5.7	4.8	5.2	24	18	21
22	12	1.0	2.8	5.9	4.1	4.8	5.7	4.5	5.0	19	15	16
23	2.8	1.0	1.5	7.1	4.0	4.8	6.2	4.8	5.3	18	15	16
24	2.3	1.0	1.3	12	5.2	7.3	400	5.5	180	21	12	14
25	2.2	1.1	1.4	37	11	19	200	100	130	14	12	13
26	2.6	1.4	1.8	65	36	42	100	76	84	---	---	---
27	2.5	1.4	1.8	68	36	60	76	34	47	14	12	13
28	7.4	1.3	1.7	43	30	33	34	21	27	14	10	11
29	3.2	1.0	1.5	61	42	54	24	17	20	11	9.2	10
30	3.0	1.2	1.7	42	19	26	20	13	14	12	9.3	9.9
31	11	0.9	3.1	---	---	---	23	11	13	18	11	15
MAX	240	120	180	480	62	92	400	100	180	650	200	320
MIN	2.2	0.9	1.3	1.7	0.1	0.8	5.7	4.5	5.0	5.0	3.5	4.3
	FEBRUARY			MARCH			APRIL			MAY		
1	14	10	12	---	---	---	110	54	74	13	5.4	7.6
2	11	9.0	9.8	---	---	---	310	44	54	9.9	7.2	8.3
3	10	8.0	8.9	---	---	---	240	110	190	13	8.3	10
4	8.7	7.9	8.2	---	---	---	540	71	89	11	6.4	8.8
5	9.4	8.0	8.8	---	---	---	600	53	71	8.8	5.2	6.6
6	12	8.0	8.6	---	---	---	---	---	---	7.4	4.6	5.6
7	8.9	7.0	7.8	---	---	---	---	---	---	7.1	3.9	5.0
8	8.6	6.7	7.2	---	---	---	---	---	---	6.1	3.6	4.6
9	8.3	6.0	6.9	---	---	---	33	20	22	6.0	3.0	4.0
10	7.4	6.2	6.7	---	---	---	25	18	21	5.3	2.3	3.2
11	---	---	---	25	14	19	18	14	16	6.2	2.4	4.1
12	7.8	5.0	5.6	20	10	13	16	11	13	7.4	2.8	4.0
13	6.2	4.6	5.0	15	9.1	10	14	9.7	11	7.4	2.3	3.6
14	5.5	3.8	4.4	15	8.2	9.2	12	8.2	10	6.2	2.9	3.9
15	5.4	3.8	4.2	---	---	---	10	7.7	8.8	4.8	2.7	3.1
16	4.8	3.4	4.2	---	---	---	21	6.5	8.4	5.4	2.8	3.1
17	4.9	3.5	3.9	9.1	5.0	5.8	17	5.9	7.5	3.3	2.6	2.9
18	4.5	3.2	3.8	9.5	4.0	5.2	7.0	4.6	5.8	3.8	2.3	2.9
19	7.4	3.4	3.8	12	4.0	6.4	6.4	4.2	5.1	7.8	2.2	3.4
20	---	---	---	16	4.0	5.4	7.0	4.3	5.3	160	2.9	33
21	4.2	2.8	3.3	11	3.9	5.0	---	---	---	75	29	57
22	6.4	3.5	3.9	8.7	3.5	4.5	10	6.0	6.9	30	12	20
23	---	---	---	24	4.0	8.4	13	5.9	7.2	13	8.9	11
24	9.3	6.3	7.3	88	11	36	18	12	15	34	9.3	14
25	12	5.6	6.9	31	16	23	26	12	20	23	14	16
26	27	5.0	7.0	23	16	19	19	10	14	18	9.6	12
27	12	4.4	5.4	20	11	14	12	7.8	9.6	17	6.4	9.2
28	13	4.7	6.3	420	11	52	13	7.6	9.5	12	5.4	6.8
29	---	---	---	630	180	320	14	6.5	7.8	8.3	5.3	6.3
30	---	---	---	700	140	190	11	4.8	6.5	7.4	4.1	5.2
31	---	---	---	220	110	150	---	---	---	7.1	3.3	4.5
MAX	27	10	12	700	180	320	600	110	190	160	29	57
MIN	4.2	2.8	3.3	8.7	3.5	4.5	6.4	4.2	5.1	3.3	2.2	2.9

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU—CONTINUED

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.5	2.8	4.2	32	2.2	3.1	4.2	1.5	2.5	---	---	---
2	22	3.5	4.5	6.6	2.2	2.9	12	1.2	2.0	---	---	---
3	10	3.9	4.6	6.2	1.9	3.0	2.7	0.9	1.7	---	---	---
4	13	6.5	8.2	460	2.8	3.8	9.8	0.9	1.8	---	---	---
5	13	5.6	7.5	34	3.4	5.0	9.3	0.6	3.3	---	---	---
6	7.6	4.1	5.3	14	2.3	3.5	15	0.9	1.5	---	---	---
7	7.8	3.6	5.0	40	2.7	3.8	9.2	2.0	5.3	---	---	---
8	8.5	4.4	5.7	61	11	18	5.2	2.7	4.0	---	---	---
9	94	4.3	7.6	140	41	72	---	---	---	---	---	---
10	91	3.7	8.0	44	15	23	---	---	---	---	---	---
11	44	6.3	12	24	10	17	---	---	---	---	---	---
12	11	5.8	7.7	17	5.9	9.3	5.1	1.7	3.0	---	---	---
13	---	---	---	---	---	---	4.9	2.1	3.1	---	---	---
14	---	---	---	17	4.5	5.7	3.4	0.8	1.9	---	---	---
15	---	---	---	93	13	20	18	0.6	1.8	---	---	---
16	8.5	2.4	3.4	43	19	32	15	2.3	7.0	---	---	---
17	9.8	2.0	3.2	23	12	15	13	7.2	8.9	---	---	---
18	6.7	2.4	3.8	14	7.7	10	14	7.3	10	---	---	---
19	5.3	1.8	3.1	12	8.0	9.2	14	5.0	6.8	---	---	---
20	7.0	2.7	3.5	18	7.8	9.8	9.2	3.1	5.3	---	---	---
21	6.9	1.9	3.1	19	8.4	12	7.8	2.2	3.2	---	---	---
22	4.7	1.9	2.8	17	6.3	10	3.8	1.4	2.3	---	---	---
23	8.0	1.6	3.3	61	4.6	6.3	3.2	1.1	1.9	---	---	---
24	8.0	1.9	3.1	7.4	3.5	5.2	3.5	1.3	1.9	---	---	---
25	5.8	2.5	3.5	6.8	2.3	3.5	2.7	1.3	1.9	---	---	---
26	5.0	1.5	2.7	24	1.9	3.4	11	0.7	1.9	---	---	---
27	3.2	1.5	2.3	16	1.6	3.3	4.2	1.1	2.1	---	---	---
28	4.2	1.6	2.5	---	---	---	8.0	1.1	2.6	---	---	---
29	53	1.4	2.0	3.4	1.0	1.8	7.3	1.1	1.9	---	---	---
30	15	1.6	2.4	8.3	1.2	2.2	5.1	1.2	1.9	---	---	---
31	---	---	---	5.3	1.6	2.7	---	---	---	---	---	---
MAX	94	6.5	12	460	41	72	18	7.3	10	---	---	---
MIN	3.2	1.4	2.0	3.4	1.0	1.8	2.7	0.6	1.5	---	---	---

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued



PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.3	7.1	7.1	8.0	7.8	7.8	7.3	7.2	7.2	7.5	7.3	7.5
2	7.2	7.2	7.2	8.0	7.8	7.8	7.3	7.2	7.2	7.5	7.3	7.3
3	7.3	7.2	7.3	8.0	7.8	7.8	7.4	7.3	7.4	7.4	7.3	7.3
4	7.3	7.3	7.3	7.8	7.6	7.8	7.4	7.4	7.4	7.3	7.2	7.2
5	7.4	7.3	7.4	7.6	7.4	7.4	7.4	7.3	7.3	---	---	---
6	7.4	7.4	7.4	7.6	7.4	7.5	7.3	7.3	7.3	7.5	7.4	7.4
7	7.5	7.4	7.4	7.7	7.6	7.6	7.3	7.2	7.2	7.5	7.5	7.5
8	7.5	7.5	7.5	7.8	7.7	7.8	7.2	7.2	7.2	7.6	7.5	7.5
9	7.6	7.5	7.5	7.9	7.8	7.8	7.2	7.2	7.2	7.6	7.5	7.5
10	7.6	7.5	7.5	8.0	7.9	7.9	7.2	6.8	6.9	7.6	7.5	7.6
11	7.6	7.5	7.6	8.0	7.9	8.0	7.3	6.9	7.0	7.6	7.6	7.6
12	7.7	7.6	7.6	7.9	7.0	7.8	7.5	7.3	7.4	7.7	7.6	7.6
13	7.7	7.6	7.6	7.2	6.7	6.9	7.4	7.3	7.3	7.7	7.6	7.6
14	7.7	7.6	7.6	7.3	7.2	7.2	7.3	7.3	7.3	7.6	6.8	7.2
15	7.7	7.6	7.7	7.6	7.3	7.4	7.3	7.3	7.3	7.4	6.8	6.8
16	7.6	7.6	7.6	---	---	---	7.4	7.3	7.3	7.5	7.4	7.5
17	7.7	7.6	7.6	7.4	7.4	7.4	7.4	7.3	7.4	7.4	7.3	7.3
18	---	---	---	7.4	7.3	7.4	7.4	7.3	7.4	7.4	7.3	7.3
19	7.8	7.7	7.8	7.3	7.3	7.3	7.4	7.3	7.4	7.4	7.4	7.4
20	7.7	7.7	7.7	7.3	7.2	7.3	7.4	7.3	7.4	7.4	7.4	7.4
21	7.7	7.7	7.7	7.3	7.2	7.3	7.5	7.3	7.4	7.4	7.4	7.4
22	7.8	7.7	7.7	7.3	7.3	7.3	7.4	7.3	7.3	7.5	7.4	7.5
23	7.9	7.7	7.8	7.4	7.2	7.3	7.3	7.2	7.3	7.5	7.5	7.5
24	7.8	7.7	7.8	7.2	7.2	7.2	7.3	6.9	7.0	7.6	7.5	7.5
25	7.8	7.7	7.7	7.2	7.1	7.1	7.2	6.9	7.1	7.6	7.5	7.5
26	7.8	7.7	7.7	7.3	7.1	7.2	7.3	7.2	7.2	7.6	7.5	7.6
27	7.9	7.7	7.7	7.4	7.3	7.4	7.3	7.2	7.3	7.6	7.5	7.5
28	7.8	7.7	7.8	7.4	7.1	7.3	7.3	7.3	7.3	7.6	7.6	7.6
29	7.8	7.7	7.8	7.1	7.0	7.0	7.3	7.3	7.3	7.6	7.6	7.6
30	7.9	7.7	7.8	7.2	7.1	7.2	7.3	7.2	7.3	7.6	7.5	7.6
31	7.9	7.8	7.8	---	---	---	7.5	7.2	7.3	7.5	7.5	7.5
MAX	7.9	7.8	7.8	8.0	7.9	8.0	7.5	7.4	7.4	7.7	7.6	7.6
MIN	7.2	7.1	7.1	7.1	6.7	6.9	7.2	6.8	6.9	7.3	6.8	6.8

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

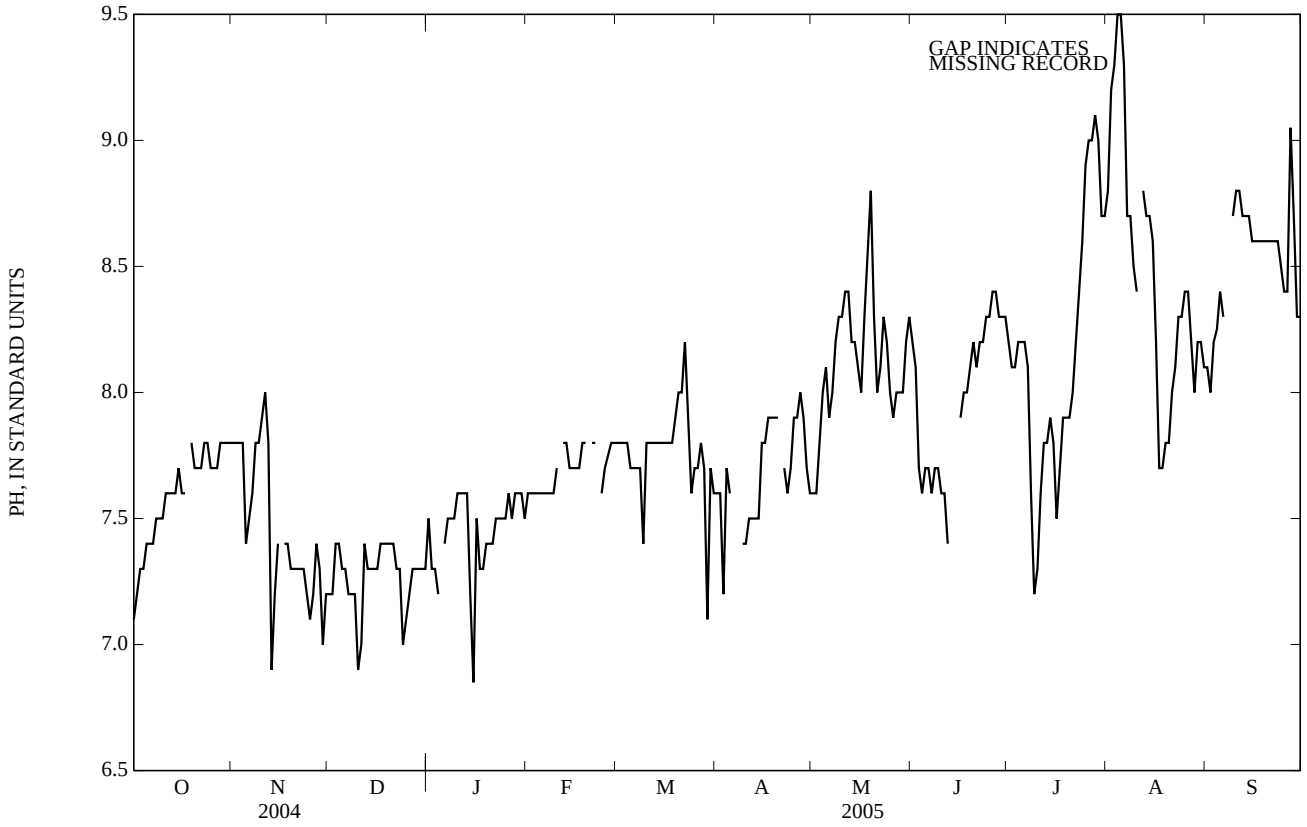
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.6	7.5	7.6	7.9	7.7	7.8	7.6	7.5	7.6	7.8	7.6	7.6
2	7.6	7.6	7.6	8.0	7.7	7.8	7.6	7.0	7.6	7.8	7.5	7.6
3	7.6	7.6	7.6	8.0	7.7	7.8	7.5	7.0	7.2	8.0	7.7	7.8
4	7.6	7.6	7.6	8.0	7.8	7.8	7.8	7.5	7.7	8.1	7.8	8.0
5	7.6	7.6	7.6	7.8	7.7	7.7	7.7	7.6	7.6	8.2	8.0	8.1
6	7.6	7.6	7.6	7.8	7.6	7.7	---	---	---	8.3	7.9	7.9
7	7.7	7.6	7.6	7.9	7.6	7.7	---	---	---	8.0	7.9	8.0
8	7.7	7.6	7.6	7.8	6.6	7.7	---	---	---	8.3	8.0	8.2
9	7.7	7.6	7.6	7.5	6.7	7.4	7.4	7.4	7.4	8.6	8.2	8.3
10	7.7	7.6	7.7	7.8	7.5	7.8	7.5	7.4	7.4	8.8	8.2	8.3
11	---	---	---	7.8	7.8	7.8	7.5	7.4	7.5	8.9	8.2	8.4
12	7.8	7.7	7.8	7.8	7.8	7.8	7.5	7.5	7.5	8.9	8.2	8.4
13	7.8	7.7	7.8	7.8	7.8	7.8	7.5	7.5	7.5	8.6	8.1	8.2
14	7.8	7.7	7.7	7.9	7.8	7.8	7.7	7.5	7.5	8.8	8.1	8.2
15	7.8	7.6	7.7	7.9	7.8	7.8	7.8	7.7	7.8	8.3	7.8	8.1
16	7.7	7.7	7.7	7.9	7.8	7.8	7.9	7.8	7.8	8.7	7.7	8.0
17	7.8	7.7	7.7	7.8	7.6	7.8	7.9	7.8	7.9	9.2	7.9	8.3
18	7.8	7.7	7.8	8.0	7.7	7.8	7.9	7.9	7.9	9.4	8.0	8.6
19	7.9	7.7	7.8	8.0	7.9	7.9	8.0	7.9	7.9	9.0	8.6	8.8
20	---	---	---	8.2	7.9	8.0	8.0	7.8	7.9	8.6	8.0	8.3
21	7.9	7.7	7.8	8.4	7.9	8.0	---	---	---	8.1	8.0	8.0
22	7.8	7.7	7.8	8.6	8.1	8.2	7.7	7.6	7.7	8.2	8.1	8.1
23	---	---	---	8.2	7.8	7.9	7.7	7.6	7.6	8.3	8.2	8.3
24	7.7	7.6	7.6	7.8	7.5	7.6	7.8	7.6	7.7	8.3	8.1	8.2
25	7.8	7.6	7.7	7.7	7.6	7.7	8.0	7.8	7.9	8.1	7.9	8.0
26	7.9	7.7	7.8	7.8	7.7	7.7	8.1	7.9	7.9	8.0	7.7	7.9
27	7.9	7.7	7.8	7.8	7.8	7.8	8.1	7.9	8.0	8.0	7.9	8.0
28	7.8	7.7	7.8	7.8	7.1	7.7	8.0	7.8	7.9	8.0	7.9	8.0
29	---	---	---	7.4	7.0	7.1	7.9	7.7	7.7	8.0	7.9	8.0
30	---	---	---	7.8	7.4	7.7	7.8	7.6	7.6	8.4	8.0	8.2
31	---	---	---	7.7	7.5	7.6	---	---	---	8.6	8.0	8.3
MAX	7.9	7.7	7.8	8.6	8.1	8.2	8.1	7.9	8.0	9.4	8.6	8.8
MIN	7.6	7.5	7.6	7.4	6.6	7.1	7.4	7.0	7.2	7.8	7.5	7.6

