

01613900 HOGUE CREEK NEAR HAYFIELD, VA

LOCATION.--Lat 39°12'52", long 78°17'17", NAD83, Frederick County, Hydrologic Unit 02070004, on right bank 15 ft upstream from bridge on State Highway 614, 0.8 mi upstream from Gap Run, and 1.3 mi southeast of Hayfield.

DRAINAGE AREA.--15.0 mi².

PERIOD OF RECORD.--August 1960 to December 1986, October 1992 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 668.60 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 4,090 ft³/s, from rating curve extended above 870 ft³/s. 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 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 28	2145	*424	*3.36	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	26	6.3	38	11	6.7	9.1	41	11	4.7	1.4	1.3	1.4
2	16	5.7	29	9.0	6.7	8.7	125	11	4.4	1.3	1.3	1.1
3	12	5.4	23	8.1	6.5	9.9	121	8.9	5.3	1.3	1.2	1.0
4	9.4	15	18	7.7	7.1	8.8	53	7.0	5.3	1.3	1.2	0.96
5	7.6	20	16	10	7.7	10	35	16	6.2	4.5	1.3	1.1
6	6.6	14	13	13	7.7	13	28	5.9	6.1	1.4	1.1	0.97
7	5.5	12	15	12	7.8	24	22	6.3	6.2	1.4	1.2	0.97
8	e4.8	9.9	14	13	8.5	31	22	7.0	4.2	1.7	1.6	0.97
9	e4.4	8.8	40	12	9.4	23	17	7.3	3.5	14	2.2	0.96
10	e4.1	7.8	167	12	10	18	14	5.4	4.4	5.2	2.3	1.1
11	e3.8	6.8	96	11	7.7	16	21	4.8	7.5	3.5	2.0	0.98
12	e3.5	23	50	11	7.7	14	12	4.5	5.0	2.6	1.7	0.97
13	e3.2	36	34	10	6.9	14	15	4.4	4.0	24	1.5	0.97
14	5.6	21	23	83	8.7	11	9.9	4.2	3.7	21	1.4	1.0
15	5.2	16	17	46	10	9.1	10	5.4	3.0	7.7	1.2	1.2
16	4.7	14	15	30	9.2	8.5	13	4.9	2.7	5.2	1.2	3.3
17	4.5	12	14	22	8.6	7.9	7.9	3.8	2.5	4.3	1.2	2.5
18	3.9	11	12	e18	7.8	7.7	7.3	2.7	2.4	4.1	1.1	1.5
19	4.1	11	11	e14	e7.6	7.8	6.9	3.2	2.4	3.5	1.4	1.2
20	6.1	12	e8.3	13	7.4	7.7	6.6	61	2.3	3.0	1.4	1.2
21	9.6	10	8.5	12	7.8	6.9	6.4	34	2.2	2.5	1.2	1.2
22	8.5	9.2	8.0	e11	7.7	6.3	7.7	17	2.2	3.3	1.0	1.2
23	11	8.9	17	e10	7.1	61	17	16	3.1	1.9	0.97	1.3
24	8.2	11	18	e9.7	6.9	59	11	29	3.4	1.7	0.92	1.2
25	8.1	13	12	11	7.6	33	9.5	23	2.6	1.9	0.87	1.2
26	7.4	12	e11	10	7.5	24	8.4	17	2.1	1.6	0.87	1.3
27	7.2	11	e10	9.2	7.7	26	7.7	10	1.9	1.6	1.4	1.3
28	5.8	63	e9.8	e8.7	8.2	212	7.3	8.2	1.6	1.7	1.9	1.2
29	5.5	36	9.3	e7.6	---	e220	7.1	7.2	1.6	1.6	1.4	1.2
30	8.2	25	9.5	e7.0	---	84	11	6.2	1.4	1.5	1.3	1.1
31	7.6	---	9.8	7.0	---	56	---	5.5	---	1.4	1.5	---
TOTAL	228.1	466.8	776.2	469.0	220.2	1,047.4	680.7	348.0	106.2	145.2	41.93	37.42
MEAN	7.36	15.6	25.0	15.1	7.86	33.8	22.7	11.2	3.54	4.68	1.35	1.25
MAX	26	63	167	83	10	220	125	61	7.5	24	2.3	3.3
MIN	3.2	5.4	8.0	7.0	6.5	6.3	6.4	2.7	1.4	1.3	0.87	0.96
CFSM	0.49	1.04	1.67	1.01	0.52	2.25	1.51	0.75	0.24	0.31	0.09	0.08
IN.	0.57	1.16	1.92	1.16	0.55	2.60	1.69	0.86	0.26	0.36	0.10	0.09

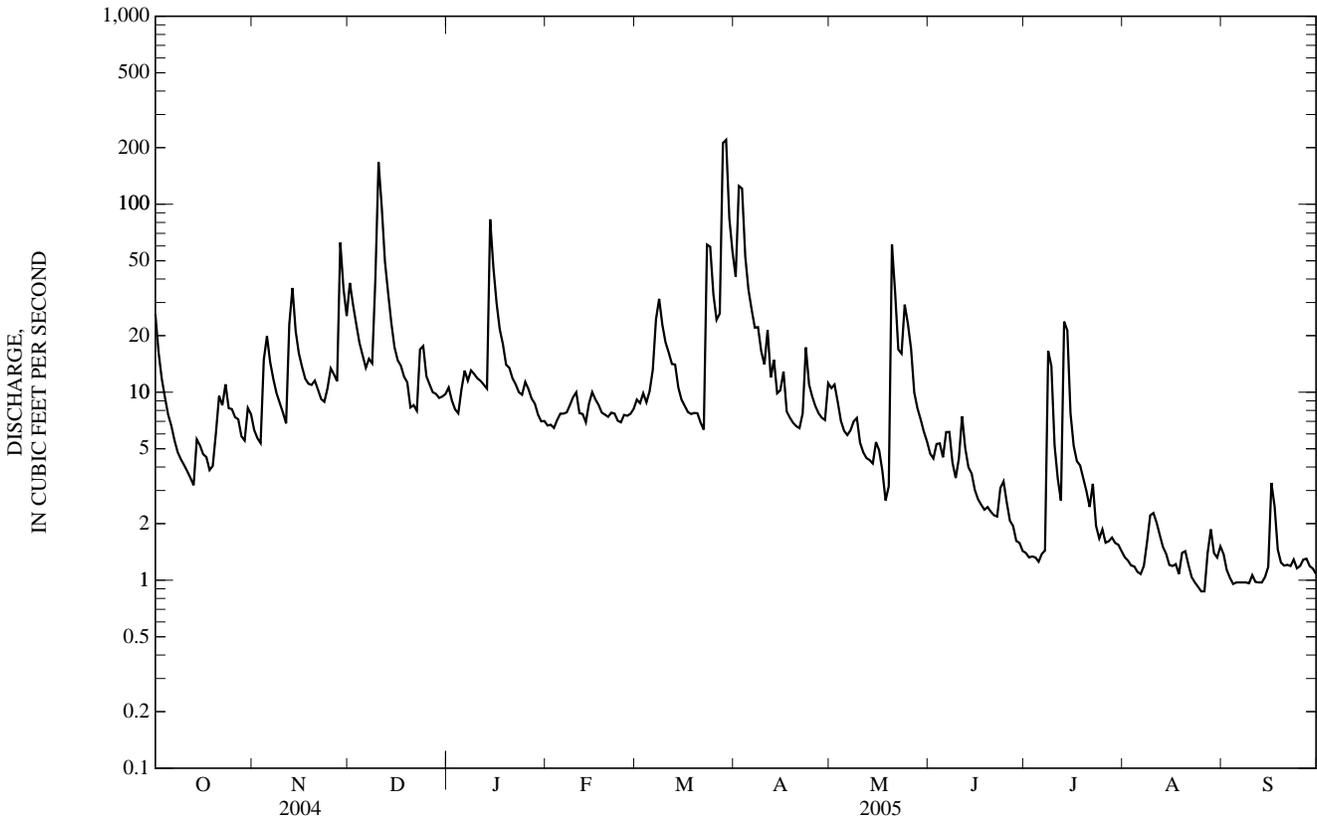
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1986, 1993 - 2005, BY WATER YEAR (WY)