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.7	8.0	8.2	8.5	8.0	8.2	9.2	8.7	8.8	8.6	7.9	8.1
2	8.2	7.8	8.1	8.5	7.9	8.1	9.6	8.8	9.2	8.7	7.9	8.0
3	7.8	7.6	7.7	8.5	7.8	8.1	9.8	9.1	9.3	8.7	8.1	8.2
4	7.7	7.4	7.6	8.6	8.0	8.2	9.8	9.1	9.5	8.8	8.1	8.2
5	7.9	7.4	7.7	8.6	8.0	8.2	9.9	9.3	9.5	8.8	8.1	8.4
6	7.9	7.6	7.7	8.6	8.0	8.2	9.8	9.0	9.3	8.8	8.2	8.3
7	7.8	7.5	7.6	8.5	7.9	8.1	9.0	8.3	8.7	---	---	---
8	8.1	7.4	7.7	7.9	7.3	7.6	9.4	8.3	8.7	---	---	---
9	8.0	7.6	7.7	7.3	7.1	7.2	9.0	8.1	8.5	9.0	8.3	8.7
10	8.0	7.6	7.6	7.4	7.3	7.3	8.8	8.2	8.4	9.0	8.5	8.8
11	7.7	7.3	7.6	7.6	7.4	7.6	---	---	---	9.0	8.5	8.8
12	7.5	7.3	7.4	7.8	7.6	7.8	9.4	8.5	8.8	9.0	8.4	8.7
13	---	---	---	8.0	7.2	7.8	9.2	8.5	8.7	9.0	8.4	8.7
14	---	---	---	8.1	7.7	7.9	9.2	8.4	8.7	8.9	8.4	8.7
15	---	---	---	7.9	7.6	7.8	9.2	8.4	8.6	8.9	8.2	8.6
16	8.2	7.8	7.9	7.6	7.4	7.5	8.6	7.5	8.2	8.9	8.2	8.6
17	8.4	7.8	8.0	7.7	7.6	7.7	8.0	7.6	7.7	8.9	8.2	8.6
18	8.5	7.9	8.0	8.0	7.7	7.9	7.9	7.5	7.7	8.9	8.2	8.6
19	8.5	7.9	8.1	8.0	7.8	7.9	8.1	7.6	7.8	8.9	8.2	8.6
20	8.4	7.9	8.2	7.9	7.8	7.9	8.3	7.8	7.8	8.9	8.2	8.6
21	8.5	7.9	8.1	8.1	7.8	8.0	8.4	7.8	8.0	8.9	8.2	8.6
22	8.6	8.0	8.2	8.4	8.0	8.2	8.6	8.0	8.1	9.0	8.2	8.6
23	8.7	8.0	8.2	8.7	8.1	8.4	8.7	8.1	8.3	9.0	8.2	8.6
24	8.7	8.0	8.3	8.9	8.4	8.6	8.8	8.1	8.3	8.8	8.2	8.5
25	8.8	8.0	8.3	9.2	8.6	8.9	8.8	8.2	8.4	8.7	8.2	8.4
26	8.8	8.1	8.4	9.3	8.8	9.0	8.8	8.3	8.4	8.9	8.1	8.4
27	8.8	8.1	8.4	9.4	8.8	9.0	8.5	8.1	8.2	9.4	8.6	9.1
28	8.8	8.0	8.3	9.5	8.9	9.1	8.7	7.8	8.0	9.2	8.3	8.7
29	8.7	8.0	8.3	9.4	8.8	9.0	8.7	8.0	8.2	8.6	8.0	8.3
30	8.7	8.0	8.3	9.2	8.6	8.7	8.6	8.0	8.2	8.8	8.0	8.3
31	---	---	---	9.2	8.5	8.7	8.6	8.0	8.1	---	---	---
MAX	8.8	8.1	8.4	9.5	8.9	9.1	9.9	9.3	9.5	9.4	8.6	9.1
MIN	7.5	7.3	7.4	7.3	7.1	7.2	7.9	7.5	7.7	8.6	7.9	8.0

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued



SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	96	81	82	199	193	196	108	102	105	---	---	---
2	93	83	88	199	194	196	112	106	107	---	---	---
3	101	93	98	201	196	198	---	---	---	114	110	112
4	106	101	102	200	183	197	135	121	131	119	113	114
5	110	106	108	183	123	130	121	108	109	---	---	---
6	115	110	111	148	130	145	116	108	110	119	113	116
7	120	114	116	158	140	145	113	110	112	121	117	118
8	127	120	124	204	158	189	111	109	109	126	118	122
9	131	126	129	210	204	207	112	109	110	121	117	119
10	135	128	133	210	206	207	110	78	86	127	119	123
11	139	133	137	216	208	213	125	71	88	134	122	130
12	145	137	140	211	82	195	153	108	136	138	130	137
13	145	142	144	92	66	74	141	106	119	140	131	138
14	144	131	140	95	89	92	107	106	106	131	60	92
15	150	143	149	133	95	113	115	107	111	140	56	62
16	148	137	140	---	---	---	118	115	117	142	91	122
17	142	137	138	150	141	147	121	117	119	93	83	90
18	---	---	---	148	134	144	120	119	119	89	83	84
19	170	163	166	134	120	123	120	118	119	97	89	94
20	168	164	165	121	114	118	123	119	120	101	97	99
21	165	160	162	119	112	114	128	123	126	102	100	101
22	170	165	167	125	117	120	131	126	129	109	101	105
23	177	169	173	131	125	129	129	124	127	115	109	112
24	180	177	178	131	121	128	128	56	78	121	114	116
25	180	170	178	121	108	111	104	57	94	122	115	118
26	170	163	165	146	107	109	112	95	106	131	118	124
27	174	165	170	157	139	148	106	95	103	118	112	115
28	174	168	172	160	93	140	114	105	112	122	114	119
29	180	174	177	93	84	87	118	113	115	128	122	125
30	189	180	184	102	92	98	113	107	109	129	117	125
31	196	189	193	---	---	---	---	---	---	117	111	114
MAX	196	189	193	216	208	213	153	126	136	142	131	138
MIN	93	81	82	92	66	74	104	56	78	89	56	62

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

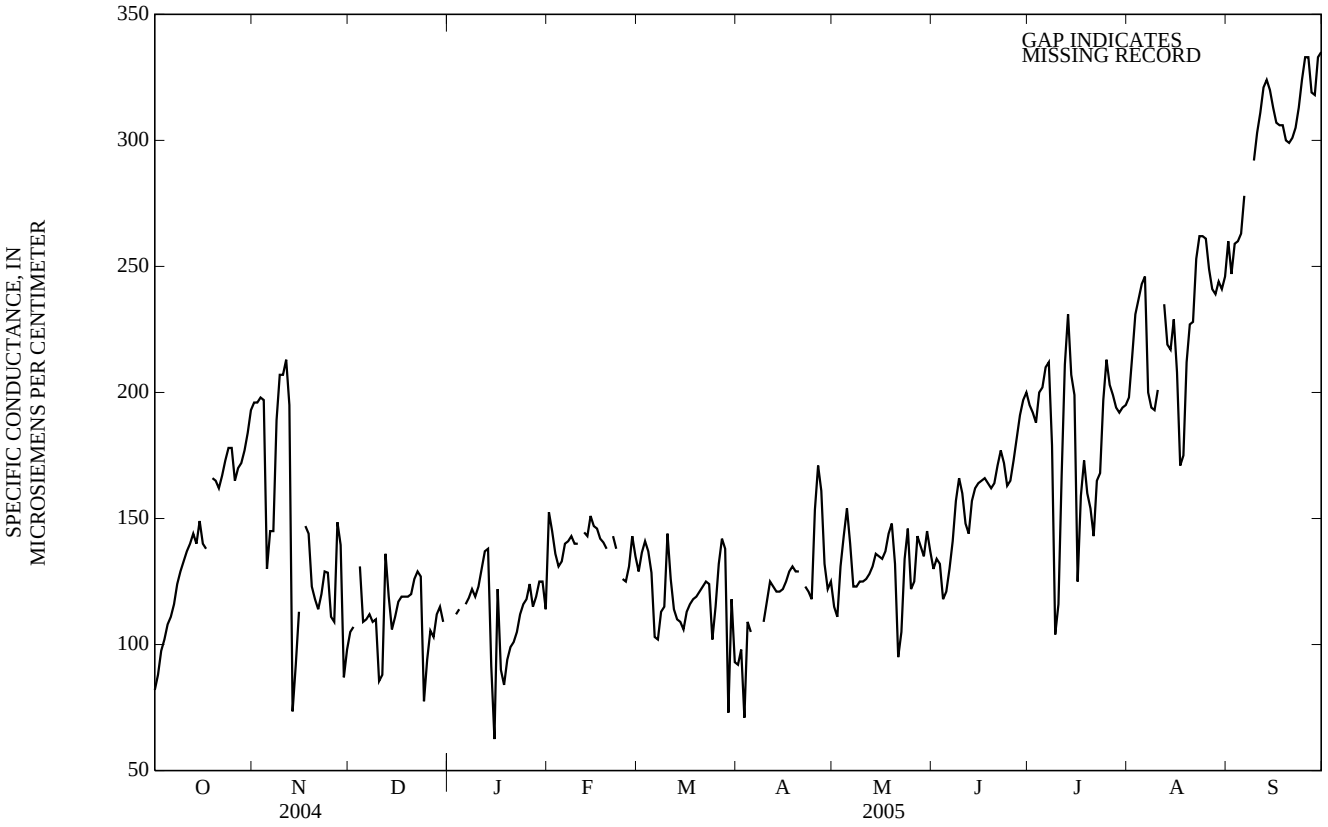
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	190	116	152	134	124	129	97	88	92	125	111	115
2	169	138	145	162	123	136	102	62	98	117	110	111
3	139	132	136	158	139	141	96	64	71	142	116	131
4	133	130	131	141	133	137	120	96	109	148	141	143
5	138	130	133	133	124	128	119	101	105	156	148	154
6	142	137	140	124	96	103	---	---	---	152	127	140
7	145	140	141	111	96	102	---	---	---	127	122	123
8	146	142	143	129	98	113	---	---	---	127	121	123
9	142	138	140	128	107	115	111	105	109	128	123	125
10	141	139	140	148	125	144	124	111	117	128	125	125
11	---	---	---	143	118	126	126	123	125	127	125	126
12	146	143	144	118	112	114	124	121	123	129	126	128
13	148	141	143	112	109	110	122	121	121	133	128	131
14	152	148	151	109	106	109	122	120	121	139	133	136
15	149	146	147	112	105	106	125	121	122	138	128	135
16	148	143	146	115	110	113	128	123	125	139	128	134
17	144	140	142	117	115	116	132	127	129	141	134	137
18	144	136	140	119	117	118	132	130	131	160	139	144
19	140	136	138	122	118	119	130	128	129	150	146	148
20	---	---	---	123	121	121	130	127	129	148	88	132
21	144	140	143	124	122	123	---	---	---	101	88	95
22	143	123	138	128	124	125	128	117	123	118	101	105
23	---	---	---	128	117	124	125	118	121	148	118	134
24	131	125	126	117	94	102	123	117	118	150	129	146
25	126	123	125	124	112	115	174	123	154	134	116	122
26	166	125	131	140	124	132	174	169	171	138	119	125
27	166	140	143	145	139	142	169	157	161	146	138	143
28	141	134	135	146	73	138	157	123	132	141	136	139
29	---	---	---	103	67	73	125	122	122	143	133	135
30	---	---	---	129	103	118	126	124	125	146	142	145
31	---	---	---	112	88	93	---	---	---	146	131	137
MAX	190	148	152	162	139	144	174	169	171	160	148	154
MIN	126	116	125	103	67	73	96	62	71	101	88	95

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	139	126	130	205	188	195	206	194	198	261	243	260
2	138	129	134	199	187	192	227	206	214	251	244	247
3	138	124	132	193	184	188	237	227	231	264	251	259
4	131	115	118	201	193	200	241	234	237	265	258	260
5	126	118	121	208	200	202	246	241	243	274	261	263
6	142	124	130	215	208	210	251	238	246	282	272	278
7	157	133	141	220	200	212	238	187	200	---	---	---
8	168	146	157	213	131	179	199	186	194	---	---	---
9	177	150	166	133	98	104	202	171	193	297	288	292
10	163	154	160	138	110	116	213	189	201	305	297	303
11	155	136	148	178	134	167	---	---	---	312	303	311
12	150	137	144	228	178	211	239	229	235	323	312	321
13	162	148	157	241	211	231	229	216	219	326	319	324
14	164	160	162	230	173	207	225	215	217	322	314	320
15	169	162	164	210	166	199	231	225	229	315	308	313
16	171	164	165	171	109	125	228	163	208	310	305	307
17	171	165	166	164	146	159	176	168	171	308	304	306
18	166	163	164	175	159	173	196	170	175	307	303	306
19	164	161	162	173	155	160	224	196	212	304	298	300
20	169	162	164	157	133	154	232	217	227	300	298	299
21	177	168	171	155	134	143	242	217	228	302	298	301
22	180	175	177	168	155	165	262	242	253	308	300	305
23	177	168	172	181	166	168	264	261	262	319	308	313
24	168	161	163	211	181	197	265	261	262	331	319	324
25	169	163	165	215	210	213	263	256	261	335	331	333
26	179	169	173	210	199	203	256	243	249	335	325	333
27	190	179	182	200	198	199	244	237	241	326	313	319
28	195	190	191	199	193	194	244	238	239	324	313	318
29	198	195	197	195	190	192	246	238	244	336	319	333
30	202	197	200	195	192	194	244	239	241	339	333	335
31	---	---	---	198	193	195	259	244	246	---	---	---
MAX	202	197	200	241	211	231	265	261	262	339	333	335
MIN	126	115	118	133	98	104	176	163	171	251	243	247

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued



TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.2	18.9	19.1	17.9	16.8	17.3	9.8	9.2	9.5	5.8	5.0	5.4
2	20.0	19.1	19.2	18.3	16.8	17.4	9.5	8.7	8.8	6.4	5.1	6.1
3	20.0	19.6	19.9	18.9	17.9	18.3	8.8	8.1	8.3	7.6	6.3	6.6
4	20.3	19.5	19.9	17.9	15.5	16.9	8.3	7.6	7.7	9.6	7.6	8.6
5	20.1	18.9	19.4	15.5	13.6	14.1	7.6	7.2	7.3	---	---	---
6	18.9	17.9	18.2	13.6	12.5	13.1	8.0	7.3	7.5	10.4	9.9	10.2
7	18.4	17.4	17.9	13.1	11.9	12.5	9.5	8.0	8.4	10.4	9.6	10.0
8	18.6	17.4	17.9	12.9	12.4	12.6	9.7	9.3	9.5	9.9	9.4	9.6
9	18.3	17.7	18.1	12.4	11.5	12.0	9.6	9.1	9.2	9.4	8.4	8.8
10	19.3	17.9	18.3	11.5	10.7	11.0	9.1	8.8	8.9	8.5	7.8	8.2
11	18.6	17.8	18.1	10.7	10.2	10.5	9.6	8.9	9.0	8.5	7.9	8.2
12	18.3	16.9	17.6	10.7	10.1	10.6	9.6	9.0	9.1	9.5	8.5	8.8
13	17.5	16.2	16.6	10.4	10.1	10.2	9.0	8.5	8.7	11.1	9.5	10.1
14	16.9	15.7	16.1	10.2	9.4	9.6	8.5	7.3	7.7	12.6	11.1	12.1
15	17.1	16.6	16.8	9.4	8.6	9.0	7.3	5.8	6.4	11.6	9.3	10.2
16	16.6	15.4	16.0	---	---	---	5.8	4.8	5.1	9.3	8.1	8.7
17	15.5	14.6	14.9	9.5	8.6	8.9	4.9	4.5	4.8	8.1	6.0	6.9
18	---	---	---	10.7	9.5	10.1	4.7	4.3	4.4	6.0	3.9	4.6
19	15.0	14.4	14.7	11.3	10.7	11.0	4.4	4.0	4.2	3.9	2.3	2.9
20	15.2	14.9	15.0	11.9	11.3	11.7	4.0	2.3	3.1	2.8	2.3	2.5
21	14.9	14.8	14.8	12.7	11.9	12.4	2.5	1.7	2.2	3.3	2.8	3.0
22	14.9	14.6	14.8	12.7	12.4	12.5	3.8	2.5	2.9	3.0	1.8	2.5
23	15.2	14.3	14.6	12.8	12.7	12.8	5.6	3.8	5.0	1.8	0.7	1.2
24	14.4	13.6	13.8	13.2	12.7	12.9	6.2	5.2	5.5	0.7	0.1	0.3
25	14.0	13.4	13.6	13.5	12.7	13.4	5.4	3.9	4.7	0.9	0.0	0.3
26	15.2	13.5	14.0	12.7	11.0	11.4	3.9	3.3	3.4	2.0	0.6	1.0
27	14.6	14.2	14.4	11.0	9.7	9.9	3.4	3.0	3.2	2.7	2.0	2.2
28	14.9	14.3	14.6	9.7	9.3	9.4	3.0	2.4	2.6	2.2	1.5	1.8
29	14.9	14.6	14.8	9.4	8.9	9.2	3.5	2.5	2.8	1.6	1.1	1.4
30	16.7	14.9	15.6	9.2	8.9	9.1	4.2	3.5	3.7	1.8	1.2	1.5
31	17.8	16.6	17.2	---	---	---	5.6	4.2	4.6	2.1	1.2	1.6
MAX	20.3	19.6	19.9	18.9	17.9	18.3	9.8	9.3	9.5	12.6	11.1	12.1
MIN	14.0	13.4	13.6	9.2	8.6	8.9	2.5	1.7	2.2	0.7	0.0	0.3