MEAN	6.78	12.6	16.5	18.6	25.2	37.6	26.8	17.0	12.2	4.70	4.89	7.13
MAX	53.6	52.5	51.2	81.0	75.9	114	89.7	47.4	94.2	30.6	54.2	65.8
(WY)	(1980)	(1986)	(1973)	(1996)	(1998)	(1993)	(1983)	(1978)	(1972)	(1978)	(1978)	(1996)
MIN	0.52	1.08	1.06	1.72	2.22	5.81	6.31	2.17	0.98	0.81	0.31	0.78
(WY)	(1964)	(1966)	(1966)	(1966)	(2002)	(1981)	(1963)	(1969)	(1969)	(1964)	(1999)	(1963)

01613900 HOGUE CREEK NEAR HAYFIELD, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS	
					1960 - 1986	1993 - 2005
ANNUAL TOTAL	8,004.7		4,567.15		15.8	
ANNUAL MEAN	21.9		12.5		32.2	
HIGHEST ANNUAL MEAN					1996	
LOWEST ANNUAL MEAN					3.84	
HIGHEST DAILY MEAN	482	Sep 28	e220	Mar 29	1,060	Sep 6, 1996
LOWEST DAILY MEAN	1.1	aAug 25	0.87	bAug 25	0.06	Sep 14, 1968
ANNUAL SEVEN-DAY MINIMUM	1.2	cAug 23	0.97	Sep 3	0.19	Aug 7, 1999
MAXIMUM PEAK FLOW			424	Mar 28	4,090	Sep 6, 1996
MAXIMUM PEAK STAGE			3.36	Mar 28	9.71	Sep 6, 1996
INSTANTANEOUS LOW FLOW			0.87	dAug 24	0.00	fSep 14, 1968
ANNUAL RUNOFF (CFSM)	1.46		0.834		1.05	
ANNUAL RUNOFF (INCHES)	19.85		11.33		14.32	
10 PERCENT EXCEEDS	39		23		35	
50 PERCENT EXCEEDS	9.6		7.6		5.4	
90 PERCENT EXCEEDS	1.9		1.2		1.2	

- a Also Aug. 26, 27 and Sept. 2, 2004.
- b Also Aug. 26, 2005.
- c Also Aug. 24-30, 2004.
- d Also Aug. 25-27, and Sept. 4, 9, 2005.
- e Estimated.
- f No flow part of day, cause unknown.



01614830 OPEQUON CREEK NEAR STEPHENS CITY, VA

LOCATION.--Lat 39°06'32", long 78°12'18", NAD83, Frederick County, Hydrologic Unit Code 02070004, on right bank, 5 ft upstream from U.S. Highway 11, 1.5 mi north of Stephens City.

DRAINAGE AREA.--15.2 mi².

PERIOD OF RECORD.--December 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 705 ft NGVD of 1929, from topographic map.

REMARKS.--Records good.

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	19	9.2	13	12	9.3	9.3	14	10	6.4	5.1	5.0	3.9
2	17	9.3	12	11	9.2	9.2	22	9.9	6.3	4.9	4.7	3.5
3	16	9.1	11	11	9.4	9.0	20	9.5	6.6	4.6	4.7	3.4
4	15	10	11	11	9.6	9.0	16	9.1	6.5	4.7	4.8	3.3
5	14	11	10	12	9.8	9.6	15	8.6	6.0	5.1	4.5	3.3
6	13	10	11	12	9.7	10	14	8.5	5.8	5.5	4.6	3.2
7	13	9.8	11	11	9.6	10	14	8.3	5.7	5.2	4.9	3.3
8	12	9.5	11	11	9.9	11	15	8.0	5.5	13	5.1	3.3
9	12	9.2	14	11	10	9.8	13	7.7	5.5	9.5	6.4	3.3
10	12	9.0	39	11	10	9.7	13	7.6	5.5	6.7	5.5	3.3
11	11	8.9	22	11	9.5	9.8	13	7.3	5.4	6.1	5.3	3.0
12	11	11	18	10	9.5	9.3	12	7.2	5.4	5.9	5.1	2.9
13	11	11	16	10	9.4	9.0	12	8.1	5.2	5.8	5.1	2.8
14	11	9.9	15	17	10	8.8	12	8.1	5.3	5.8	4.7	2.7
15	12	9.6	14	14	10	8.6	11	8.2	5.1	5.5	4.4	2.8
16	11	9.5	14	13	9.8	8.6	11	7.7	5.0	5.5	4.6	6.1
17	10	9.3	14	12	9.5	8.6	11	7.6	5.0	5.4	4.6	4.9
18	10	9.3	14	12	9.3	8.5	11	7.4	5.0	5.4	4.4	3.8
19	10	9.5	14	12	9.0	8.3	11	7.1	5.1	5.7	4.6	3.6
20	11	9.6	12	12	9.1	8.3	11	12	5.1	5.6	4.5	3.6
21	11	9.6	12	11	9.4	8.2	11	9.4	5.1	6.0	4.2	3.6
22	10	9.2	13	11	9.2	7.9	11	8.4	5.2	6.1	4.0	3.5
23	10	9.1	15	11	9.0	13	12	8.6	5.1	5.6	4.1	3.5
24	10	9.3	14	11	9.2	13	11	9.3	4.7	5.1	3.9	3.6
25	10	9.9	12	11	9.3	11	11	8.6	4.7	5.1	4.0	3.6
26	9.6	9.3	12	11	9.2	11	10	8.1	4.6	5.0	4.1	3.6
27	9.5	9.1	12	10	9.1	11	9.6	7.6	4.6	4.9	4.3	3.6
28	9.3	14	11	9.7	9.3	22	9.3	7.5	4.8	5.1	4.4	3.4
29	9.4	11	12	9.6	---	27	9.4	7.1	5.4	5.1	4.0	3.4
30	9.8	11	12	9.8	---	17	11	7.0	5.4	5.0	3.9	3.4
31	9.4	---	12	9.5	---	15	---	7.0	---	5.0	4.1	---
TOTAL	359.0	295.2	433	350.6	265.3	340.5	376.3	256.5	161.0	179.0	142.5	105.2
MEAN	11.6	9.84	14.0	11.3	9.47	11.0	12.5	8.27	5.37	5.77	4.60	3.51
MAX	19	14	39	17	10	27	22	12	6.6	13	6.4	6.1
MIN	9.3	8.9	10	9.5	9.0	7.9	9.3	7.0	4.6	4.6	3.9	2.7
CFSM	0.76	0.65	0.92	0.74	0.62	0.72	0.83	0.54	0.35	0.38	0.30	0.23
IN.	0.88	0.72	1.06	0.86	0.65	0.83	0.92	0.63	0.39	0.44	0.35	0.26