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

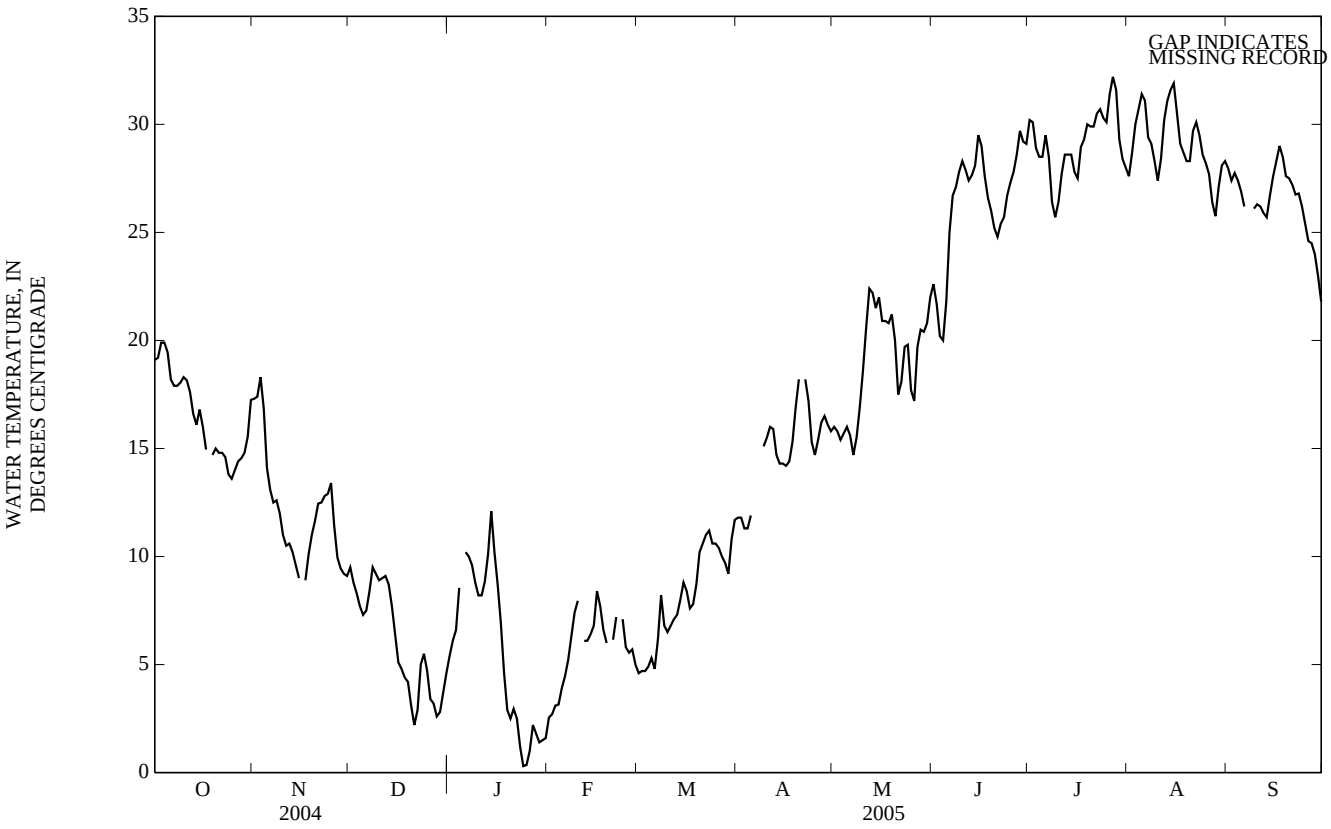
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.2	2.1	2.5	5.1	4.2	4.6	12.2	11.5	11.8	16.9	15.8	16.0
2	3.2	2.3	2.7	5.3	4.2	4.7	12.1	11.4	11.8	16.4	15.5	15.8
3	3.2	3.0	3.1	5.4	4.3	4.7	11.5	11.1	11.3	15.9	14.6	15.4
4	3.9	2.9	3.1	5.3	4.4	4.9	11.9	10.8	11.3	16.0	15.1	15.7
5	4.7	3.5	3.9	5.5	4.8	5.3	12.9	11.2	11.9	16.1	15.6	16.0
6	5.2	4.1	4.5	5.6	4.2	4.8	---	---	---	16.2	14.7	15.6
7	6.0	4.9	5.2	7.7	5.6	6.2	---	---	---	15.3	14.3	14.7
8	7.1	5.8	6.3	8.3	7.5	8.2	---	---	---	16.7	15.2	15.5
9	7.8	7.1	7.4	7.5	6.4	6.8	15.7	14.7	15.1	18.4	16.5	16.9
10	8.7	7.8	8.0	6.8	5.8	6.5	16.0	14.8	15.5	20.2	18.1	18.6
11	---	---	---	7.2	6.5	6.8	16.7	15.6	16.0	21.9	20.0	20.6
12	6.5	5.5	6.1	7.2	6.6	7.1	16.6	15.2	15.9	23.2	21.6	22.4
13	6.2	5.5	6.1	7.8	7.1	7.3	15.2	14.3	14.7	22.6	21.5	22.2
14	6.5	6.2	6.4	9.0	7.6	8.0	14.6	13.6	14.3	22.2	20.9	21.5
15	7.8	6.2	6.8	9.1	8.2	8.8	14.9	13.8	14.3	22.2	21.0	22.0
16	8.8	7.8	8.4	8.9	7.9	8.4	14.9	13.5	14.2	21.8	20.4	20.9
17	8.5	7.0	7.7	7.9	7.5	7.6	15.6	13.8	14.4	21.6	20.5	20.9
18	7.0	6.2	6.6	8.7	7.2	7.8	16.8	14.9	15.3	22.1	20.3	20.8
19	6.5	5.5	6.0	9.6	8.2	8.7	18.1	16.5	16.9	21.4	20.8	21.2
20	---	---	---	11.0	9.6	10.2	19.6	17.8	18.2	20.8	17.6	20.0
21	6.9	5.6	6.2	11.2	10.0	10.6	---	---	---	17.9	16.7	17.5
22	7.8	6.9	7.2	11.6	10.3	11.0	19.2	17.4	18.2	19.2	17.8	18.1
23	---	---	---	11.6	10.7	11.2	17.7	16.7	17.2	20.8	19.2	19.7
24	7.9	6.3	7.1	10.9	9.9	10.6	16.7	14.7	15.3	20.8	18.4	19.8
25	6.3	5.6	5.8	10.9	10.5	10.6	15.4	14.4	14.7	18.4	17.1	17.7
26	6.1	5.0	5.5	10.5	10.3	10.4	16.2	14.9	15.4	19.2	16.7	17.2
27	5.9	5.4	5.7	10.3	9.9	10.0	16.8	16.0	16.2	20.7	19.1	19.7
28	5.7	4.6	5.0	9.9	9.0	9.7	16.7	15.9	16.5	21.1	20.4	20.5
29	---	---	---	10.8	8.8	9.2	16.8	15.8	16.1	21.4	19.7	20.4
30	---	---	---	11.5	10.5	10.8	15.9	15.7	15.8	22.6	20.2	20.8
31	---	---	---	11.9	11.5	11.7	---	---	---	23.4	21.4	22.0
MAX	8.8	7.8	8.4	11.9	11.5	11.7	19.6	17.8	18.2	23.4	21.6	22.4
MIN	3.2	2.1	2.5	5.1	4.2	4.6	11.5	10.8	11.3	15.3	14.3	14.7

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23.0	22.1	22.6	31.4	29.2	30.2	29.0	26.8	27.6	29.0	27.2	27.9
2	22.3	20.9	21.7	30.8	29.3	30.1	30.8	27.8	28.7	28.9	26.7	27.4
3	20.9	19.8	20.2	29.9	27.9	28.9	31.5	29.0	30.0	28.8	27.0	27.8
4	21.2	19.6	20.0	29.6	27.8	28.5	32.3	29.5	30.7	28.4	26.2	27.4
5	23.8	20.9	21.8	30.2	28.1	28.5	32.6	30.4	31.4	27.6	25.8	26.9
6	26.9	23.7	25.0	30.4	28.7	29.5	32.3	30.1	31.1	27.3	25.0	26.2
7	27.8	26.1	26.7	29.5	27.2	28.5	30.5	28.7	29.4	---	---	---
8	28.4	26.3	27.1	27.2	25.8	26.4	29.8	28.5	29.1	---	---	---
9	28.9	27.0	27.8	26.2	24.5	25.7	29.2	27.0	28.3	27.1	24.6	26.1
10	29.1	27.7	28.3	27.6	25.9	26.4	28.9	26.7	27.4	27.4	25.1	26.3
11	28.5	27.5	27.9	28.7	27.1	27.7	30.7	27.8	28.4	27.1	24.9	26.2
12	27.8	26.9	27.4	29.0	28.3	28.6	32.0	29.3	30.2	27.0	24.3	25.9
13	28.5	26.4	27.6	29.8	27.9	28.6	32.5	30.2	31.1	27.0	24.2	25.7
14	30.1	27.4	28.1	29.2	28.1	28.6	33.0	30.7	31.6	27.7	26.0	26.7
15	30.5	28.7	29.5	28.5	27.5	27.8	33.2	30.8	31.9	29.1	26.7	27.6
16	29.8	28.2	29.0	29.1	27.0	27.5	31.8	29.1	30.5	29.6	27.3	28.3
17	28.4	26.7	27.6	30.1	28.5	28.9	30.4	28.4	29.1	30.0	27.8	29.0
18	27.6	25.8	26.6	30.4	28.8	29.3	29.3	28.2	28.7	29.2	27.6	28.5
19	26.8	25.6	26.0	31.0	29.6	30.0	28.9	27.8	28.3	28.6	26.2	27.6
20	25.7	25.0	25.2	30.8	29.4	29.9	30.0	28.0	28.3	28.0	26.4	27.5
21	25.9	23.7	24.8	31.3	29.4	29.9	31.1	28.8	29.7	28.2	26.2	27.2
22	26.5	24.7	25.4	31.6	29.8	30.5	30.8	29.1	30.1	27.5	25.6	26.8
23	27.8	24.9	25.7	31.7	29.8	30.7	30.3	28.6	29.5	28.1	25.4	26.8
24	28.2	25.7	26.7	30.9	29.2	30.3	29.3	27.6	28.6	27.3	25.7	26.2
25	29.0	26.4	27.3	31.9	29.1	30.1	29.4	27.3	28.2	25.8	24.9	25.4
26	29.0	26.8	27.8	33.1	30.5	31.4	28.5	26.9	27.7	25.1	24.1	24.6
27	30.7	27.5	28.6	33.4	31.2	32.2	27.2	26.0	26.4	26.1	23.6	24.5
28	30.6	29.1	29.7	32.5	30.5	31.6	27.5	24.8	25.8	25.1	22.7	24.0
29	30.0	28.6	29.2	30.5	28.7	29.3	28.3	26.3	27.1	23.9	22.4	23.0
30	30.9	28.3	29.1	28.9	28.0	28.4	29.1	27.5	28.1	22.6	20.5	21.8
31	---	---	---	28.8	27.5	28.0	28.8	27.9	28.3	---	---	---
MAX	30.9	29.1	29.7	33.4	31.2	32.2	33.2	30.8	31.9	30.0	27.8	29.0
MIN	20.9	19.6	20.0	26.2	24.5	25.7	27.2	24.8	25.8	22.6	20.5	21.8

02035000 JAMES RIVER AT CARTERSVILLE, VA—Continued



02036500 FINE CREEK AT FINE CREEK MILLS, VA

LOCATION.--Lat 37°35'53", long 77°49'11", NAD83, Powhatan County, Hydrologic Unit 02080205, on right bank 75 ft downstream from bridge on State Highway 711 at Fine Creek Mills, 0.8 mi upstream from mouth, and 6.7 mi northeast of Powhatan.

DRAINAGE AREA.--22.1 mi^2.

PERIOD OF RECORD.--July 1944 to current year.

REVISED RECORDS.--WSP 1203: 1948. WSP 1303: 1945(M). WSP 1383: 1954. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 156.59 ft NGVD of 1929. Prior to Oct. 28, 1953, nonrecording gage and crest-stage gage at site 75 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 4,180 ft^3/s, from rating curve extended above 2,600 ft^3/s. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	2300	*445	*3.52	Mar 29	0445	217	2.94

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	13	33	18	28	33	38	33	10	5.8	2.6	2.3
2	15	11	29	17	24	32	69	27	11	5.3	2.1	1.9
3	14	11	24	17	24	25	101	19	22	5.2	1.6	1.7
4	14	23	22	18	25	21	50	21	23	5.0	1.3	1.5
5	14	35	20	29	25	26	37	18	19	5.1	1.2	1.3
6	12	22	19	26	22	32	31	16	15	5.1	0.92	1.2
7	11	17	30	22	21	26	29	14	17	5.6	0.88	1.1
8	9.2	14	30	23	20	36	41	14	14	36	0.88	1.2
9	8.9	12	29	21	20	39	35	12	11	24	1.8	0.97
10	9.1	10	116	19	20	29	28	12	11	11	1.8	1.00
11	9.0	10	120	19	18	25	28	11	9.9	6.8	2.2	1.0
12	8.7	35	55	18	16	23	24	11	9.1	5.1	1.8	1.00
13	9.7	120	37	20	16	21	25	11	8.4	4.4	1.5	0.86
14	13	64	30	228	17	23	24	11	7.8	3.7	1.3	0.97
15	14	31	25	253	20	21	21	15	7.0	7.6	3.9	1.5
16	12	23	22	89	19	20	19	19	6.2	8.0	23	1.4
17	10	19	22	48	18	22	18	14	5.5	11	17	1.7
18	9.1	17	21	30	16	24	17	11	5.2	8.8	10	1.7
19	10	17	21	24	15	21	18	10	5.4	6.1	8.6	1.7
20	16	16	21	e23	15	20	17	36	5.4	5.1	7.1	1.9
21	14	16	19	e25	19	19	26	29	5.1	4.0	5.6	2.2
22	13	16	21	e23	21	17	62	18	5.1	3.3	3.6	2.0
23	12	24	23	e22	18	28	37	14	5.0	4.5	2.6	2.0
24	14	36	24	e21	20	39	35	19	4.7	3.6	2.2	2.1
25	16	53	20	e20	26	28	26	30	4.5	2.6	1.8	2.2
26	14	37	e18	e23	21	26	20	23	4.5	2.1	1.7	2.4
27	13	28	e17	e25	18	24	18	16	4.7	1.6	2.2	2.3
28	12	71	16	e22	22	73	17	12	8.1	1.2	3.9	1.9
29	12	62	18	e19	---	151	16	10	9.7	2.5	3.5	1.8
30	12	39	19	32	---	63	18	8.9	6.3	2.8	3.1	1.9
31	13	---	18	33	---	41	---	10	---	3.1	3.0	---
TOTAL	380.7	902	939	1,227	564	1,028	945	524.9	280.6	206.0	124.68	48.70
MEAN	12.3	30.1	30.3	39.6	20.1	33.2	31.5	16.9	9.35	6.65	4.02	1.62
MAX	17	120	120	253	28	151	101	36	23	36	23	2.4
MIN	8.7	10	16	17	15	17	16	8.9	4.5	1.2	0.88	0.86
CFSM	0.56	1.36	1.37	1.79	0.91	1.50	1.43	0.77	0.42	0.30	0.18	0.07
IN.	0.64	1.52	1.58	2.07	0.95	1.73	1.59	0.88	0.47	0.35	0.21	0.08

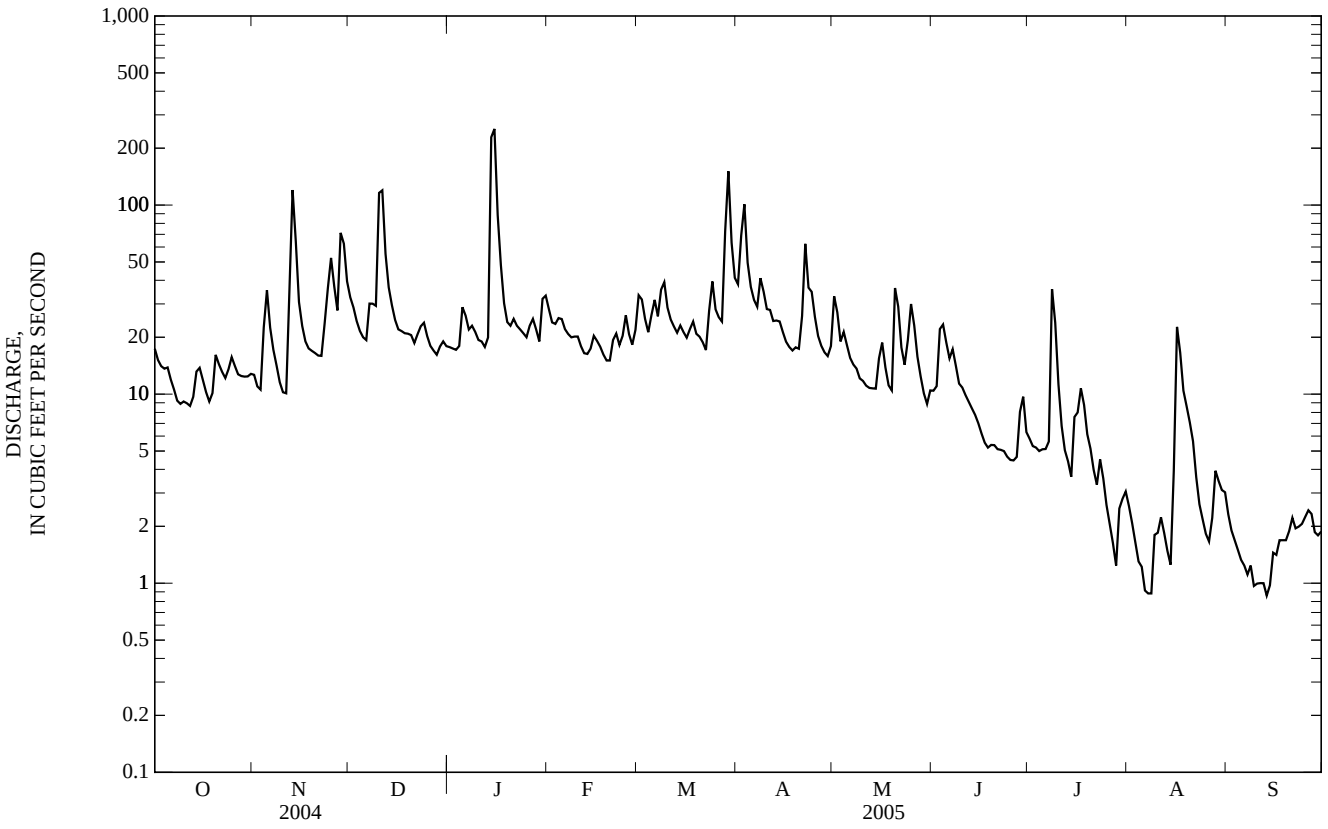
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2005, BY WATER YEAR (WY)

MEAN	13.8	17.6	22.1	26.7	31.0	34.7	29.4	20.4	11.9	8.55	11.3	10.3
MAX	119	104	73.1	92.5	92.7	99.1	84.1	54.9	60.8	43.2	83.3	93.8
(WY)	(1973)	(1986)	(2004)	(1978)	(1979)	(1994)	(1983)	(2003)	(1972)	(2003)	(1955)	(2003)
MIN	0.47	2.46	3.86	6.38	3.93	9.21	5.58	3.21	0.77	0.43	0.55	0.31
(WY)	(1969)	(2002)	(2002)	(1955)	(2002)	(2002)	(2002)	(1991)	(2002)	(2002)	(2002)	(1968)

02036500 FINE CREEK AT FINE CREEK MILLS, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1945 - 2005	
ANNUAL TOTAL	9,025.6		7,170.58			
ANNUAL MEAN	24.7		19.6		19.8	
HIGHEST ANNUAL MEAN					40.7	1973
LOWEST ANNUAL MEAN					3.67	2002
HIGHEST DAILY MEAN	191	Feb 7	253	Jan 15	1,880	Oct 21, 1961
LOWEST DAILY MEAN	7.1	Jun 10	0.86	Sep 13	0.01	aAug 7, 2002
ANNUAL SEVEN-DAY MINIMUM	9.1	Jul 16	1.0	Sep 8	0.02	Aug 5, 2002
MAXIMUM PEAK FLOW			445	Jan 14	4,180	Oct 6, 1972
MAXIMUM PEAK STAGE			3.52	Jan 14	9.02	Oct 6, 1972
INSTANTANEOUS LOW FLOW			0.73	Sep 13	0.00	bAug 10, 2002
ANNUAL RUNOFF (CFSM)	1.12		0.889		0.894	
ANNUAL RUNOFF (INCHES)	15.19		12.07		12.14	
10 PERCENT EXCEEDS	44		35		38	
50 PERCENT EXCEEDS	18		17		11	
90 PERCENT EXCEEDS	9.7		1.9		2.1	

a Also Aug. 8-11, 14, 2002.
b Also part or all of each day Aug. 11-15, 2002.
e Estimated.



02037000 JAMES RIVER AND KANAWHA CANAL NEAR RICHMOND, VA

LOCATION.--Lat 37°33'53", long 77°34'27", NAD83, Henrico County, Hydrologic Unit 02080205, on left bank 75 ft downstream from Canal bridge, 400 ft downstream from head gates, 1,200 ft north of north end of Bosher Dam on James River, 1.6 mi upstream from Huguenot Memorial Bridge, and 2.0 mi west of Richmond city limits.

PERIOD OF RECORD.--September 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 106.07 ft NGVD of 1929. Prior to Oct. 1, 1938, at datum 3.06 ft higher.

REMARKS.--No estimated daily discharges. Records good. Canal diverts from James River 1,200 ft upstream from Bosher Dam and discharges into river at several points downstream from gaging station near Richmond. Beginning with the 1969 water year, the descriptive statement that above 2,540 ft^3/s, gage height, 14.5 ft, there is interchange of flow with the James River and that discharge above 2,540 ft^3/s is included in discharge for the James River near Richmond (station 02037500) has been used. Daily discharges in excess of 2,540 ft^3/s for water years 1937-68 should be used with caution until historical records of canal construction and modifications can be reviewed. Figures given show flow in canal only. No flow at times when head gates were closed. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	60	60	53	146	162	162
2	0.00	0.00	0.00	0.00	0.00	0.00	60	67	53	146	162	162
3	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	146	162	162
4	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	146	162	91
5	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	156	162	17
6	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	77
7	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	77
8	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	24
9	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	50
10	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	100
11	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	56
12	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	5.4
13	0.00	0.00	0.00	0.00	0.00	0.00	60	73	53	162	162	5.4
14	0.00	0.00	0.00	0.00	0.00	31	60	73	53	162	162	5.4
15	0.00	0.00	0.00	0.00	0.00	60	60	73	53	162	162	3.4
16	0.00	0.00	0.00	0.00	0.00	60	60	73	53	162	162	3.5
17	0.00	0.00	0.00	0.00	0.00	60	60	73	53	162	162	20
18	0.00	0.00	0.00	0.00	0.00	60	60	73	53	162	162	38
19	0.00	0.00	0.00	0.00	0.00	60	60	31	53	162	162	142
20	0.00	0.00	0.00	0.00	0.00	60	60	0.00	53	162	162	37
21	0.00	0.00	0.00	0.00	0.00	60	60	0.00	53	162	162	0.00
22	0.00	0.00	0.00	0.00	0.00	60	60	0.00	53	162	162	0.00
23	0.00	0.00	0.00	0.00	0.00	60	60	0.00	84	162	162	7.4
24	0.00	0.00	0.00	0.00	0.00	60	60	0.00	131	162	162	28
25	0.00	0.00	0.00	0.00	0.00	60	60	0.00	146	162	162	28
26	0.00	0.00	0.00	0.00	0.00	60	60	25	146	162	162	20
27	0.00	0.00	0.00	0.00	0.00	60	60	53	146	162	162	5.4
28	0.00	0.00	0.00	0.00	0.00	60	60	53	146	162	162	5.4
29	0.00	0.00	0.00	0.00	---	60	60	53	146	162	162	5.4
30	0.00	0.00	0.00	0.00	---	60	60	53	146	162	162	5.4
31	0.00	---	0.00	0.00	---	60	---	53	---	162	162	---
TOTAL	0.00	0.00	0.00	0.00	0.00	1,051.00	1,800	1,616.00	2,257	4,952	5,022	1,343.10
MEAN	0.00	0.00	0.00	0.00	0.00	33.9	60.0	52.1	75.2	160	162	44.8
MAX	0.00	0.00	0.00	0.00	0.00	60	60	73	146	162	162	162
MIN	0.00	0.00	0.00	0.00	0.00	0.00	60	0.00	53	146	162	0.00

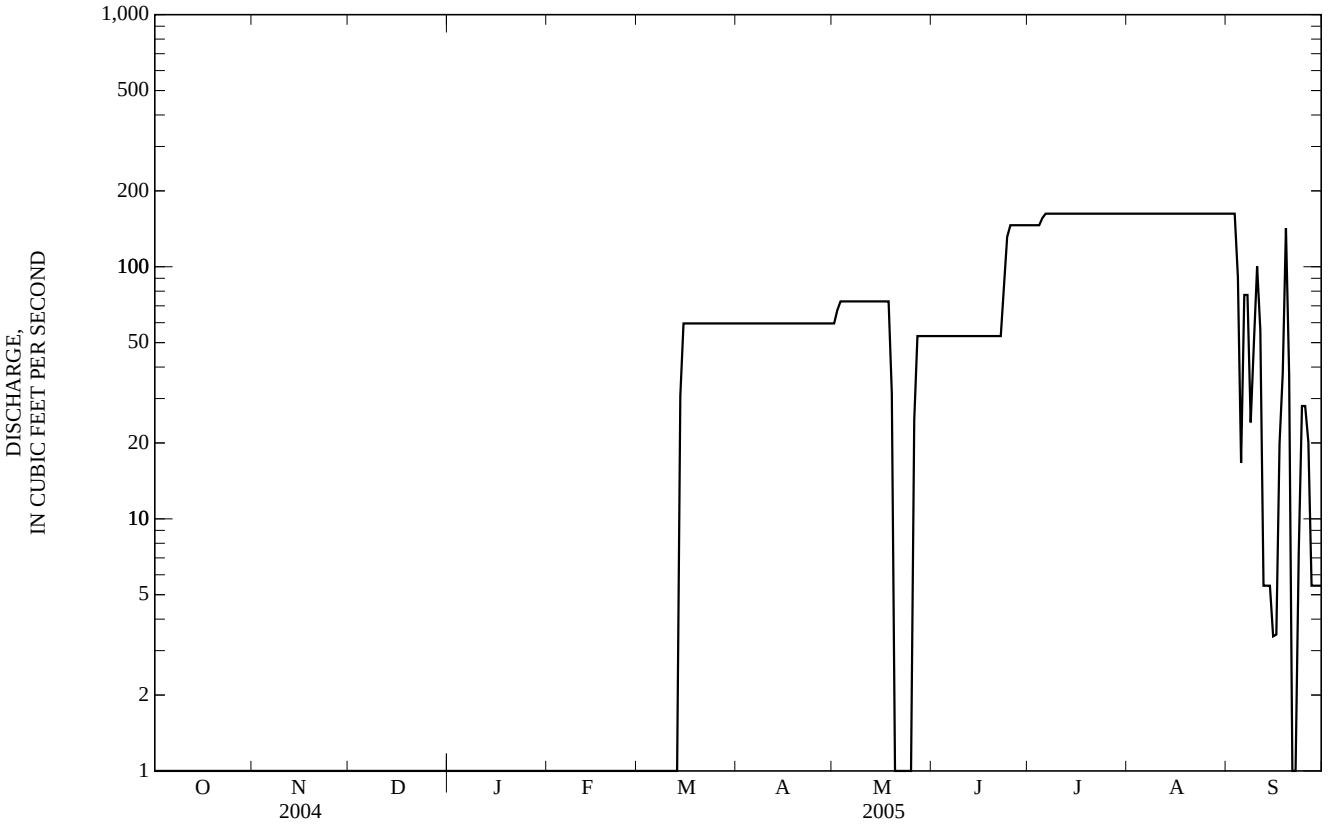
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2005, BY WATER YEAR (WY)

MEAN	539	565	585	604	617	607	622	605	613	558	545	519
MAX	1,078	1,014	1,220	1,145	1,086	1,094	1,108	1,086	1,061	956	1,108	937
(WY)	(1949)	(1948)	(1949)	(1949)	(1979)	(1951)	(1951)	(1952)	(1951)	(1940)	(1940)	(1949)
MIN	0.00	0.00	0.00	0.00	0.00	0.60	0.60	0.60	0.60	0.60	0.60	0.00
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(1980)	(1980)	(1980)	(1980)	(1980)	(1980)	(2004)

02037000 JAMES RIVER AND KANAWHA CANAL NEAR RICHMOND, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1937 - 2005	
ANNUAL TOTAL	8,366.54		18,041.10			
ANNUAL MEAN	22.9		49.4		581	
HIGHEST ANNUAL MEAN					1,023	1949
LOWEST ANNUAL MEAN					1.48	1980
HIGHEST DAILY MEAN	60	dMar 11	162	fJul 6	g3,860	Aug 18, 1940
LOWEST DAILY MEAN	a0.00	dJun 23	a0.00	dOct 1	h0.00	(j)
ANNUAL SEVEN-DAY MINIMUM	a0.00	dAug 10	a0.00	dOct 1	0.00	jAug 10, 2004
MAXIMUM PEAK FLOW			162	dJul 5	(k)	
MAXIMUM PEAK STAGE			7.60	Mar 28	m29.10	Jun 23, 1972
INSTANTANEOUS LOW FLOW			0.00	dOct 1	(h)	(j)
10 PERCENT EXCEEDS	60		162		980	
50 PERCENT EXCEEDS	0.82		17		775	
90 PERCENT EXCEEDS	0.00		0.00		11	

a Result of headgates being closed.
b Estimated, leakage through head gates.
c Also 1983.
d Many days.
f Also July 7 to Sept. 3, 2005.
g See REMARKS.
h Probably no flow at times when headgates were closed.
j Many days in some years.
k Interchange of flow with James River makes maximum discharge indeterminate.
m From floodmarks results of interchange of flow with James River.



02037500 JAMES RIVER NEAR RICHMOND, VA

LOCATION.--Lat 37°33'48", long 77°32'49", NAD83, Henrico County, Hydrologic Unit 02080205, on left bank 0.2 mi upstream from Huguenot Memorial Bridge, 0.5 mi southwest of Richmond city limits, 1.7 mi downstream from Bosher Dam, 3.3 mi upstream from Powhite Creek, and at mile 116.6.

DRAINAGE AREA.--6,758 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year. Gage-height records collected in vicinity of Mayós Bridge, at mile 109.5, 1876-1956, and at mile 108.7 since 1957, are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 972: 1936(M). WSP 1433: 1951(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Control is Williams Island dams which divert flow for city of Richmond water supply. Datum of gage is 98.82 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by powerplants upstream from station. Above 18.2 ft stage, there is interchange of flow with James River and Kanawha Canal. Records of daily discharge include diversion by city of Richmond but do not include flow in James River and Kanawha Canal (station 02037000) which diverts around station. National Weather Service gage-height telemeter at station. Maximum discharge, 313,000 ft^3/s, includes canal flow. Minimum daily discharge of James River and James River and Kanawha Canal combined, 214 ft^3/s, Oct. 5, 1941, caused by recharging of the pool above Bosher Dam after the canal gates were closed. Since 1982, low flows during summer months are augmented by releases from Lake Moomaw, station 02011795. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 1	0430	*72,000	*15.50	Jan 15	1345	60,800	14.40

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57,300	3,880	18,300	9,430	8,510	7,500	26,100	8,180	4,400	1,750	2,010	1,880
2	23,400	3,760	17,400	8,730	7,730	8,190	22,500	8,970	4,260	2,100	2,420	2,210
3	16,100	3,570	21,800	8,190	6,800	8,130	31,000	10,100	4,270	1,840	1,970	2,090
4	12,500	3,770	22,400	8,000	6,680	7,890	32,900	10,800	4,940	1,710	1,830	2,130
5	10,200	5,220	19,600	7,840	6,680	7,770	27,800	9,760	5,520	1,960	1,670	1,970
6	8,720	7,970	17,300	7,890	6,700	8,460	21,200	8,980	4,770	1,950	1,540	1,800
7	7,730	6,850	14,700	7,670	6,530	9,250	17,400	8,340	4,190	1,900	1,770	1,610
8	8,100	8,140	13,100	6,630	6,490	10,300	16,300	7,900	3,900	2,930	1,990	1,540
9	7,440	8,910	12,200	6,670	6,380	15,100	15,600	7,340	3,650	7,300	1,930	1,450
10	6,690	7,980	15,700	6,700	6,390	16,000	14,200	6,440	3,630	6,810	2,000	1,330
11	6,230	6,810	23,200	6,330	6,380	15,500	12,800	5,980	4,110	4,460	2,060	1,330
12	5,470	6,400	27,400	6,450	6,440	13,500	11,300	5,700	4,680	4,250	2,050	1,330
13	5,130	19,500	24,800	6,300	6,640	12,000	10,100	5,400	3,970	3,210	2,190	1,310
14	5,090	22,000	20,800	14,100	6,440	10,900	9,810	5,530	3,520	2,760	2,250	1,340
15	6,900	17,000	17,800	56,900	6,160	10,500	9,390	5,350	3,380	4,190	1,910	1,330
16	7,930	15,300	15,200	44,900	6,240	10,200	8,760	5,340	3,100	4,770	1,970	1,290
17	6,150	12,500	13,200	29,700	6,110	9,340	7,870	5,090	2,760	4,300	2,360	1,230
18	5,360	10,400	11,600	22,200	6,290	8,710	7,490	4,870	2,510	4,360	2,530	1,250
19	5,410	9,330	10,300	17,900	6,270	8,310	7,100	4,660	2,400	4,160	2,540	1,210
20	4,890	8,880	9,550	15,800	6,070	8,060	6,730	5,530	2,220	4,180	2,540	1,250
21	4,360	8,130	8,930	14,500	5,860	7,630	6,570	10,500	2,930	3,960	2,400	1,240
22	4,190	7,740	8,250	13,400	5,950	7,300	7,170	9,000	2,190	3,690	2,240	1,240
23	4,100	8,320	8,070	12,300	6,260	7,150	7,560	7,680	2,040	3,040	1,970	1,200
24	4,080	8,980	10,800	10,900	6,350	9,510	8,970	8,270	2,040	2,620	1,780	1,090
25	4,070	12,100	21,600	9,500	6,750	11,600	11,100	9,120	2,080	2,350	1,680	1,130
26	4,260	18,700	17,400	9,590	7,060	11,800	12,700	8,280	2,000	2,010	1,610	1,150
27	3,770	23,900	15,700	9,390	6,950	12,500	10,800	6,780	1,910	1,880	1,590	1,150
28	3,690	22,500	14,400	9,540	6,980	13,800	9,970	5,660	1,830	1,840	1,630	1,020
29	4,050	22,800	12,500	8,260	---	34,700	9,570	5,050	1,770	1,660	1,530	971
30	4,110	20,400	11,000	e7,300	---	41,500	8,500	4,750	1,610	1,610	1,710	1,290
31	3,950	---	10,100	7,850	---	34,700	---	4,530	---	1,670	1,770	---
TOTAL	261,370	341,740	485,100	410,860	184,090	397,800	409,260	219,880	96,580	97,220	61,440	42,361
MEAN	8,431	11,390	15,650	13,250	6,575	12,830	13,640	7,093	3,219	3,136	1,982	1,412
MAX	57,300	23,900	27,400	56,900	8,510	41,500	32,900	10,800	5,520	7,300	2,540	2,210
MIN	3,690	3,570	8,070	6,300	5,860	7,150	6,570	4,530	1,610	1,610	1,530	971

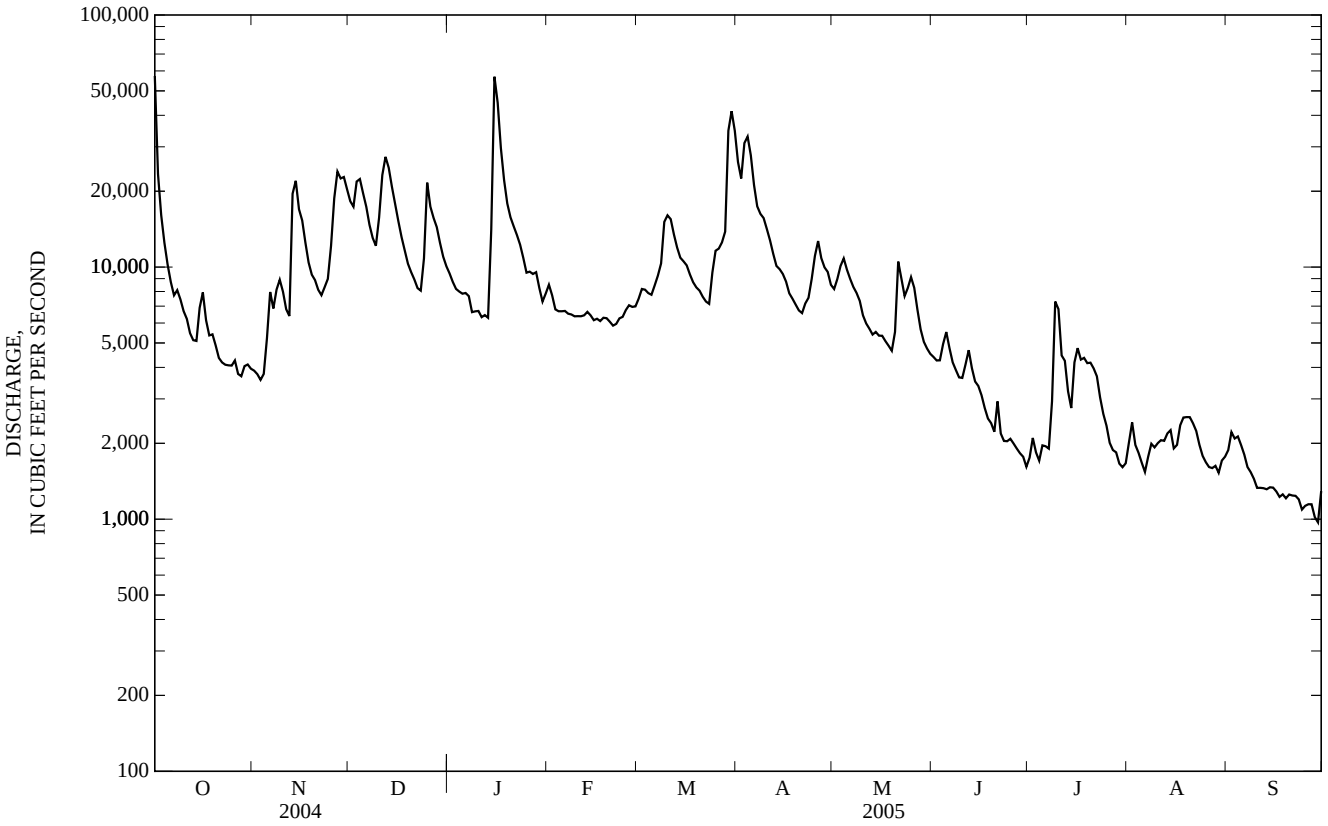
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2005, BY WATER YEAR (WY)

MEAN	4,028	4,924	6,985	9,023	10,740	12,690	10,950	7,861	5,673	3,239	3,582	3,473
MAX	19,090	30,480	26,480	25,300	34,960	32,740	35,900	24,280	30,910	11,300	21,710	18,390
(WY)	(1938)	(1986)	(1949)	(1937)	(1998)	(1993)	(1987)	(1989)	(1972)	(1972)	(1969)	(1996)
MIN	177	338	450	837	1,652	2,988	2,766	2,137	904	76.1	149	125
(WY)	(1942)	(1942)	(1966)	(1966)	(2002)	(1981)	(1966)	(1941)	(1964)	(1966)	(1966)	(1963)

02037500 JAMES RIVER NEAR RICHMOND, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1937 - 2005	
ANNUAL TOTAL	3,478,940		3,007,701			
ANNUAL MEAN	9,505		8,240		6,909	
HIGHEST ANNUAL MEAN					13,540	1973
LOWEST ANNUAL MEAN					2,110	2002
HIGHEST DAILY MEAN	a60,400	Sep 30	57,300	Oct 1	b296,000	Jun 23, 1972
LOWEST DAILY MEAN	1,840	Sep 7	971	Sep 29	c10	dSep 8, 1966
ANNUAL SEVEN-DAY MINIMUM	2,060	Sep 2	1,100	Sep 23	c10	fSep 8, 1966
MAXIMUM PEAK FLOW			72,000	Oct 1	313,000	Jun 23, 1972
MAXIMUM PEAK STAGE			15.50	Oct 1	28.62	Jun 23, 1972
INSTANTANEOUS LOW FLOW			924	gSep 28	(h)	(j)
ANNUAL RUNOFF (CFSM)	1.41		1.22		1.02	
ANNUAL RUNOFF (INCHES)	19.15		16.56		13.89	
10 PERCENT EXCEEDS	17,800		17,300		15,000	
50 PERCENT EXCEEDS	7,740		6,640		4,150	
90 PERCENT EXCEEDS	3,600		1,710		969	

a Stage rising, peak occurred Oct. 1, 2004.
b Includes canal flow.
c Result of diversion by Bosher Dam construction.
d Also Sept. 9-15, 1966, Sept. 30, Oct. 5, 6, 1968, and Oct. 8-10, 1970.
e Estimated.
f Also Sept. 9, 1966.
g Also Sept. 29, 2005.
h Not determined.
j Probably occurred Sept. 8-15, 1966.