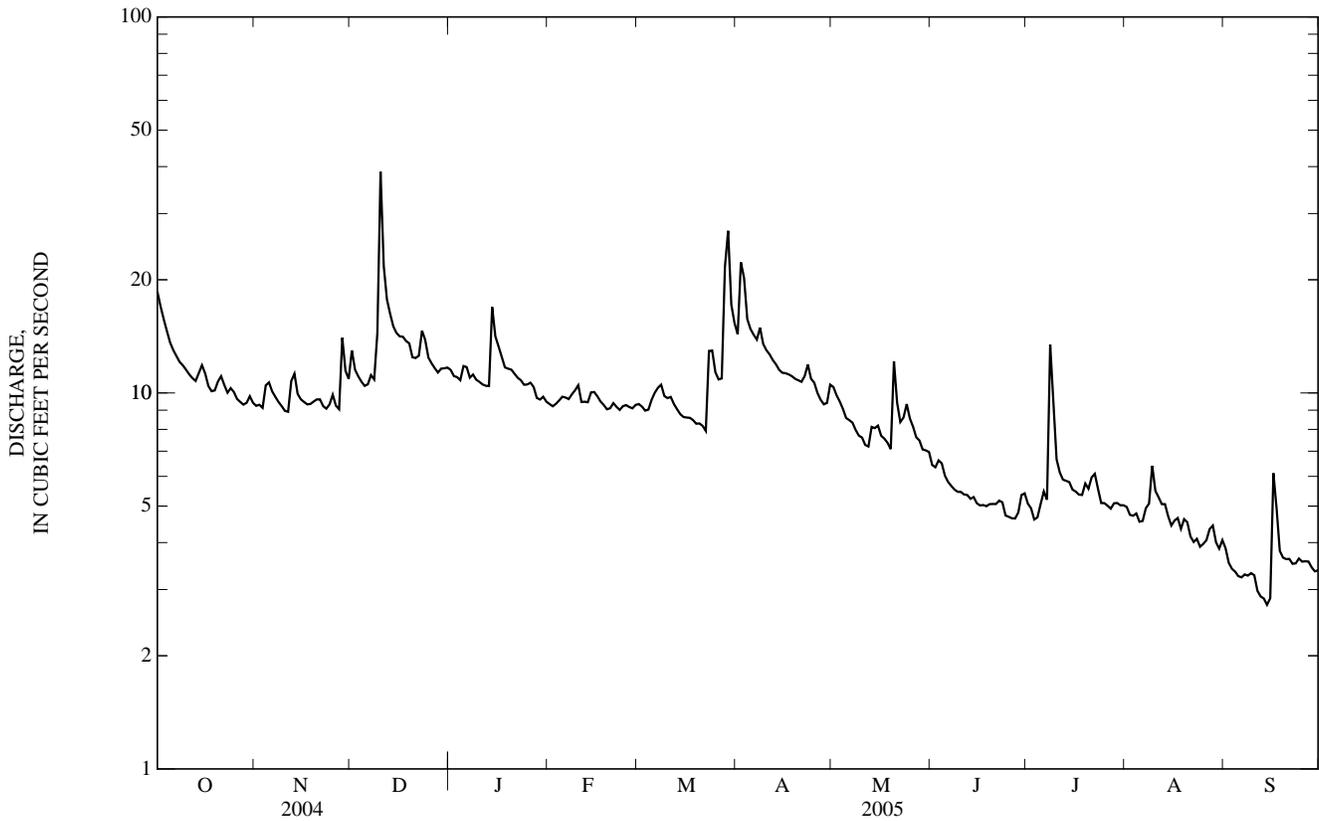
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

MEAN	6.23	8.64	12.9	8.29	8.80	13.1	12.2	10.1	9.94	7.90	5.21	8.79
MAX	11.6	14.0	20.0	13.1	18.1	32.2	20.1	18.9	24.4	19.4	11.1	22.5
(WY)	(2005)	(2004)	(2004)	(2003)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2004)
MIN	2.03	2.07	2.26	2.04	1.72	1.61	2.08	4.97	4.75	2.54	1.19	1.73
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2001)	(2002)	(2002)	(2002)

01614830 OPEQUON CREEK NEAR STEPHENS CITY, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	4,732.6		3,264.1		10.2	
ANNUAL MEAN	12.9		8.94		2.45	
HIGHEST ANNUAL MEAN					15.8	2003
LOWEST ANNUAL MEAN					2.45	2002
HIGHEST DAILY MEAN	186	Sep 28	39	Dec 10	186	Sep 28, 2004
LOWEST DAILY MEAN	4.7	Sep 2	2.7	Sep 14	0.79	Aug 21, 2002
ANNUAL SEVEN-DAY MINIMUM	4.8	Aug 30	3.0	Sep 9	0.89	Aug 17, 2002
MAXIMUM PEAK FLOW			74	Dec 10	691	Sep 28, 2004
MAXIMUM PEAK STAGE			4.49	Dec 10	7.67	Sep 28, 2004
INSTANTANEOUS LOW FLOW			2.1	bSep 14	0.47	Oct 10, 2002
ANNUAL RUNOFF (CFSM)	0.851		0.588		0.671	
ANNUAL RUNOFF (INCHES)	11.58		7.99		9.11	
10 PERCENT EXCEEDS	18		13		19	
50 PERCENT EXCEEDS	11		9.3		8.9	
90 PERCENT EXCEEDS	6.5		4.2		1.9	

a From floodmark.
 b Also Sept. 15, 2005.



01615000 OPEQUON CREEK NEAR BERRYVILLE, VA

LOCATION.--Lat 39°10'29", long 78°04'42", NAD83, Frederick County, Hydrologic Unit 02070004, on left bank, 1,200 ft upstream of bridge on State Highway 7, 0.4 mi upstream from Abrams Creek, and 5.0 mi west of Berryville.

DRAINAGE AREA.--57.3 mi².

PERIOD OF RECORD.--October 1943 to September 1997, October 2002 to September 2003.

REVISED RECORDS.--WSP 2103: Drainage area. WDR VA-72-1: 1971 (P).

GAGE.--Water-stage recorder. Datum of gage is 503.24 ft NGVD of 1929. Prior to July 26, 1949, nonrecording gage, at site 1,200 ft downstream, July 26, 1949 to September 30, 1997, water-stage recorder at same site and datum, and October 15, 2002 to current year, at present site and same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some diurnal fluctuation caused by mills upstream. Maximum discharge, 12,600 ft³/s, from rating curve extended above 4,800 ft³/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 October 1942 reached a stage of 18.4 ft, discharge not determined, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 10	0015	1,100	7.79	Mar 28	2045	*1,940	*9.91
Dec 10	1800	980	7.46	Apr 3	0130	931	7.36
Mar 23	1945	1,270	8.25	Jul 8	1030	921	7.34

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	83	19	112	30	26	51	80	33	14	9.3	11	12
2	61	19	81	28	25	54	287	27	12	7.2	11	9.3
3	50	19	57	27	27	48	459	25	14	6.6	10	8.2
4	41	35	45	26	29	46	134	23	15	6.6	10	7.8
5	34	50	37	35	38	57	86	22	13	6.7	9.7	7.0
6	30	28	33	49	37	73	70	21	12	17	9.5	7.2
7	28	23	37	41	37	86	61	21	12	8.1	9.6	6.8
8	26	20	42	43	41	90	66	21	11	296	12	6.6
9	24	18	160	43	47	77	56	20	11	93	24	6.5
10	23	17	670	39	61	59	49	19	12	37	19	6.7
11	22	17	274	36	48	53	46	19	12	23	17	6.4
12	21	43	127	33	40	48	41	18	12	19	12	5.9
13	21	99	89	31	37	41	39	17	14	19	13	5.8
14	24	50	67	357	40	36	37	20	18	19	11	6.0
15	26	34	56	155	50	33	34	28	17	16	9.9	6.2
16	26	28	50	89	46	32	32	22	16	15	10	7.1
17	22	24	46	69	42	31	32	20	16	15	11	26
18	21	23	42	e55	36	29	31	19	16	22	9.9	8.7
19	20	23	39	e50	31	28	30	18	16	35	11	7.1
20	24	26	e34	47	30	28	29	154	16	27	12	6.6
21	32	25	e30	43	33	27	27	74	15	29	10	6.3
22	29	23	29	e40	33	26	29	32	15	42	8.6	6.1
23	26	22	61	e39	30	378	41	33	16	20	8.1	6.4
24	25	22	85	e37	30	252	33	81	12	16	8.2	6.2
25	27	41	54	e34	33	106	29	73	11	16	7.9	6.4
26	24	41	42	e33	37	74	27	51	9.9	14	7.9	6.8
27	22	31	35	34	39	64	25	29	9.8	13	11	6.6
28	21	244	e32	e33	44	734	24	21	9.7	13	19	6.1
29	20	98	30	e32	---	607	23	19	11	12	11	6.3
30	22	60	30	31	---	177	33	16	19	12	10	6.1
31	21	---	31	27	---	104	---	17	---	11	31	---
TOTAL	896	1,222	2,557	1,666	1,047	3,549	1,990	1,013	407.4	895.5	375.3	227.2
MEAN	28.9	40.7	82.5	53.7	37.4	114	66.3	32.7	13.6	28.9	12.1	7.57
MAX	83	244	670	357	61	734	459	154	19	296	31	26
MIN	20	17	29	26	25	26	23	16	9.7	6.6	7.9	5.8
CFSM	0.50	0.71	1.44	0.94	0.65	2.00	1.16	0.57	0.24	0.50	0.21	0.13
IN.	0.58	0.79	1.66	1.08	0.68	2.30	1.29	0.66	0.26	0.58	0.24	0.15

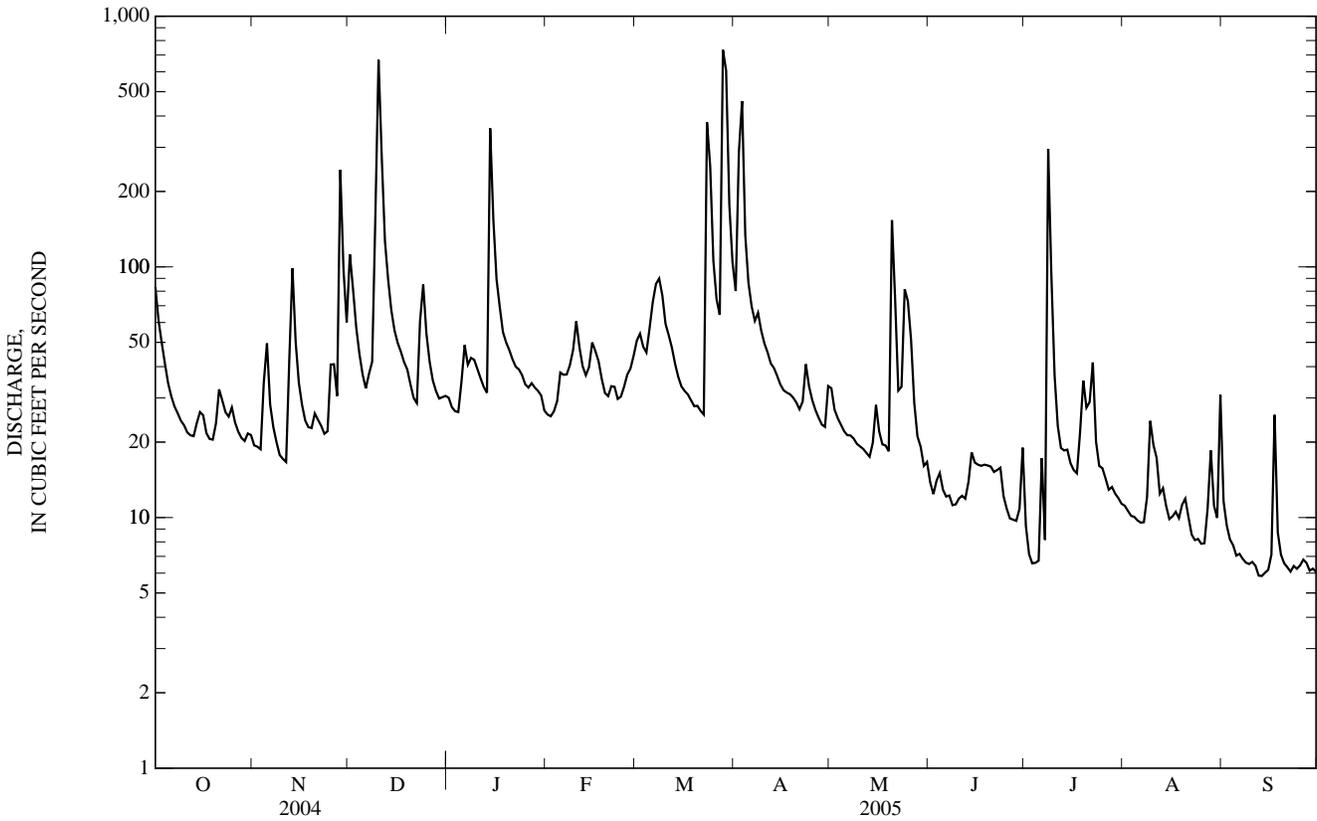
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1997, 2003 - 2005, BY WATER YEAR (WY)