02037500 JAMES RIVER NEAR RICHMOND, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1947-1956, 1967-1969, 2004-current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Some data from 1947-1969.
SPECIFIC CONDUCTANCE: Some data from 1948-1969.

COOPERATION.--Water samples were collected by the U.S. Geological Survey and analyzed by either the U.S. Geological Survey (Agency Code 1028) or by the Virginia Division of Consolidated Laboratory Services (VDCLS, Agency Code 85116), using analytical methods approved by the U.S. Geological Survey. Analyses performed by VDCLS are reported to U.S. Geological Survey rounding specifications. Results of chemical analyses provided by VDCLS were quality-assured and approved by the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
DEC												
14...	1200	Environmental	85116	8.69	20,800	31	765	12.8	108	7.3	122	5.0
JAN												
16...	1030	Environmental	85116	12.50	45,700	150	773	10.9	93	7.4	134	.0
MAR												
10...	1425	Blank	85116	--	--	--	--	--	--	--	--	--
10...	1430	Environmental	85116	7.76	16,000	27	754	12.7	106	7.7	160	11.0
30...	1130	Environmental	85116	11.97	41,800	210	763	10.7	96	7.3	106	20.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Temperature, water, deg C (00010)	Residue fixed non-filterable, mg/L (00540)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Total nitrogen, water, unfltrd mg/L (00600)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
DEC										
14...	8.0	29	34	<.040	.320	.54	.018	.070	--	--
JAN										
16...	9.1	218	254	<.040	.360	1.2	.015	.500	82	322
MAR										
10...	--	<3	<3	<.040	<.040	<.10	<.002	.010	--	--
10...	6.9	29	33	<.040	.250	.52	.008	.060	78	38
30...	11.0	248	281	.070	.350	1.1	.013	.490	76	356

Remark codes used in this table:
< -- Less than.

02037705 JAMES RIVER AT CITY LOCKS AT RICHMOND, VA

LOCATION.--Lat 37°31'30", long 77°25'16' (NAD27), Richmond City, Hydrologic Unit 02080206, at City Locks Park, on left bank, 20 feet downstream of canal lock gate.

DRAINAGE AREA.--Not Determined.

PERIOD OF RECORD.--June to September 2005

GAGE.--Water-stage recorder. Datum of gage is NAVD of 1988.

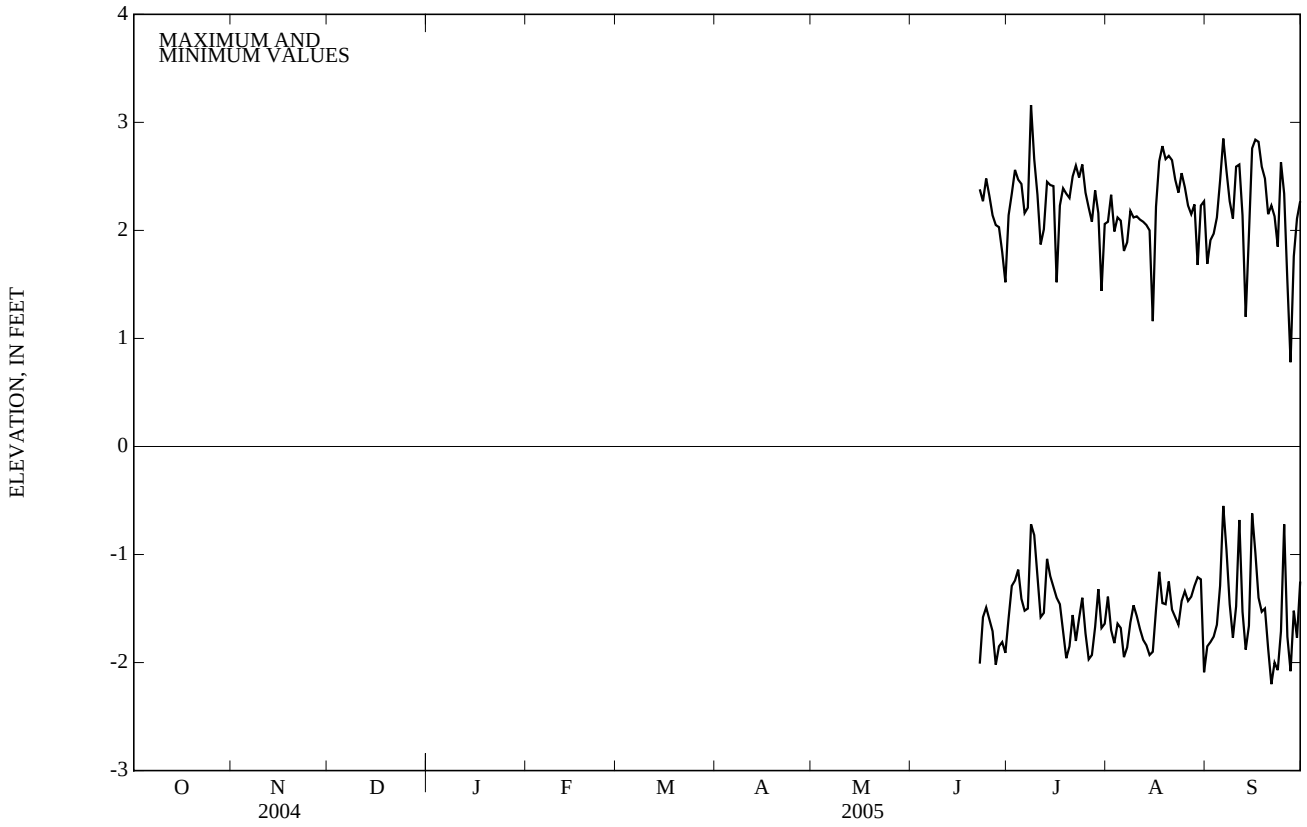
REMARKS.--Records good. Daily instantaneous maximum and minimum tide stages are shown in table below.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 3.16 ft, July 8; minimum elevation, -2.20 ft, Sept. 21.

TIDE ELEVATION ABOVE NAVD 1988, FEET
WATER YEAR JUNE 2005 TO SEPTEMBER 2005

DAY	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	2.14	-1.59	2.08	-1.39	1.69	-1.85
2	---	---	---	---	---	---	2.34	-1.29	2.33	-1.70	1.91	-1.81
3	---	---	---	---	---	---	2.56	-1.24	1.99	-1.82	1.97	-1.76
4	---	---	---	---	---	---	2.47	-1.14	2.12	-1.64	2.12	-1.65
5	---	---	---	---	---	---	2.43	-1.41	2.09	-1.68	2.46	-1.29
6	---	---	---	---	---	---	2.16	-1.52	1.81	-1.95	2.85	-0.55
7	---	---	---	---	---	---	2.21	-1.50	1.89	-1.86	2.55	-0.96
8	---	---	---	---	---	---	3.16	-0.72	2.18	-1.63	2.27	-1.46
9	---	---	---	---	---	---	2.66	-0.82	2.12	-1.47	2.11	-1.77
10	---	---	---	---	---	---	2.33	-1.20	2.13	-1.57	2.59	-1.48
11	---	---	---	---	---	---	1.87	-1.58	2.10	-1.69	2.61	-0.68
12	---	---	---	---	---	---	2.01	-1.54	2.08	-1.79	2.14	-1.53
13	---	---	---	---	---	---	2.45	-1.04	2.05	-1.84	1.20	-1.88
14	---	---	---	---	---	---	2.42	-1.20	2.00	-1.93	1.96	-1.66
15	---	---	---	---	---	---	2.41	-1.30	1.16	-1.90	2.76	-0.62
16	---	---	---	---	---	---	1.52	-1.40	2.22	-1.51	2.84	-0.98
17	---	---	---	---	---	---	2.23	-1.46	2.64	-1.16	2.82	-1.40
18	---	---	---	---	---	---	2.39	-1.71	2.78	-1.45	2.59	-1.53
19	---	---	---	---	---	---	2.34	-1.96	2.66	-1.46	2.48	-1.50
20	---	---	---	---	---	---	2.30	-1.85	2.69	-1.25	2.15	-1.87
21	---	---	---	---	---	---	2.50	-1.56	2.65	-1.51	2.23	-2.20
22	---	---	---	---	2.38	-2.01	2.60	-1.80	2.47	-1.58	2.13	-2.00
23	---	---	---	---	2.27	-1.58	2.49	-1.59	2.35	-1.65	1.85	-2.07
24	---	---	---	---	2.48	-1.49	2.61	-1.40	2.53	-1.43	2.63	-1.71
25	---	---	---	---	2.32	-1.60	2.35	-1.73	2.40	-1.34	2.34	-0.72
26	---	---	---	---	2.14	-1.71	2.21	-1.97	2.23	-1.43	1.53	-1.76
27	---	---	---	---	2.05	-2.02	2.08	-1.93	2.15	-1.39	0.78	-2.08
28	---	---	---	---	2.03	-1.85	2.37	-1.67	2.24	-1.29	1.76	-1.52
29	---	---	---	---	1.80	-1.81	2.16	-1.32	1.68	-1.21	2.11	-1.77
30	---	---	---	---	1.52	-1.91	1.44	-1.68	2.23	-1.23	2.27	-1.25
31	---	---	---	---	---	---	2.06	-1.64	2.27	-2.09	---	---
MAX	---	---	---	---	2.48	-1.49	3.16	-0.72	2.78	-1.16	2.85	-0.55
MIN	---	---	---	---	1.52	-2.02	1.44	-1.97	1.16	-2.09	0.78	-2.20

02037705 JAMES RIVER AT CITY LOCKS AT RICHMOND, VA—Continued



02038850 HOLIDAY CREEK NEAR ANDERSONVILLE, VA

LOCATION.--Lat 37°24'56", long 78°38'09", NAD83, Appomattox County, Hydrologic Unit 02080207, on right bank 350 ft downstream from culvert on State Highway 614, 1.0 mi upstream from Holiday Lake, and 5.2 mi southwest of Andersonville.

DRAINAGE AREA.--8.53 mi^2.

PERIOD OF RECORD.--April 1966 to current year.

REVISED RECORDS.--WDR VA-72-1: 1967-71(M), 1966-69(P), 1971(P). WDR VA-98-1: 1997.

GAGE.--Water-stage recorder. Datum of gage is 472.97 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 9,640 ft^3/s, from rating curve extended above 4,200 ft^3/s on basis of slope-area measurement of 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1745	238	2.88	Mar 28	1100	475	4.21
Jan 14	0600	*478	*4.22				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	5.0	9.0	5.4	7.9	7.4	11	8.6	3.7	2.3	2.2	1.3
2	4.5	4.9	7.7	5.4	7.3	7.5	22	7.0	6.2	3.0	1.9	1.2
3	4.6	5.1	6.9	5.4	8.1	7.7	15	6.4	9.5	3.7	1.6	1.1
4	4.1	16	6.5	5.5	8.1	7.9	11	5.9	6.5	2.7	1.4	1.0
5	3.7	12	5.9	6.9	7.4	10	9.3	5.8	4.9	2.4	1.3	0.96
6	3.6	7.1	5.8	6.0	6.9	10	8.8	5.7	4.3	2.2	1.3	0.96
7	3.5	5.8	6.5	5.5	6.9	9.3	12	5.7	3.9	5.4	1.3	0.96
8	3.5	5.2	5.8	5.6	6.9	15	16	5.6	3.7	20	1.3	0.94
9	3.5	4.8	8.9	5.4	6.9	12	e12	5.2	3.5	3.7	2.5	0.88
10	3.5	4.6	25	5.4	6.7	9.4	e10	5.1	3.5	2.8	2.2	0.88
11	3.3	4.6	14	5.2	6.4	8.6	e8.5	4.9	3.3	2.3	1.7	0.86
12	3.4	92	9.7	5.8	6.3	8.0	e8.0	5.0	3.2	2.3	1.4	0.83
13	21	63	7.9	5.6	6.2	7.8	e12	6.5	3.3	2.5	1.2	0.80
14	32	16	6.9	152	6.4	9.3	e10	5.3	3.1	3.0	1.1	0.85
15	8.2	e9.0	6.1	43	6.4	8.0	e9.0	5.2	2.9	3.0	1.1	0.90
16	5.6	e8.0	5.9	17	6.4	7.5	8.0	5.5	2.6	2.5	1.1	0.87
17	4.8	6.8	5.9	11	6.2	9.0	7.8	4.8	2.5	2.2	6.7	0.83
18	4.4	6.4	5.7	e8.5	6.0	8.8	7.7	4.6	2.5	2.2	2.3	0.80
19	4.5	5.8	5.7	e7.8	5.9	7.9	7.5	4.7	2.6	1.9	2.5	0.80
20	4.6	5.6	5.3	7.6	6.0	7.6	7.7	12	2.6	1.8	2.2	0.79
21	4.5	5.4	e5.3	7.3	6.6	7.2	7.4	7.2	2.5	1.7	1.9	0.79
22	4.6	5.2	5.4	7.1	6.5	6.9	8.5	5.4	2.5	2.5	1.5	0.80
23	4.4	7.7	11	e7.0	6.1	19	9.5	4.9	2.6	2.9	1.5	0.82
24	5.8	18	9.6	e6.5	6.5	18	7.7	5.3	2.4	2.0	1.5	0.80
25	5.5	18	7.3	e6.0	6.7	12	7.1	5.3	2.3	1.7	1.4	0.88
26	5.0	10	6.6	6.7	6.6	10	6.8	4.8	2.3	1.5	1.3	1.1
27	4.9	8.0	6.1	6.8	6.3	9.4	6.7	4.3	2.2	1.4	1.8	1.1
28	4.9	12	e5.8	e5.8	7.1	126	6.4	4.2	2.1	1.8	2.2	0.98
29	4.9	8.9	5.7	e6.0	---	62	6.9	3.9	2.6	2.2	1.8	0.89
30	5.1	7.6	5.7	9.3	---	22	7.5	3.7	3.0	3.0	1.7	0.88
31	5.1	---	5.6	9.2	---	13	---	4.0	---	2.9	1.7	---
TOTAL	185.4	388.5	235.2	397.7	187.7	484.2	287.8	172.5	102.8	95.5	56.6	27.55
MEAN	5.98	12.9	7.59	12.8	6.70	15.6	9.59	5.56	3.43	3.08	1.83	0.92
MAX	32	92	25	152	8.1	126	22	12	9.5	20	6.7	1.3
MIN	3.3	4.6	5.3	5.2	5.9	6.9	6.4	3.7	2.1	1.4	1.1	0.79
CFSM	0.70	1.52	0.89	1.50	0.79	1.83	1.12	0.65	0.40	0.36	0.21	0.11
IN.	0.81	1.69	1.03	1.73	0.82	2.11	1.26	0.75	0.45	0.42	0.25	0.12

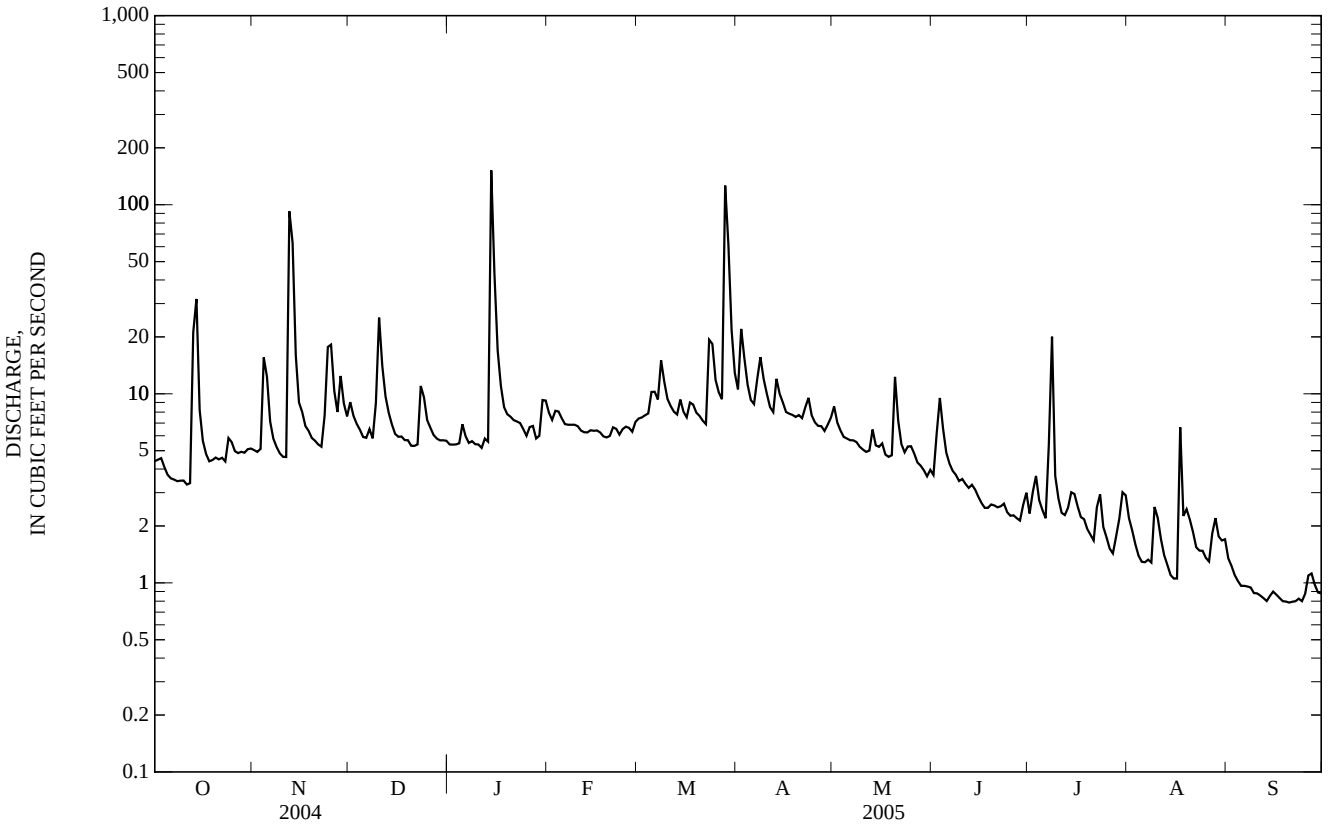
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2005, BY WATER YEAR (WY)

MEAN	5.74	7.55	8.56	10.6	12.2	13.7	11.5	9.49	7.80	4.48	4.25	6.50
MAX	25.6	32.3	25.6	30.5	36.9	37.9	32.6	36.0	70.2	15.3	24.9	36.8
(WY)	(1972)	(1986)	(1974)	(1978)	(1998)	(1994)	(1973)	(1971)	(1972)	(1972)	(1973)	(1996)
MIN	0.47	0.83	1.45	2.04	2.05	4.12	3.15	2.64	0.56	0.36	0.13	0.32
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(1981)	(2002)	(2002)	(2002)	(2002)	(2002)	(2001)

02038850 HOLIDAY CREEK NEAR ANDERSONVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1966 - 2005	
ANNUAL TOTAL	3,049.6		2,621.45			
ANNUAL MEAN	8.33		7.18		8.55	
HIGHEST ANNUAL MEAN					18.6	1973
LOWEST ANNUAL MEAN					1.55	2002
HIGHEST DAILY MEAN	92	Nov 12	152	Jan 14	1,740	Jun 21, 1972
LOWEST DAILY MEAN	2.0	Aug 11	0.79	aSep 20	0.03	bAug 6, 2002
ANNUAL SEVEN-DAY MINIMUM	2.5	Jul 16	0.80	Sep 18	0.03	Aug 6, 2002
MAXIMUM PEAK FLOW			478	Jan 14	9,640	Jun 21, 1972
MAXIMUM PEAK STAGE			4.22	Jan 14	14.64	Jun 21, 1972
INSTANTANEOUS LOW FLOW			0.76	cSep 19	0.02	dAug 7, 2002
ANNUAL RUNOFF (CFSM)	0.977		0.842		1.00	
ANNUAL RUNOFF (INCHES)	13.30		11.43		13.62	
10 PERCENT EXCEEDS	12		10		15	
50 PERCENT EXCEEDS	6.5		5.5		5.2	
90 PERCENT EXCEEDS	3.0		1.3		1.7	

a Also Sept. 21, 2005.
b Also Aug. 7-25, 2002.
b Also Sept. 20, 21, 2005.
c Also Aug. 8, 10, 12, 23, 2002.
e Estimated.



02039000 BUFFALO CREEK NEAR HAMPDEN SYDNEY, VA

LOCATION.--Lat 37°15'26", long 78°29'11", NAD83, Prince Edward County, Hydrologic Unit 02080207, on left bank 100 ft upstream from bridge on State Highway 658, 0.8 mi upstream from Locket Creek, 2.0 mi northwest of Hampden Sydney, and 6.0 mi southwest of Farmville.

DRAINAGE AREA.--69.7 mi^2.

PERIOD OF RECORD.--August 1946 to current year.

REVISED RECORDS.--WSP 1303: 1948-50(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 339.19 ft NGVD of 1929 (levels by Virginia Department of Transportation). Prior to Aug. 19, 1953, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 9,160 ft^3/s, from rating curve extended above 1,600 ft^3/s on basis of slope-area measurement at gage height 11.96 ft. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location by the Virginia Department of Environmental Quality - Water Division.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1940 reached a stage of about 15 ft, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 10	1845	740	6.26	Mar 28	2015	1,130	6.99
Jan 14	1730	*1,270	*7.21	Apr 2	2100	686	6.03

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	44	85	51	74	73	117	65	44	31	38	15
2	47	44	78	51	68	76	368	60	58	29	32	14
3	48	44	71	51	67	73	348	55	81	28	27	12
4	45	77	66	50	71	71	150	52	76	27	25	11
5	41	106	62	50	67	78	109	51	62	27	23	11
6	38	77	61	50	64	82	92	50	54	25	22	11
7	37	65	66	49	62	74	93	50	49	30	25	10
8	36	58	64	48	62	83	178	49	46	104	23	10
9	35	53	79	48	60	84	121	47	44	60	27	10
10	35	50	421	48	62	73	97	46	43	44	29	9.2
11	35	49	364	46	56	68	86	45	42	38	26	8.9
12	34	100	170	47	55	65	79	49	40	34	24	8.8
13	86	303	111	50	54	62	87	59	40	33	22	8.8
14	148	162	84	557	54	69	81	49	38	38	21	8.7
15	87	100	72	467	56	66	73	50	37	37	19	9.3
16	65	80	65	207	55	62	68	56	35	33	19	9.5
17	55	70	62	125	54	80	65	50	33	31	32	9.5
18	49	64	61	87	52	92	64	47	32	29	28	9.0
19	48	60	59	74	50	78	62	54	32	27	26	8.6
20	49	58	56	e69	50	70	60	111	33	26	24	8.2
21	48	56	53	e70	56	65	58	89	33	24	22	8.6
22	47	55	55	e67	56	61	58	67	33	30	20	8.7
23	46	106	62	e63	54	110	68	57	38	33	19	8.7
24	50	175	67	e59	58	209	71	56	35	27	19	8.4
25	50	245	61	60	65	138	61	59	33	25	18	9.0
26	48	161	58	e59	60	106	57	55	31	23	16	9.4
27	48	112	55	e57	57	88	56	49	30	22	17	10
28	47	123	56	e55	64	416	53	47	30	21	18	9.5
29	46	107	55	e53	---	564	55	45	33	33	18	9.4
30	46	84	55	72	---	277	57	43	34	39	17	8.4
31	46	---	53	82	---	162	---	45	---	40	16	---
TOTAL	1,591	2,888	2,787	2,922	1,663	3,675	2,992	1,707	1,249	1,048	712	292.6
MEAN	51.3	96.3	89.9	94.3	59.4	119	99.7	55.1	41.6	33.8	23.0	9.75
MAX	148	303	421	557	74	564	368	111	81	104	38	15
MIN	34	44	53	46	50	61	53	43	30	21	16	8.2
CFSM	0.74	1.38	1.29	1.35	0.85	1.70	1.43	0.79	0.60	0.49	0.33	0.14
IN.	0.85	1.54	1.49	1.56	0.89	1.96	1.60	0.91	0.67	0.56	0.38	0.16

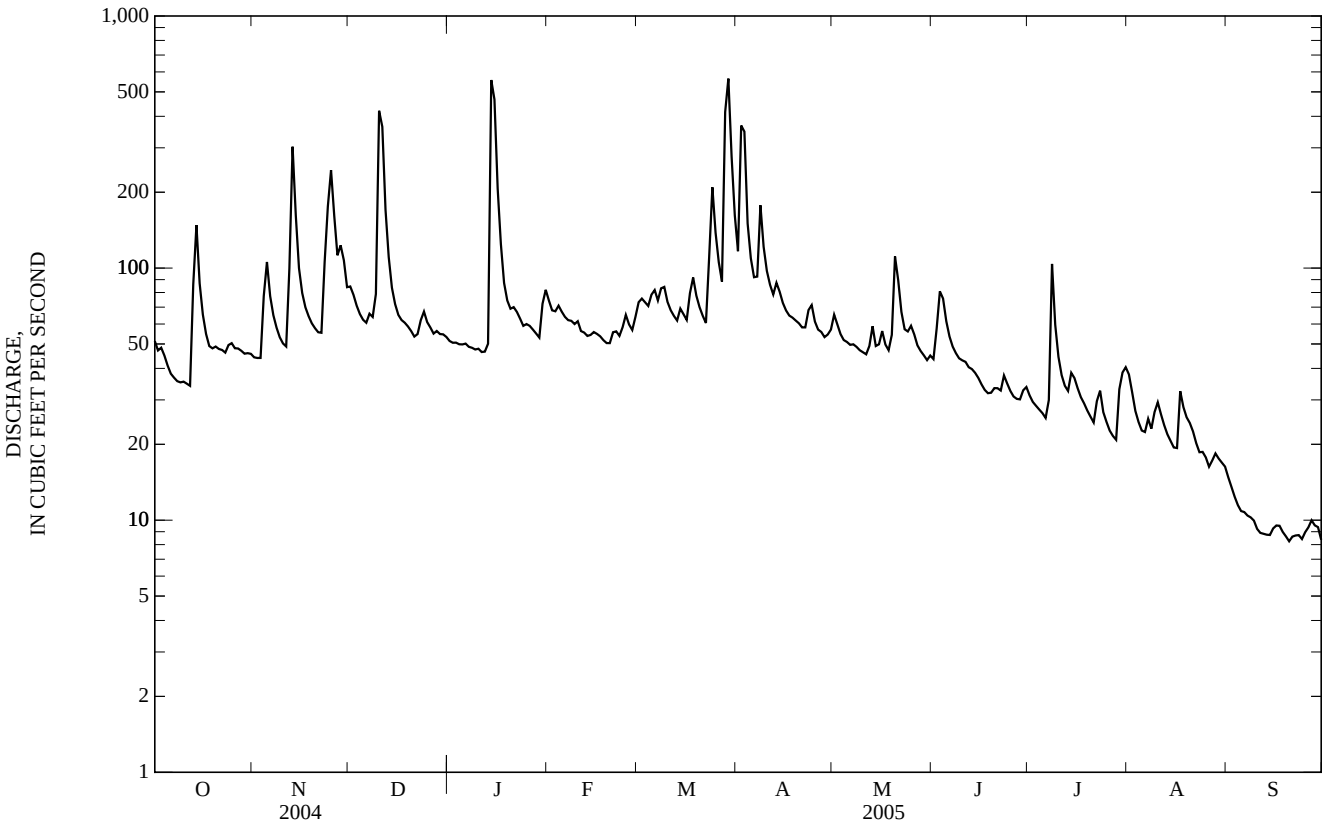
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2005, BY WATER YEAR (WY)

MEAN	48.6	64.2	72.0	88.6	97.8	112	91.5	66.0	50.5	39.0	40.2	44.6
MAX	365	315	157	313	295	324	256	173	294	129	260	309
(WY)	(1972)	(1986)	(1997)	(1978)	(1979)	(1993)	(1983)	(1978)	(1972)	(1989)	(1955)	(2003)
MIN	9.94	14.4	18.7	25.3	29.4	37.5	25.1	23.4	8.60	5.60	2.44	6.34
(WY)	(1971)	(2002)	(1966)	(1966)	(2002)	(1981)	(2002)	(1969)	(2002)	(2002)	(2002)	(2002)

02039000 BUFFALO CREEK NEAR HAMPDEN SYDNEY, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1947 - 2005	
ANNUAL TOTAL	26,574		23,526.6			
ANNUAL MEAN	72.6		64.5		67.7	
HIGHEST ANNUAL MEAN					134	1972
LOWEST ANNUAL MEAN					21.2	2002
HIGHEST DAILY MEAN	689	Aug 2	564	Mar 29	4,940	Aug 18, 1955
LOWEST DAILY MEAN	25	aJul 10	8.2	Sep 20	0.13	Aug 23, 2002
ANNUAL SEVEN-DAY MINIMUM	28	Jul 6	8.6	bSep 18	0.22	Aug 11, 2002
MAXIMUM PEAK FLOW			1,270	Jan 14	9,160	Jun 21, 1972
MAXIMUM PEAK STAGE			7.21	Jan 14	12.38	Jun 21, 1972
INSTANTANEOUS LOW FLOW			7.9	Sep 20	0.09	Aug 24, 2002
ANNUAL RUNOFF (CFSM)	1.04		0.925		0.972	
ANNUAL RUNOFF (INCHES)	14.18		12.56		13.21	
10 PERCENT EXCEEDS	108		102		119	
50 PERCENT EXCEEDS	58		53		43	
90 PERCENT EXCEEDS	37		18		17	

a Also July 16, 17, 2004.
b Also Sept. 19, 2005.
e Estimated.



02039500 APPOMATTOX RIVER AT FARMVILLE, VA

LOCATION.--Lat 37°18'26", long 78°23'19", NAD83, Cumberland County, Hydrologic Unit 02080207, on left bank at downstream side of bridge on State Highway 45 at north town limits of Farmville and 1.1 mi downstream from Buffalo Creek.

DRAINAGE AREA.--303 mi^2.

PERIOD OF RECORD.--March 1926 to current year.

REVISED RECORDS.--WSP 972: 1927-37, 1938(M). WSP 1303: 1927(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 281.93 ft NGVD of 1929. Prior to Nov. 29, 1928, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 33,100 ft^3/s, from rating curve extended above 12,000 ft^3/s on basis of contracted-opening measurement of peak flow. Diurnal fluctuation at low flow caused by Prince Edward Mill 0.2 mi upstream. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	1900	2,920	13.87	Mar 29	1130	4,360	15.56
Jan 15	0900	*4,550	*15.75	Apr 2	1730	2,190	12.54

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	134	346	186	301	264	508	255	140	99	118	62
2	164	130	351	181	266	278	1,320	256	198	89	94	57
3	166	130	302	177	253	272	1,370	218	328	115	82	52
4	160	217	271	181	265	253	679	202	329	121	71	48
5	139	454	251	187	261	278	468	194	234	92	63	45
6	130	320	238	205	231	336	396	190	185	84	58	43
7	111	230	250	193	212	301	378	190	160	169	72	41
8	107	196	252	182	207	323	659	190	145	796	66	40
9	105	173	288	178	204	441	508	187	133	379	113	39
10	105	157	1,190	172	203	317	388	186	129	184	202	38
11	105	151	1,230	170	188	271	343	185	131	135	113	37
12	103	456	708	168	177	249	317	216	124	109	84	36
13	696	2,370	463	175	173	238	328	317	118	104	72	35
14	1,650	1,270	352	1,630	171	277	328	212	115	132	65	34
15	713	502	294	3,570	177	289	294	194	111	132	60	35
16	332	353	264	970	175	246	268	215	103	113	62	36
17	238	292	252	558	173	280	256	191	95	100	242	34
18	193	261	243	412	162	365	251	173	90	90	293	35
19	174	240	236	334	e154	311	246	166	89	84	120	33
20	171	223	223	e315	153	272	240	280	93	77	99	31
21	165	211	204	321	168	242	232	359	95	73	89	31
22	168	203	213	e295	183	219	229	241	94	104	79	31
23	170	264	230	e275	175	527	270	194	99	89	70	31
24	177	587	343	e245	178	1,250	290	188	106	81	66	31
25	194	930	289	e265	213	734	243	202	95	72	65	30
26	181	677	244	e255	195	490	224	187	88	64	61	32
27	171	429	225	e245	179	389	219	167	87	60	65	32
28	166	492	209	226	199	1,210	213	156	85	57	75	32
29	161	485	212	199	---	3,500	207	148	88	126	76	31
30	152	361	212	e266	---	1,250	225	139	102	124	72	30
31	139	---	198	341	---	686	---	140	---	130	68	---
TOTAL	7,595	12,898	10,583	13,077	5,596	16,358	11,897	6,338	3,989	4,184	2,935	1,122
MEAN	245	430	341	422	200	528	397	204	133	135	94.7	37.4
MAX	1,650	2,370	1,230	3,570	301	3,500	1,370	359	329	796	293	62
MIN	103	130	198	168	153	219	207	139	85	57	58	30
CFSM	0.81	1.42	1.13	1.39	0.66	1.74	1.31	0.67	0.44	0.45	0.31	0.12
IN.	0.93	1.58	1.30	1.61	0.69	2.01	1.46	0.78	0.49	0.51	0.36	0.14

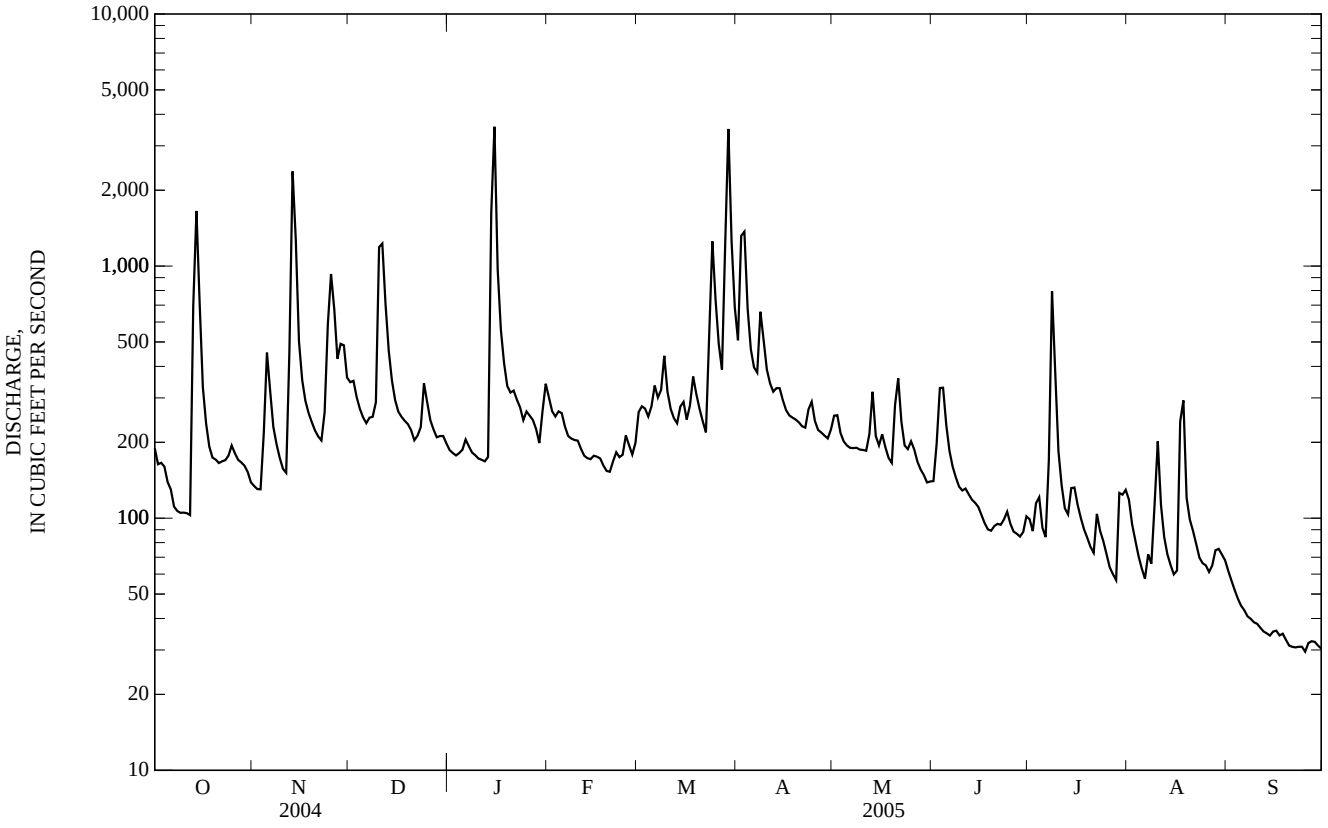
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2005, BY WATER YEAR (WY)

MEAN	190	249	304	394	435	482	405	276	209	162	190	200
MAX	1,190	1,287	961	1,430	1,402	1,518	1,155	872	1,866	518	1,783	1,140
(WY)	(1972)	(1986)	(1997)	(1978)	(1979)	(1993)	(1983)	(1978)	(1972)	(1972)	(1940)	(1996)
MIN	30.3	45.5	61.6	96.3	97.1	126	105	95.2	27.5	18.6	11.8	16.7
(WY)	(1931)	(2002)	(1966)	(1966)	(2002)	(1981)	(2002)	(1969)	(2002)	(2002)	(2002)	(1968)

02039500 APPOMATTOX RIVER AT FARMVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1926 - 2005	
ANNUAL TOTAL	101,790		96,572			
ANNUAL MEAN	278		265		291	
HIGHEST ANNUAL MEAN					584	1972
LOWEST ANNUAL MEAN					74.0	2002
HIGHEST DAILY MEAN	2,840	Feb 7	3,570	Jan 15	28,000	Jun 22, 1972
LOWEST DAILY MEAN	84	Jul 22	30	aSep 25	0.07	bAug 22, 2002
ANNUAL SEVEN-DAY MINIMUM	98	Aug 24	31	Sep 20	0.09	Aug 19, 2002
MAXIMUM PEAK FLOW			4,550	Jan 15	33,100	Jun 22, 1972
MAXIMUM PEAK STAGE			15.75	Jan 15	c29.70	Jun 22, 1972
INSTANTANEOUS LOW FLOW			28	dSep 24	0.07	fAug 21, 2002
ANNUAL RUNOFF (CFSM)	0.918		0.873		0.961	
ANNUAL RUNOFF (INCHES)	12.50		11.86		13.06	
10 PERCENT EXCEEDS	455		455		527	
50 PERCENT EXCEEDS	219		190		167	
90 PERCENT EXCEEDS	113		63		61	

a Also Sept. 30, 2005.
b Also Aug. 23-25, 2002.
c From floodmarks.
d Also Sept. 25, 2005.
e Estimated.
f Also Aug. 22-26, 2002.