	29.5	36.7	54.3	59.4	71.7	92.2	65.3	48.3	37.9	22.3	22.7	28.5
MEAN	186	146	167	288	250	309	254	269	347	120	130	230
(WY)	(1977)	(1971)	(1973)	(1996)	(1984)	(1993)	(1952)	(1988)	(1972)	(1975)	(1955)	(1996)
MIN	2.67	2.61	2.83	4.63	12.0	16.8	11.0	10.3	5.58	1.87	0.92	1.32
(WY)	(1966)	(1966)	(1966)	(1966)	(1947)	(1981)	(1947)	(1969)	(1966)	(1966)	(1966)	(1965)

01615000 OPEQUON CREEK NEAR BERRYVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS	
					1944 - 1997	2003 - 2005
ANNUAL TOTAL	22,051.5		15,845.4		47.3	
ANNUAL MEAN	60.2		43.4		114	
HIGHEST ANNUAL MEAN					1996	
LOWEST ANNUAL MEAN					14.5	
HIGHEST DAILY MEAN	1,150	Sep 28	734	Mar 28	4,670	Jun 22, 1972
LOWEST DAILY MEAN	7.5	aSep 1	5.8	Sep 13	0.20	bSep 12, 1966
ANNUAL SEVEN-DAY MINIMUM	7.8	Aug 31	6.2	Sep 9	0.27	Sep 7, 1966
MAXIMUM PEAK FLOW			1,940	Mar 28	12,600	May 18, 1988
MAXIMUM PEAK STAGE			9.91	Mar 28	c13.57	Sep 28, 2004
INSTANTANEOUS LOW FLOW			5.2	dSep 11	0.20	fSep 11, 1966
ANNUAL RUNOFF (CFSM)	1.05		0.758		0.825	
ANNUAL RUNOFF (INCHES)	14.32		10.29		11.21	
10 PERCENT EXCEEDS	116		73		90	
50 PERCENT EXCEEDS	30		27		19	
90 PERCENT EXCEEDS	14		8.7		5.5	

- a Also Sept. 5, 2004.
- b Also Sept. 13, 1966.
- c At current location.
- d Also Sept. 12, 13, 29, 30, 2005.
- e Estimated.
- f Also Sept. 12, 13, 1966.



01616100 DRY MARSH RUN NEAR BERRYVILLE, VA

LOCATION.--Lat 39°11'33", long 78°04'07", NAD83, Clarke County, Hydrologic Unit 02070004, on right bank, 20 ft upstream from bridge on State Highway 645 (Wrights Mill Road), 5.8 mi northwest of Berryville, and 4.5 mi east of Winchester.

DRAINAGE AREA.--11.4 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 540 ft NGVD of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

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	26	8.9	18	12	10	8.8	36	14	9.0	5.3	4.1	2.9
2	24	8.9	18	12	9.8	8.4	46	13	8.8	5.2	4.0	2.9
3	21	8.8	17	12	10	8.5	49	13	8.8	5.0	3.8	2.9
4	20	10	17	12	10	8.6	38	12	8.8	4.9	3.8	2.8
5	19	12	16	12	10	9.1	33	12	8.4	4.7	3.7	2.8
6	18	11	15	12	9.8	10	30	12	8.3	4.9	3.6	2.8
7	17	11	15	11	9.8	11	29	12	7.9	4.6	3.7	2.8
8	16	10	14	11	9.9	12	28	12	7.6	7.8	3.6	2.8
9	16	9.9	20	10	10	12	25	11	7.6	6.5	3.8	2.8
10	15	9.8	39	10	10	12	24	11	7.4	6.0	3.8	2.7
11	15	9.8	35	10	9.7	13	23	11	7.2	5.7	3.6	2.9
12	14	11	28	9.8	9.7	13	22	11	6.9	5.6	3.5	3.0
13	14	13	25	9.8	9.3	12	22	11	6.8	5.4	3.5	3.0
14	15	13	23	20	9.6	12	21	11	6.8	5.5	3.5	3.0
15	14	12	21	19	9.6	12	19	11	6.6	5.3	3.4	3.0
16	15	12	20	17	9.5	12	19	11	6.4	5.2	3.3	3.1
17	13	12	19	16	9.3	12	18	10	6.2	5.3	3.2	3.1
18	12	11	19	15	8.9	11	18	9.8	6.1	5.1	3.2	3.0
19	12	11	18	15	8.8	11	18	9.8	6.0	5.1	3.2	3.0
20	12	11	16	15	8.8	11	17	13	5.8	4.8	3.2	3.0
21	13	10	15	14	9.1	11	17	12	5.7	4.8	3.2	3.0
22	12	10	15	13	8.8	11	17	11	5.8	4.8	3.1	3.0
23	12	10	17	13	8.5	26	18	11	6.0	4.5	3.0	3.0
24	12	9.8	16	12	8.7	30	17	11	5.7	4.4	3.0	3.0
25	12	10	15	12	8.6	24	16	11	5.7	4.5	3.0	3.1
26	10	9.7	15	12	8.4	21	15	11	5.7	4.5	3.0	3.1
27	9.5	9.5	14	12	8.4	21	15	10	5.6	4.2	3.0	3.1
28	9.5	18	13	11	8.7	71	14	9.9	5.5	4.4	3.0	3.0
29	9.3	17	14	11	---	92	14	9.7	5.5	4.4	2.9	3.1
30	9.3	16	13	11	---	52	15	9.4	5.6	4.3	2.8	3.0
31	9.3	---	13	10	---	42	---	9.3	---	4.1	3.0	---
TOTAL	445.9	336.1	573	391.6	261.7	620.4	693	345.9	204.2	156.8	104.5	88.7
MEAN	14.4	11.2	18.5	12.6	9.35	20.0	23.1	11.2	6.81	5.06	3.37	2.96
MAX	26	18	39	20	10	92	49	14	9.0	7.8	4.1	3.1
MIN	9.3	8.8	13	9.8	8.4	8.4	14	9.3	5.5	4.1	2.8	2.7
CFSM	1.26	0.98	1.62	1.11	0.82	1.76	2.03	0.98	0.60	0.44	0.30	0.26
IN.	1.46	1.10	1.87	1.28	0.85	2.02	2.26	1.13	0.67	0.51	0.34	0.29

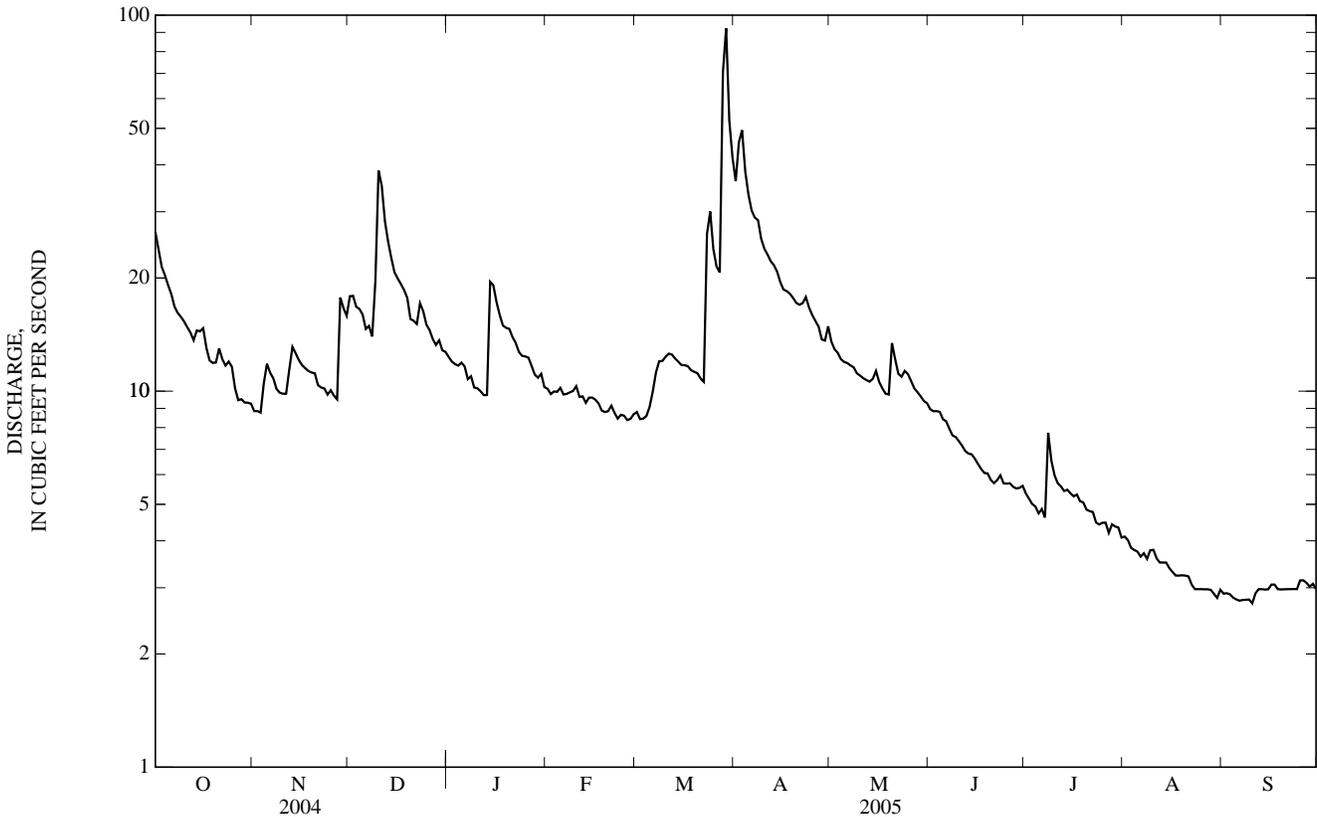
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2005, BY WATER YEAR (WY)

MEAN	9.27	11.2	20.8	15.9	15.8	26.3	23.6	16.5	18.0	10.5	6.36	7.50
MAX	14.4	15.8	29.9	19.4	22.0	44.5	26.7	23.8	32.5	14.5	7.97	14.8
(WY)	(2005)	(2004)	(2004)	(2003)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2004)
MIN	2.61	6.48	14.1	12.6	9.35	14.5	20.9	11.2	6.81	5.06	3.37	1.66
(WY)	(2003)	(2003)	(2003)	(2005)	(2005)	(2004)	(2004)	(2005)	(2005)	(2005)	(2005)	(2002)

01616100 DRY MARSH RUN NEAR BERRYVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	5,499.9		4,221.8		15.3	
ANNUAL MEAN	15.0		11.6		18.3	
HIGHEST ANNUAL MEAN					11.6	
LOWEST ANNUAL MEAN					165	
HIGHEST DAILY MEAN	70	Sep 29	92	Mar 29	165	Dec 11, 2003
LOWEST DAILY MEAN	5.3	Sep 5	2.7	Sep 10	1.4	aSep 20, 2002
ANNUAL SEVEN-DAY MINIMUM	5.5	Sep 1	2.8	Sep 4	1.4	Sep 19, 2002
MAXIMUM PEAK FLOW			174	Mar 28	318	Dec 11, 2003
MAXIMUM PEAK STAGE			2.87	Mar 28	3.48	Dec 11, 2003
INSTANTANEOUS LOW FLOW			2.7	bAug 26	1.3	cSep 18, 2002
ANNUAL RUNOFF (CFSM)	1.32		1.01		1.34	
ANNUAL RUNOFF (INCHES)	17.95		13.78		18.24	
10 PERCENT EXCEEDS	21		19		28	
50 PERCENT EXCEEDS	14		10		12	
90 PERCENT EXCEEDS	8.2		3.1		4.7	

a Also Sept. 21, 24, 25, 2002.
 b Also many days in late Aug. and Sept. 2005.
 c Also Sept. 20, 21, 24-26, 2002.



01620500 NORTH RIVER NEAR STOKESVILLE, VA

LOCATION.--Lat 38°20'15", long 79°14'24", NAD83, Augusta County, Hydrologic Unit 02070005, George Washington National Forest, on left bank 575 ft upstream from highway bridge, 2.8 mi upstream from city of Staunton dam, 3.8 mi upstream from Broad Run, 5.0 mi west of Stokesville, and 7.8 mi upstream from Skidmore Fork.

DRAINAGE AREA.--17.2 mi².

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

REVISED RECORDS.--WSP 1903: 1960. WSP 2103: Drainage area. WDR VA-89-1: 1949 (M).