02040000 APPOMATTOX RIVER AT MATTOAX, VA

LOCATION.--Lat 37°25'18", long 77°51'32", NAD83, Amelia County, Hydrologic Unit 02080207, on right bank 75 ft upstream from Norfolk Southern Railway bridge at Mattoax, 0.3 mi upstream from Skinquarter Creek, and 3.7 mi upstream from Flat Creek.

DRAINAGE AREA.--726 mi^2.

PERIOD OF RECORD.--August 1900 to December 1905, March 1926 to current year.

REVISED RECORDS.--WSP 892: 1938. WSP 972: 1928, 1932, 1934-38. WSP 1303: 1901(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 174.51 ft NGVD of 1929. August 1900 to December 1905, non-recording gage at same site, different datum. March 1926 to October 1936, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. National Weather Service gage-height telemeter at station. Maximum discharge, 35,000 ft^3/s, from rating curve extended above 20,000 ft^3/s on basis of records for stations at Farmville and near Petersburg. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 18	1615	*4,070	*18.49	Apr 1	1430	4,030	18.41

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	745	326	1,100	465	919	652	3,940	506	e299	180	e293	158
2	545	313	990	447	827	817	2,240	545	308	188	253	151
3	476	306	901	435	737	822	2,340	528	375	182	226	142
4	451	360	777	429	711	767	2,680	471	655	169	198	133
5	421	617	690	444	725	730	1,650	435	669	193	179	127
6	376	973	639	449	707	816	1,080	416	e480	183	166	121
7	339	779	647	450	657	853	919	404	e420	170	155	118
8	318	581	681	453	613	849	1,100	392	e375	380	150	115
9	297	508	710	437	589	1,020	1,440	384	e350	1,430	172	112
10	290	475	2,020	423	571	1,050	1,100	373	e340	1,420	180	110
11	283	433	3,180	408	554	839	876	360	e335	739	271	107
12	275	474	3,360	403	526	724	773	352	e320	415	268	105
13	278	1,750	3,430	400	496	671	748	356	e305	349	212	103
14	721	2,670	1,810	2,290	485	671	751	620	e290	338	181	101
15	2,100	2,940	994	3,800	486	711	719	512	e275	361	165	101
16	1,410	1,770	814	3,660	493	715	640	459	e250	508	189	101
17	651	895	719	3,740	492	678	584	464	e235	406	391	103
18	481	745	665	3,950	471	748	558	426	e220	350	420	101
19	410	674	625	1,770	449	901	542	392	e210	e295	492	98
20	406	632	594	980	429	814	529	435	e205	e270	303	97
21	376	607	549	900	433	711	517	588	e220	e240	233	95
22	369	595	518	855	471	646	546	664	e210	e220	217	92
23	357	630	526	810	488	667	530	514	e225	e255	194	90
24	365	896	571	e720	491	1,520	625	443	e228	e235	176	90
25	376	1,990	644	e645	545	2,230	642	434	e220	e215	164	91
26	393	2,290	620	e680	590	1,600	541	444	e210	e195	159	91
27	384	1,890	540	e710	560	1,120	490	406	e205	e185	159	91
28	362	1,840	497	e660	536	1,620	462	371	e200	e170	158	90
29	353	2,010	475	e605	---	3,210	450	346	e185	e165	158	91
30	351	1,550	474	628	---	3,510	448	326	174	230	164	90
31	344	---	476	794	---	3,740	---	e305	---	303	165	---
TOTAL	15,303	32,519	31,236	33,840	16,051	36,422	30,460	13,671	8,993	10,939	6,811	3,215
MEAN	494	1,084	1,008	1,092	573	1,175	1,015	441	300	353	220	107
MAX	2,100	2,940	3,430	3,950	919	3,740	3,940	664	669	1,430	492	158
MIN	275	306	474	400	429	646	448	305	174	165	150	90
CFSM	0.68	1.49	1.39	1.50	0.79	1.62	1.40	0.61	0.41	0.49	0.30	0.15
IN.	0.78	1.67	1.60	1.73	0.82	1.87	1.56	0.70	0.46	0.56	0.35	0.16

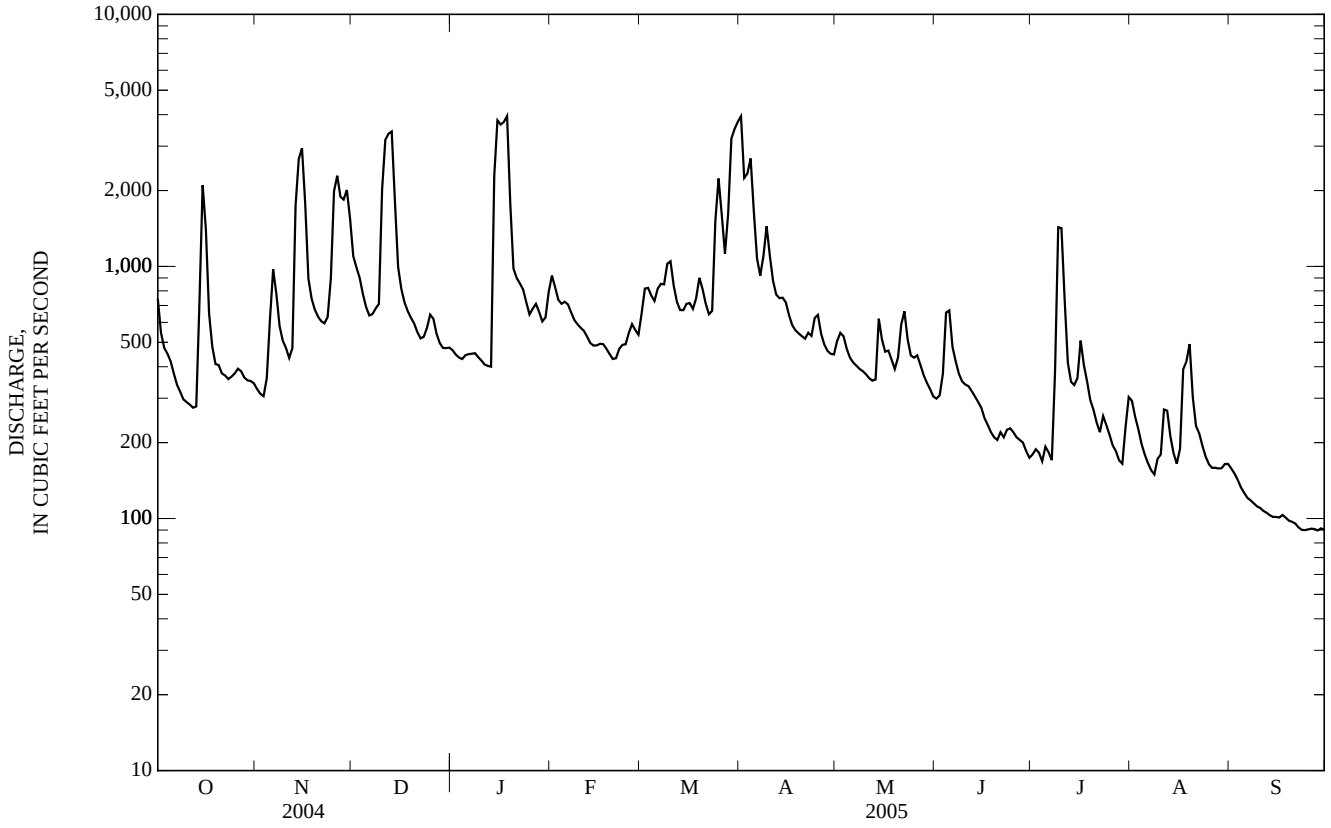
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2005, BY WATER YEAR (WY)

MEAN	457	553	745	995	1,116	1,232	1,056	668	488	374	424	423
MAX	3,932	2,728	2,620	3,650	3,605	3,566	2,975	2,202	4,369	1,918	4,566	3,045
(WY)	(1972)	(1986)	(1994)	(1978)	(1998)	(1993)	(1983)	(2003)	(1972)	(1938)	(1940)	(2003)
MIN	32.7	79.1	123	207	200	309	246	208	50.2	25.7	15.0	30.0
(WY)	(1931)	(2002)	(1966)	(1966)	(2002)	(1981)	(2002)	(1926)	(2002)	(2002)	(2002)	(1932)

02040000 APPOMATTOX RIVER AT MATTOAX, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1926 - 2005	
ANNUAL TOTAL	288,521		239,460			
ANNUAL MEAN	788		656		711	
HIGHEST ANNUAL MEAN					1,553	1972
LOWEST ANNUAL MEAN					154	2002
HIGHEST DAILY MEAN	3,900	Feb 9	3,950	Jan 18	34,300	Aug 18, 1940
LOWEST DAILY MEAN	e240	Jul 18	90	aSep 23	2.6	Aug 25, 2002
ANNUAL SEVEN-DAY MINIMUM	294	bJul 17	91	cSep 23	4.0	Aug 21, 2002
MAXIMUM PEAK FLOW			4,070	Jan 18	35,000	Aug 18, 1940
MAXIMUM PEAK STAGE			18.49	Jan 18	d35.30	Aug 18, 1940
INSTANTANEOUS LOW FLOW			89	fSep 24	2.4	gAug 25, 2002
ANNUAL RUNOFF (CFSM)	1.09		0.904		0.979	
ANNUAL RUNOFF (INCHES)	14.78		12.27		13.30	
10 PERCENT EXCEEDS	1,650		1,420		1,590	
50 PERCENT EXCEEDS	573		465		385	
90 PERCENT EXCEEDS	320		162		115	

a Also Sept. 24, 28, 30, 2005.
b Also July 18, 2004.
c Also Sept. 24, 2005.
d From floodmark in gage house.
e Estimated.
f Also Sept. 28, 2005.
g Also Aug. 26, 2002.



02041000 DEEP CREEK NEAR MANNBORO, VA

LOCATION.--Lat 37°17'00", long 77°52'11", NAD83, Amelia County, Hydrologic Unit 02080207, on left bank 300 ft upstream from bridge on State Highway 153, 0.9 mi upstream from Sweathouse Creek, 3.4 mi northwest of Mannboro, and 7.5 mi southeast of Amelia.

DRAINAGE AREA.--158 mi^2.

PERIOD OF RECORD.--September 1946 to current year.

REVISED RECORDS.--WSP 1203: 1948 (calendar year figures only). WSP 2104: Drainage area. WDR VA-79-1: 1973-76(P), 1978.

GAGE.--Water-stage recorder. Datum of gage is 177.20 ft NGVD of 1929. Prior to Sep. 2, 1949, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 15,000 ft^3/s, from rating curve extended above 3,900 ft^3/s. Several measurements of water temperature were made during the year. Water-quality records for some periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1940 reached a stage of 14.8 ft, from information by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 11	1600	1,440	7.77	Mar 29	1745	2,060	8.56
Jan 15	1430	*2,650	*9.18	Jul 9	1645	1,230	7.44

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	100	309	118	330	237	263	122	53	29	66	29
2	134	95	265	113	225	300	284	163	57	25	57	24
3	149	94	234	112	195	252	615	133	82	21	42	19
4	139	115	194	112	196	190	683	98	105	18	32	16
5	129	181	171	112	198	169	271	88	95	15	26	13
6	115	220	158	112	185	170	204	86	75	13	22	11
7	104	163	169	108	166	158	178	92	64	15	19	9.7
8	97	126	194	107	156	172	176	90	56	436	24	8.8
9	94	111	196	109	149	260	185	80	52	1,050	40	8.3
10	93	101	375	106	147	235	166	73	53	658	75	7.8
11	92	96	1,140	101	143	178	144	68	78	122	81	7.1
12	91	132	875	99	131	165	131	65	75	73	52	6.5
13	109	408	374	100	122	155	145	67	56	136	35	6.0
14	188	921	253	376	119	160	168	71	50	195	27	5.8
15	231	562	204	1,960	127	165	146	73	45	105	22	5.9
16	165	260	177	1,120	129	149	121	124	41	76	20	5.9
17	130	198	165	401	123	164	109	135	35	91	62	6.0
18	108	173	160	244	114	238	105	92	30	93	106	5.9
19	100	163	155	171	104	232	104	76	26	64	75	5.6
20	113	154	149	e170	101	181	102	97	27	52	72	5.6
21	123	144	129	e178	108	158	98	117	30	44	67	5.6
22	122	139	134	175	122	142	97	98	39	36	51	8.0
23	112	149	145	e170	119	159	100	83	36	31	38	8.6
24	112	195	163	e165	119	271	104	74	31	26	35	7.5
25	122	292	156	e155	169	294	98	79	26	23	32	6.8
26	124	399	135	e169	174	230	88	90	24	21	29	6.9
27	116	399	120	e180	139	203	84	81	23	19	28	6.8
28	107	352	111	155	144	323	82	68	23	23	27	6.6
29	101	679	117	142	---	1,380	81	62	24	42	25	6.0
30	101	618	123	196	---	1,070	90	56	28	38	24	5.6
31	102	---	124	291	---	402	---	53	---	65	27	---
TOTAL	3,778	7,739	7,374	7,827	4,254	8,562	5,222	2,754	1,439	3,655	1,338	275.3
MEAN	122	258	238	252	152	276	174	88.8	48.0	118	43.2	9.18
MAX	231	921	1,140	1,960	330	1,380	683	163	105	1,050	106	29
MIN	91	94	111	99	101	142	81	53	23	13	19	5.6
CFSM	0.77	1.63	1.51	1.60	0.96	1.75	1.10	0.56	0.30	0.75	0.27	0.06
IN.	0.89	1.82	1.74	1.84	1.00	2.02	1.23	0.65	0.34	0.86	0.32	0.06

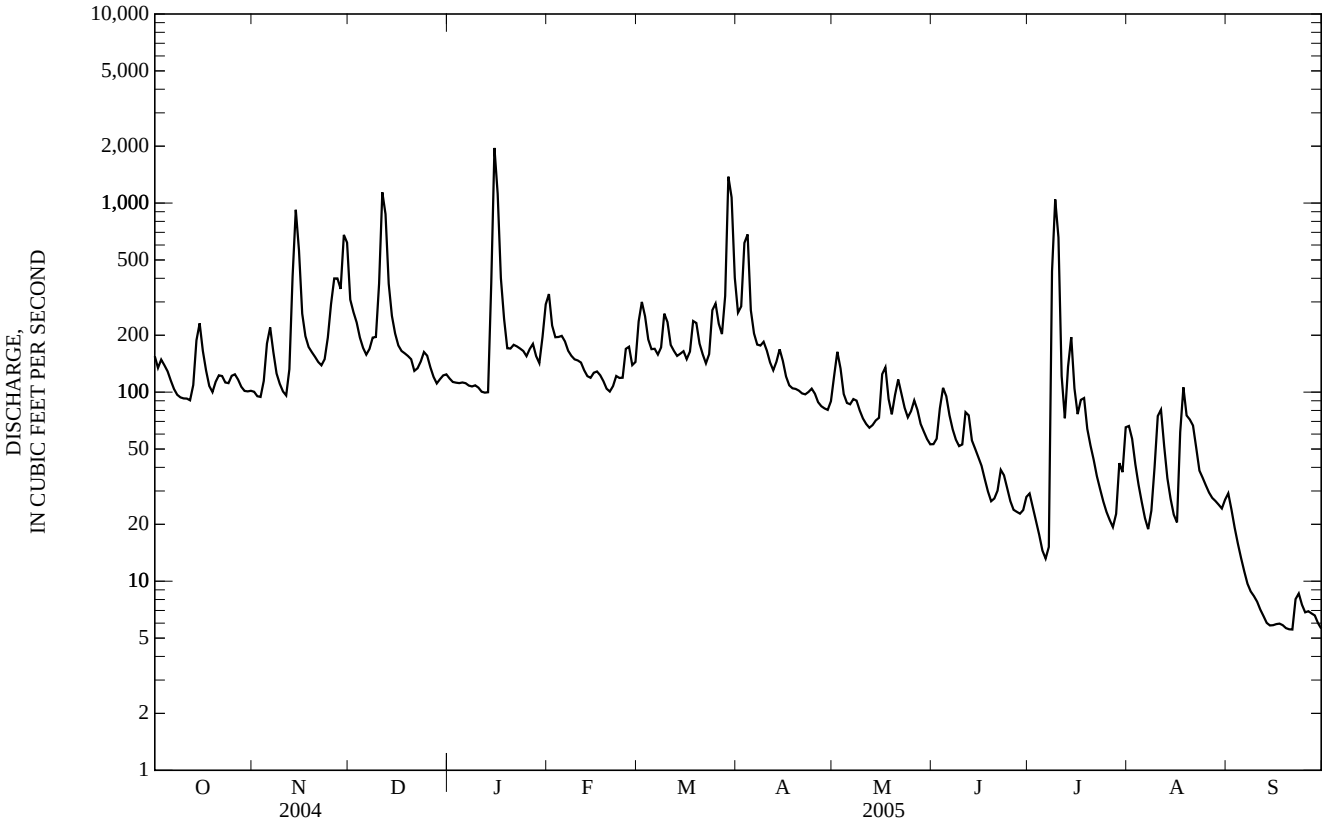
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2005, BY WATER YEAR (WY)

MEAN	98.1	137	156	212	247	279	215	141	86.1	67.0	67.8	93.9
MAX	859	821	453	800	793	718	632	956	449	301	637	1,002
(WY)	(1973)	(1986)	(1997)	(1978)	(1979)	(1993)	(1987)	(2003)	(1972)	(1975)	(2004)	(1979)
MIN	3.55	14.6	26.4	48.5	46.5	74.8	51.2	36.4	2.71	0.52	0.52	2.19
(WY)	(1971)	(1999)	(1966)	(1966)	(2002)	(1981)	(1985)	(1985)	(2002)	(2002)	(2002)	(1968)

02041000 DEEP CREEK NEAR MANNBORO, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1947 - 2005	
ANNUAL TOTAL	86,571		54,217.3			
ANNUAL MEAN	237		149		149	
HIGHEST ANNUAL MEAN					352	2003
LOWEST ANNUAL MEAN					30.5	2002
HIGHEST DAILY MEAN	8,100	Aug 31	1,960	Jan 15	12,000	Oct 6, 1972
LOWEST DAILY MEAN	36	aJul 17	5.6	bSep 19	0.00	cAug 25, 2002
ANNUAL SEVEN-DAY MINIMUM	39	Jul 16	5.8	Sep 15	0.06	Aug 21, 2002
MAXIMUM PEAK FLOW			2,650	Jan 15	15,000	Oct 6, 1972
MAXIMUM PEAK STAGE			9.18	Jan 15	d24.04	Oct 6, 1972
INSTANTANEOUS LOW FLOW			5.5	bSep 19	0.00	fAug 24, 2002
ANNUAL RUNOFF (CFSM)	1.50		0.940		0.946	
ANNUAL RUNOFF (INCHES)	20.38		12.77		12.85	
10 PERCENT EXCEEDS	378		261		285	
50 PERCENT EXCEEDS	135		109		75	
90 PERCENT EXCEEDS	63		21		15	

a Also July 18, 2004.
b Also Sept. 20, 21, 30, 2005.
c Also Aug. 26, 27, 2002.
d From floodmarks.
e Estimated.
f Also part or all of each day Aug. 25-28, 2002.