GAGE.--Water-stage recorder. Datum of gage is 2,051.37 ft NGVD of 1929. Prior to June 10, 1958, at site 575 ft downstream at datum 6.0 ft lower. Prior to Oct. 25, 1996, at site 400 ft upstream at datum 3.2 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 9,530 ft³/s, from rating curve extended above 900 ft³/s on basis of computation of peak flow over dam at site 2.8 mi downstream. 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 1942 reached a stage of 8.4 ft, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 29	0445	*182	*2.72				

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	89	14	106	21	12	20	68	48	14	2.1	16	14
2	63	14	118	19	10	e18	95	51	13	2.8	12	10
3	47	13	91	17	9.9	17	126	46	13	6.7	12	7.9
4	e37	22	68	17	9.8	16	95	40	13	4.6	16	6.2
5	e28	44	52	17	9.5	e16	71	34	11	2.8	12	5.0
6	23	46	42	16	9.0	e17	55	30	11	1.8	9.0	4.0
7	20	40	37	15	8.7	24	46	26	13	1.8	8.5	3.3
8	17	34	33	14	8.9	58	40	24	11	31	6.4	e2.8
9	15	28	38	14	9.4	69	33	21	12	25	10	2.2
10	14	24	101	13	11	57	e28	19	11	16	7.6	2.0
11	13	22	132	13	11	47	e26	17	10	12	6.1	1.9
12	12	26	101	13	11	39	24	16	9.7	8.6	15	e1.7
13	13	31	75	13	12	32	23	14	9.0	14	24	e1.6
14	14	33	58	106	12	28	21	13	8.4	71	13	e1.5
15	13	33	44	114	13	24	19	11	7.7	57	9.0	e1.4
16	11	31	36	84	13	22	17	10	6.8	56	7.6	e1.3
17	10	29	31	64	14	21	16	9.5	6.0	48	7.2	e1.2
18	9.3	27	27	50	14	20	15	8.9	5.1	38	6.4	e1.1
19	8.6	28	24	41	14	19	14	9.3	4.6	29	5.3	0.95
20	9.5	36	22	35	14	19	14	77	4.2	23	4.1	0.86
21	10	39	19	30	15	19	14	103	3.9	18	3.2	0.80
22	9.8	38	18	26	18	19	20	74	4.3	15	2.5	0.74
23	9.8	36	26	24	17	27	51	57	3.2	11	1.9	0.72
24	12	45	49	21	19	60	61	45	2.5	8.3	1.6	0.73
25	14	126	51	19	19	72	55	36	1.9	6.2	1.5	0.79
26	15	113	45	18	20	63	45	30	1.6	5.0	1.3	0.97
27	16	84	39	17	20	54	39	25	1.4	3.9	1.6	1.0
28	17	88	32	14	21	101	32	21	1.3	4.1	1.6	1.0
29	16	84	28	13	---	164	29	19	1.3	6.5	1.7	1.0
30	16	72	25	13	---	119	39	18	1.4	8.0	2.6	0.98
31	15	---	23	13	---	88	---	15	---	22	14	---
TOTAL	617.0	1,300	1,591	904	375.2	1,369	1,231	967.7	216.3	559.2	240.7	79.64
MEAN	19.9	43.3	51.3	29.2	13.4	44.2	41.0	31.2	7.21	18.0	7.76	2.65
MAX	89	126	132	114	21	164	126	103	14	71	24	14
MIN	8.6	13	18	13	8.7	16	14	8.9	1.3	1.8	1.3	0.72
CFSM	1.16	2.52	2.98	1.70	0.78	2.57	2.39	1.81	0.42	1.05	0.45	0.15
IN.	1.33	2.81	3.44	1.96	0.81	2.96	2.66	2.09	0.47	1.21	0.52	0.17

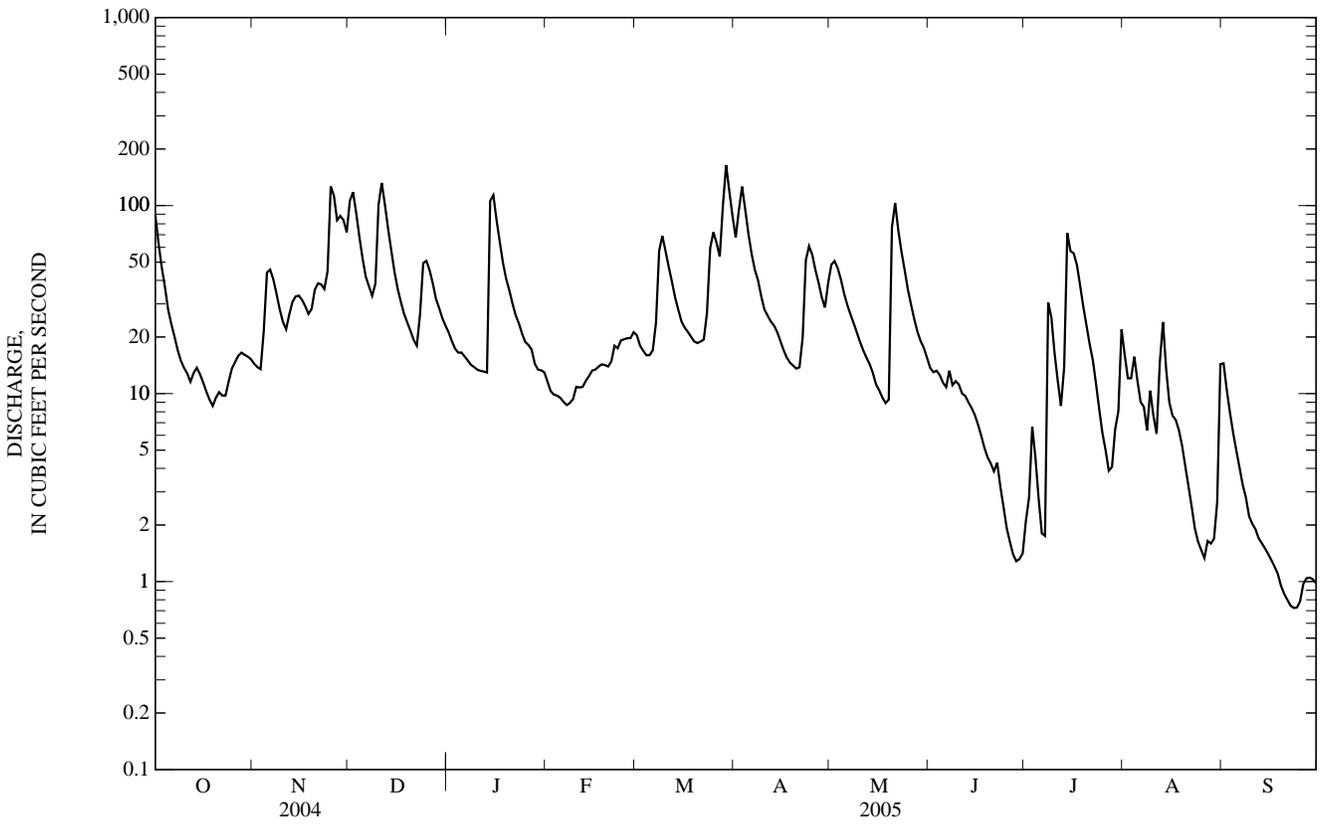
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2005, BY WATER YEAR (WY)