02041650 APPOMATTOX RIVER AT MATOACA, VA

LOCATION.--Lat 37°13'31", long 77°28'31", NAD83, Chesterfield County, Hydrologic Unit 02080207, on left bank at upstream side of bridge on State Highway 600, 0.2 mi south of Matoaca, 2.0 mi upstream from Rohoic Creek, 2.8 mi downstream from Lake Chesdin, 3.5 mi west of Petersburg, and at mile 15.9

DRAINAGE AREA.--1,344 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 68.30 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Records do not include flow of Upper Appomattox Canal of city of Petersburg which diverts around station. National Weather Service gage-height telemeter at station.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1,700	605	3,220	1,030	1,890	1,360	5,780	1,080	521	228	150	156
2	e1,300	684	2,330	885	1,930	1,690	5,590	1,180	509	221	139	156
3	e1,050	640	2,050	938	1,730	1,770	4,970	1,110	638	207	144	156
4	e900	802	1,800	934	1,600	1,620	4,600	906	676	207	166	156
5	e820	1,130	1,630	870	1,530	1,570	4,390	802	1,110	208	199	156
6	e760	1,270	1,430	984	1,480	1,500	2,860	867	795	208	178	151
7	e700	1,510	1,390	842	1,410	1,500	1,970	717	694	226	160	143
8	e640	1,440	1,410	998	1,320	1,660	1,720	815	587	538	153	137
9	566	1,250	1,450	878	1,260	1,830	1,830	559	502	1,480	150	132
10	565	1,050	2,490	911	1,260	2,010	2,040	681	554	2,380	148	125
11	506	774	5,270	807	1,200	1,900	1,750	628	452	2,120	148	118
12	511	923	6,310	840	1,160	1,630	1,490	695	466	1,240	146	108
13	771	2,190	6,270	829	1,120	1,420	1,400	552	402	817	146	106
14	1,070	3,760	5,490	1,560	910	1,370	1,370	731	372	937	146	100
15	1,250	4,450	3,180	5,620	1,000	1,350	1,380	977	358	978	153	97
16	2,130	4,240	2,000	7,420	1,090	1,310	1,290	1,060	249	1,070	169	92
17	1,830	2,740	1,680	7,510	1,000	1,370	1,210	800	130	793	485	84
18	1,300	1,850	1,500	6,570	918	1,420	1,170	815	178	520	587	80
19	1,130	1,500	1,410	5,450	829	1,530	1,070	784	209	601	656	80
20	1,000	1,370	1,370	2,960	865	1,630	947	779	195	363	589	81
21	828	1,280	1,200	1,900	887	1,490	924	968	224	367	359	84
22	822	1,200	1,220	e1,670	878	1,330	1,090	1,090	252	336	235	83
23	723	1,240	1,230	1,640	992	1,350	942	938	250	304	171	84
24	784	1,260	1,240	1,400	993	1,650	969	861	245	304	175	90
25	885	1,700	1,260	1,350	1,140	2,800	1,040	734	245	303	171	93
26	1,110	2,990	1,290	1,330	1,150	3,280	872	773	245	254	169	90
27	747	3,530	1,270	1,430	1,160	2,610	977	680	241	186	170	88
28	799	3,700	1,210	1,430	1,180	2,900	684	649	239	159	167	86
29	486	3,950	1,150	1,310	---	5,510	873	565	244	161	163	84
30	761	3,910	945	1,330	---	6,390	773	502	240	161	156	85
31	823	---	999	1,640	---	6,400	---	474	---	160	153	---
TOTAL	29,267	58,938	66,694	65,266	33,882	67,150	57,971	24,772	12,022	18,037	6,901	3,281
MEAN	944	1,965	2,151	2,105	1,210	2,166	1,932	799	401	582	223	109
MAX	2,130	4,450	6,310	7,510	1,930	6,400	5,780	1,180	1,110	2,380	656	156
MIN	486	605	945	807	829	1,310	684	474	130	159	139	80

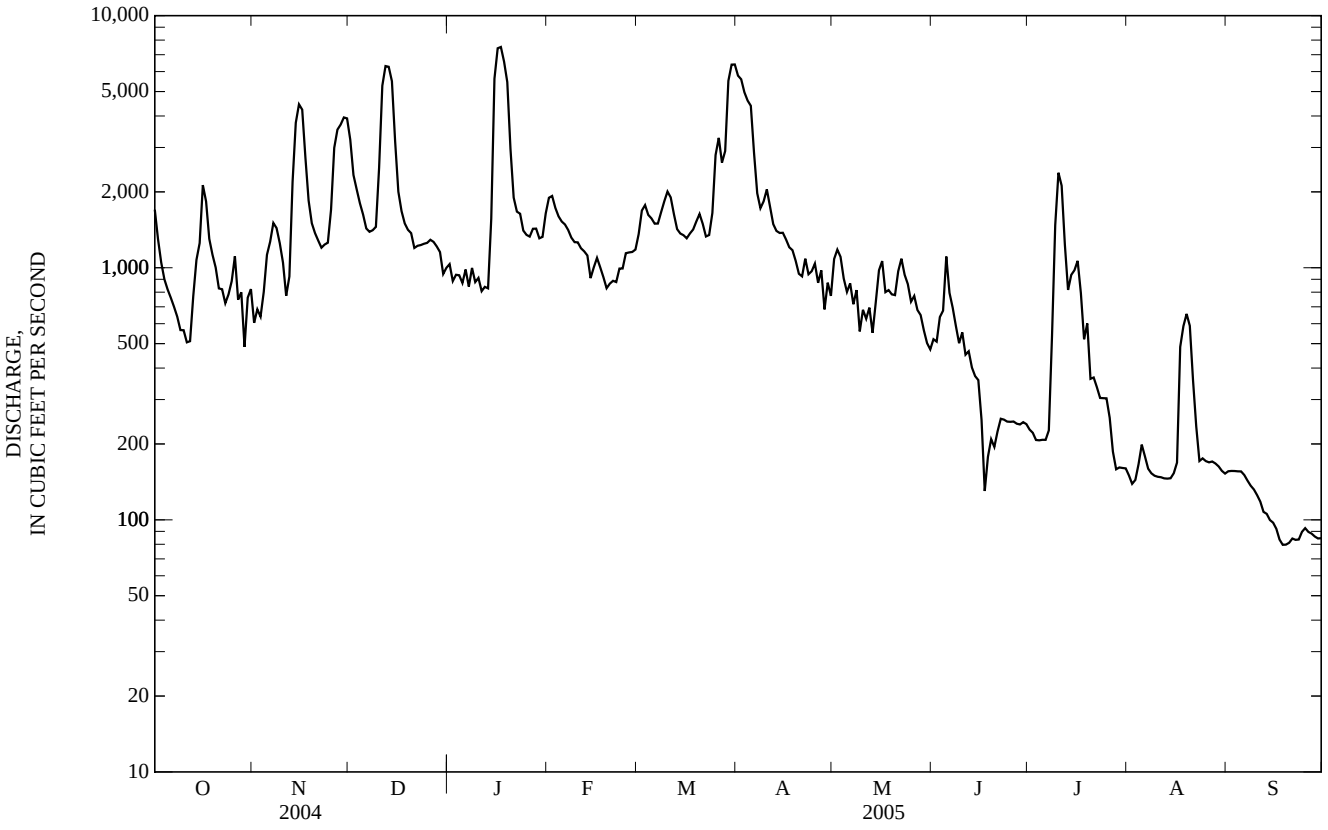
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2005, BY WATER YEAR (WY)

MEAN	967	1,091	1,435	1,917	2,155	2,485	2,087	1,356	923	562	561	906
MAX	6,869	5,648	3,857	5,868	6,532	6,098	5,003	5,424	5,293	2,123	3,411	5,840
(WY)	(1973)	(1986)	(1997)	(1978)	(1998)	(1993)	(1983)	(2003)	(1972)	(1995)	(2004)	(2003)
MIN	52.2	50.4	157	384	347	478	498	411	91.0	41.0	26.0	33.1
(WY)	(2002)	(2002)	(2002)	(1981)	(2002)	(1981)	(1985)	(1985)	(2002)	(2002)	(2002)	(2002)

02041650 APPOMATTOX RIVER AT MATOACA, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1970 - 2005	
ANNUAL TOTAL	620,218		444,181			
ANNUAL MEAN	1,695		1,217		1,366	
HIGHEST ANNUAL MEAN					2,771	2003
LOWEST ANNUAL MEAN					255	2002
HIGHEST DAILY MEAN	19,800	Aug 31	7,510	Jan 17	39,400	Oct 7, 1972
LOWEST DAILY MEAN	a256	Jul 22	a80	Sep 18	a18	Aug 26, 2002
ANNUAL SEVEN-DAY MINIMUM	a320	Jul 16	a82	Sep 17	a19	Aug 20, 2002
MAXIMUM PEAK FLOW			7,830	Jan 17	40,800	Oct 7, 1972
MAXIMUM PEAK STAGE			8.39	Jan 17	18.39	Oct 7, 1972
INSTANTANEOUS LOW FLOW			a79	cSep 18	a17	dAug 26, 2002
ANNUAL RUNOFF (CFSM)	1.26		0.905		1.02	
ANNUAL RUNOFF (INCHES)	17.17		12.29		13.81	
10 PERCENT EXCEEDS	3,580		2,350		3,320	
50 PERCENT EXCEEDS	1,160		934		687	
90 PERCENT EXCEEDS	474		153		137	

a Result of regulation.
b Also Sept. 19, 2005.
c Also Sept. 19, 20, 2005.
d Also Aug. 27, 2002.
e Estimated.



02041650 APPOMATTOX RIVER AT MATOACA, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years l978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1991 to September 1993.
WATER TEMPERATURE: October 1991 to September 1993.

COOPERATION.--Water samples were collected by the U.S. Geological Survey and analyzed by either the U.S. Geological Survey (Agency Code 1028) or by the Virginia Division of Consolidated Laboratory Services (VDCLS, Agency Code 85116), using analytical methods approved by the U.S. Geological Survey. Analyses performed by VDCLS are reported to U.S. Geological Survey rounding specifications. Results of chemical analyses provided by VDCLS were quality-assured and approved by the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Sample type	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Discharge, cfs (00061)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
OCT												
19...	1515	Environmental	85116	3.72	1,040	8.2	753	9.8	102	7.2	89	21.0
APR												
19...	0915	Environmental	85116	3.67	1,000	--	763	--	--	7.3	79	20.0
MAY												
25...	1415	Environmental	85116	3.44	848	--	753	9.6	108	7.9	93	14.0
JUN												
21...	1400	Environmental	85116	2.44	334	--	762	9.7	113	7.8	102	29.0
AUG												
23...	1425	Blank	85116	--	--	--	--	--	--	--	--	--
23...	1430	Environmental	85116	1.87	143	3.2	759	7.0	88	7.3	105	28.5
SEP												
20...	1230	Environmental	85116	1.57	81	.8	761	11.3	141	8.9	107	34.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Temperature, water, deg C (00010)	Silica, water, fltrd, mg/L (00955)	Residue fixed non-filterable, mg/L (00540)	Residue total at 105 deg. C, suspended, mg/L (00530)	Residue volatile, suspended, mg/L (00535)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)
OCT													
19...	16.9	19.4	4	4	<3	.051	.20	.200	.004	.46	--	.009	.025
APR													
19...	15.6	11.5	4	6	<3	.022	.18	.186	.003	.47	.53	.009	.029
MAY													
25...	20.8	15.5	4	5	<3	.034	.18	.188	.006	.45	.50	.010	.032
JUN													
21...	23.1	15.6	<3	3	<3	.020	.36	.381	.021	.66	.85	.021	.040
AUG													
23...	--	.90	<3	<3	<3	<.004	<.004	<.004	<.002	.01	<.10	.002	.005
23...	26.8	18.0	<3	<3	<3	.049	.50	.510	.011	.70	.87	.019	.070
SEP													
20...	26.6	15.6	<3	<3	<3	.010	.26	.260	<.002	.54	.59	.010	.020

02041650 APPOMATTOX RIVER AT MATOACA, VA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, suspnd sedimnt total, mg/L (00601)	Phosphorus, suspnd sedimnt total, mg/L (00667)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, water, fltrd, mg/L (00681)	Pheophytin a, phytoplankton, ug/L (62360)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Suspended sediment concentration mg/L (80154)
OCT									
19...	--	.02	.013	.4	<.02	4.3	1.6	.5	6
APR									
19...	.040	.07	.015	.7	<.02	4.9	3.2	<.5	11
MAY									
25...	.030	.09	.010	.6	<.02	3.6	<.5	.9	6
JUN									
21...	.050	.04	.008	.4	<.02	3.9	<.5	<.5	6
AUG									
23...	.010	<.01	.001	<.02	<.02	<2.0	<.5	<.5	<1
23...	.100	.01	.008	.3	<.02	4.9	<.5	.8	4
SEP									
20...	.040	<.01	.005	.3	<.02	4.4	<.5	1.9	1

Remark codes used in this table:
< -- Less than.

02042500 CHICKAHOMINY RIVER NEAR PROVIDENCE FORGE, VA

LOCATION.--Lat 37°26'11", long 77°03'39", NAD83, New Kent County, Hydrologic Unit 02080206, on left bank 100 ft downstream from bridge on State Highway 618, 1.1 mi southwest of Providence Forge, and 1.7 mi downstream from Schiminoe Creek.

DRAINAGE AREA.--252 mi^2.

PERIOD OF RECORD.--January 1942 to current year.

REVISED RECORDS.--WSP 1553: 1956. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6.07 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 18,900 ft^3/s, from rating curve extended above 9,100 ft^3/s. 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	387	167	472	225	421	326	1,010	211	216	28	129	31
2	398	165	420	215	443	348	1,010	241	216	30	152	27
3	450	163	425	208	433	355	959	256	236	27	139	24
4	547	166	410	200	450	332	858	254	238	23	107	19
5	531	194	370	189	410	348	783	245	248	18	75	16
6	459	212	331	186	366	373	749	266	244	16	59	13
7	376	233	307	184	324	363	649	278	220	14	108	11
8	302	247	288	186	291	366	550	245	201	45	109	9.0
9	245	273	268	190	270	433	455	211	180	97	142	7.9
10	214	305	412	193	258	497	389	180	156	162	182	7.3
11	188	290	737	194	245	496	345	156	147	265	207	6.5
12	172	262	869	200	231	468	310	137	150	299	209	5.7
13	166	367	769	214	217	459	322	120	132	319	171	5.3
14	181	556	796	285	210	412	325	104	120	348	126	5.0
15	210	660	826	488	210	352	301	98	108	336	90	7.9
16	247	594	691	753	206	302	265	111	92	359	69	7.2
17	227	710	520	851	203	267	235	106	72	370	81	5.8
18	197	751	398	e1,120	197	246	214	101	58	364	69	5.1
19	184	641	335	e1,100	191	232	200	98	48	381	71	5.1
20	208	481	294	e900	186	233	191	118	41	348	100	5.0
21	212	364	247	e600	182	230	182	163	38	302	116	6.4
22	208	298	254	e360	180	222	183	200	35	242	133	4.3
23	217	261	250	e260	178	223	198	221	32	185	131	3.9
24	210	246	276	e280	180	246	230	296	31	200	117	4.2
25	202	250	352	295	204	263	231	445	29	255	86	4.3
26	196	254	382	306	219	289	220	507	26	236	60	3.7
27	193	268	326	311	244	294	222	434	26	190	47	3.6
28	186	316	267	305	264	351	220	348	27	168	40	3.8
29	177	374	271	302	---	516	207	299	27	131	34	4.6
30	172	461	253	322	---	811	193	264	26	101	32	6.2
31	170	---	236	366	---	918	---	237	---	104	34	---
TOTAL	8,032	10,529	13,052	11,788	7,413	11,571	12,206	6,950	3,420	5,963	3,225	268.8
MEAN	259	351	421	380	265	373	407	224	114	192	104	8.96
MAX	547	751	869	1,120	450	918	1,010	507	248	381	209	31
MIN	166	163	236	184	178	222	182	98	26	14	32	3.6
CFSM	1.03	1.39	1.67	1.51	1.05	1.48	1.61	0.89	0.45	0.76	0.41	0.04
IN.	1.19	1.55	1.93	1.74	1.09	1.71	1.80	1.03	0.50	0.88	0.48	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2005, BY WATER YEAR (WY)

MEAN	144	211	289	369	418	469	387	239	170	150	178	167
MAX	794	768	1,043	1,214	1,198	1,055	1,152	676	757	1,081	1,445	1,842
(WY)	(1980)	(1986)	(1958)	(1978)	(1998)	(1998)	(1984)	(1978)	(1972)	(1945)	(1955)	(2004)
MIN	2.99	4.67	28.0	58.7	86.9	108	102	34.9	5.85	0.56	2.92	0.17
(WY)	(2002)	(2002)	(1966)	(1955)	(2002)	(1981)	(1995)	(1985)	(2002)	(2002)	(2002)	(1997)

02042500 CHICKAHOMINY RIVER NEAR PROVIDENCE FORGE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1942 - 2005	
ANNUAL TOTAL	186,678		94,417.8			
ANNUAL MEAN	510		259		267	
HIGHEST ANNUAL MEAN					559	2003
LOWEST ANNUAL MEAN					67.6	2002
HIGHEST DAILY MEAN	e14,700	Sep 1	e1,120	Jan 18	e14,700	Sep 1, 2004
LOWEST DAILY MEAN	93	May 18	3.6	Sep 27	0.05	Jul 22, 2002
ANNUAL SEVEN-DAY MINIMUM	113	May 15	4.0	Sep 22	0.07	Jul 17, 2002
MAXIMUM PEAK FLOW			(a)	Jan 18	18,900	Sep 1, 2004
MAXIMUM PEAK STAGE			(a)	Jan 18	b12.58	Sep 1, 2004
INSTANTANEOUS LOW FLOW			3.5	cSep 23	0.04	Jul 22, 2002
ANNUAL RUNOFF (CFSM)	2.02		1.03		1.06	
ANNUAL RUNOFF (INCHES)	27.56		13.94		14.41	
10 PERCENT EXCEEDS	1,030		484		610	
50 PERCENT EXCEEDS	300		222		171	
90 PERCENT EXCEEDS	169		27		20	

a Not determined, at least 1,210 ft^3/s, may have been slightly higher.
b From highwater-mark in gage house.
c Also Sept. 26, 27, 2005.
e Estimated.