MEAN	13.8	27.2	27.8	33.1	36.1	56.4	46.9	35.0	23.8	7.40	8.58	13.2
MAX	90.7	257	99.5	152	99.9	230	196	86.4	177	53.1	66.8	157
(WY)	(1980)	(1986)	(1974)	(1995)	(1998)	(1993)	(1992)	(1960)	(1949)	(1995)	(1989)	(1996)
MIN	0.21	0.41	0.71	0.74	3.67	8.21	11.1	5.32	1.65	0.76	0.26	0.25
(WY)	(1964)	(1954)	(1999)	(1981)	(2002)	(1981)	(1999)	(1977)	(1999)	(1999)	(1987)	(1963)

01620500 NORTH RIVER NEAR STOKESVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1947 - 2005	
ANNUAL TOTAL	12,599.7		9,450.74		27.4	
ANNUAL MEAN	34.4		25.9		53.1	
HIGHEST ANNUAL MEAN					9.52	
LOWEST ANNUAL MEAN					1999	
HIGHEST DAILY MEAN	530	Sep 9	164	Mar 29	3,300	Nov 5, 1985
LOWEST DAILY MEAN	1.2	Sep 5	0.72	Sep 23	0.10	aSep 15, 1962
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 31	0.80	Sep 19	0.12	Sep 29, 1968
MAXIMUM PEAK FLOW			182	Mar 29	9,530	Jun 17, 1949
MAXIMUM PEAK STAGE			2.72	Mar 29	b19.80	Nov 5, 1985
INSTANTANEOUS LOW FLOW			0.68	cSep 22	0.10	dSep 15, 1962
ANNUAL RUNOFF (CFSM)	2.00		1.51		1.59	
ANNUAL RUNOFF (INCHES)	27.25		20.44		21.62	
10 PERCENT EXCEEDS	69		62		61	
50 PERCENT EXCEEDS	21		16		12	
90 PERCENT EXCEEDS	4.1		2.1		1.1	

- a Also Sept. 16, 19-22, 1962, and Sept. 9, 11, 12, 1966.
- b From floodmarks, backwater from Elkhorn Lake.
- c Also Sept. 23, 24, 2005.
- d Also Sept. 16, 19-22, 1962, and Sept. 7-13, 1966.
- e Estimated.



01621050 MUDDY CREEK AT MOUNT CLINTON, VA

LOCATION.--Lat 38°29'12", long 78°57'37", NAD83, Rockingham County, Hydrologic Unit 02070005, on right downstream side of bridge on State Highway 726, at Mount Clinton.

DRAINAGE AREA.--14.2 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 1,320 ft NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. 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 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 10	1315	174	4.15	Jul 17	2115	*486	*5.16

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	16	6.6	29	10	6.5	6.7	19	12	3.4	1.8	4.3	0.68
2	14	6.6	21	9.6	6.1	6.4	42	11	3.8	1.1	3.9	0.62
3	13	6.2	19	9.3	6.3	6.3	29	10	4.9	1.2	3.8	0.58
4	12	16	17	9.0	6.3	6.8	22	9.1	4.0	0.75	3.4	0.56
5	11	12	16	9.4	6.1	8.4	20	8.8	3.1	6.2	2.9	0.56
6	11	9.6	15	8.8	5.9	9.1	18	8.6	6.0	4.2	6.0	0.54
7	10	8.8	16	8.4	5.8	9.0	17	8.5	6.6	2.1	6.9	0.52
8	9.6	8.3	14	8.3	6.0	11	18	8.1	4.9	28	3.7	0.50
9	9.3	8.0	28	7.8	5.8	9.3	17	7.3	4.5	9.2	6.3	0.49
10	8.9	7.7	78	7.7	5.7	8.5	16	7.1	4.0	6.9	4.1	0.97
11	8.4	7.4	51	7.4	5.1	8.5	15	6.9	3.6	5.7	2.9	0.50
12	8.1	13	32	7.3	5.3	8.1	15	6.4	2.8	5.1	2.2	0.48
13	8.2	11	26	7.1	5.2	7.8	15	5.9	2.7	4.6	1.7	0.47
14	8.2	10	22	18	5.9	7.9	14	5.7	2.5	7.1	1.4	0.48
15	7.8	9.6	19	13	5.4	7.3	13	5.3	2.3	11	1.3	0.50
16	7.5	9.3	18	12	5.1	7.1	13	5.1	2.2	9.5	3.1	0.53
17	7.2	8.9	17	11	4.7	6.9	13	4.7	2.0	56	1.4	0.59
18	6.9	8.8	16	e9.4	4.0	6.5	13	4.0	1.9	e30	1.00	0.54
19	7.0	12	16	e8.9	3.8	6.2	12	4.2	2.0	e18	1.6	0.52
20	7.8	12	13	e8.7	4.2	6.0	12	18	1.8	e16	0.91	0.54
21	7.0	10	13	e8.5	4.9	5.9	12	9.3	1.8	13	0.78	0.56
22	6.8	9.4	13	e8.2	6.4	5.5	16	7.1	2.0	11	0.71	0.53
23	6.4	9.2	18	e8.1	4.9	12	17	6.5	1.8	9.1	0.69	0.53
24	7.7	17	16	e7.8	5.6	12	13	6.6	1.6	8.3	0.68	0.64
25	7.0	23	13	e7.8	5.3	8.7	11	6.0	1.5	7.9	0.63	0.60
26	6.3	18	e13	e7.6	5.7	8.3	11	5.4	1.4	7.6	0.60	0.56
27	6.2	16	e12	e7.4	5.7	8.7	11	5.0	1.4	7.2	1.0	0.56
28	6.6	31	12	6.9	6.4	35	11	4.6	1.5	7.9	0.86	0.53
29	6.5	20	11	6.7	---	30	10	4.4	1.8	9.0	0.64	0.52
30	6.3	19	11	6.9	---	22	15	4.1	1.2	7.0	0.66	0.52
31	6.1	---	11	6.6	---	21	---	3.8	---	5.9	1.3	---
TOTAL	264.8	364.4	626	273.6	154.1	322.9	480	219.5	85.0	318.35	71.36	16.72
MEAN	8.54	12.1	20.2	8.83	5.50	10.4	16.0	7.08	2.83	10.3	2.30	0.56
MAX	16	31	78	18	6.5	35	42	18	6.6	56	6.9	0.97
MIN	6.1	6.2	11	6.6	3.8	5.5	10	3.8	1.2	0.75	0.60	0.47
CFSM	0.60	0.86	1.42	0.62	0.39	0.73	1.13	0.50	0.20	0.72	0.16	0.04
IN.	0.69	0.95	1.64	0.72	0.40	0.85	1.26	0.58	0.22	0.83	0.19	0.04

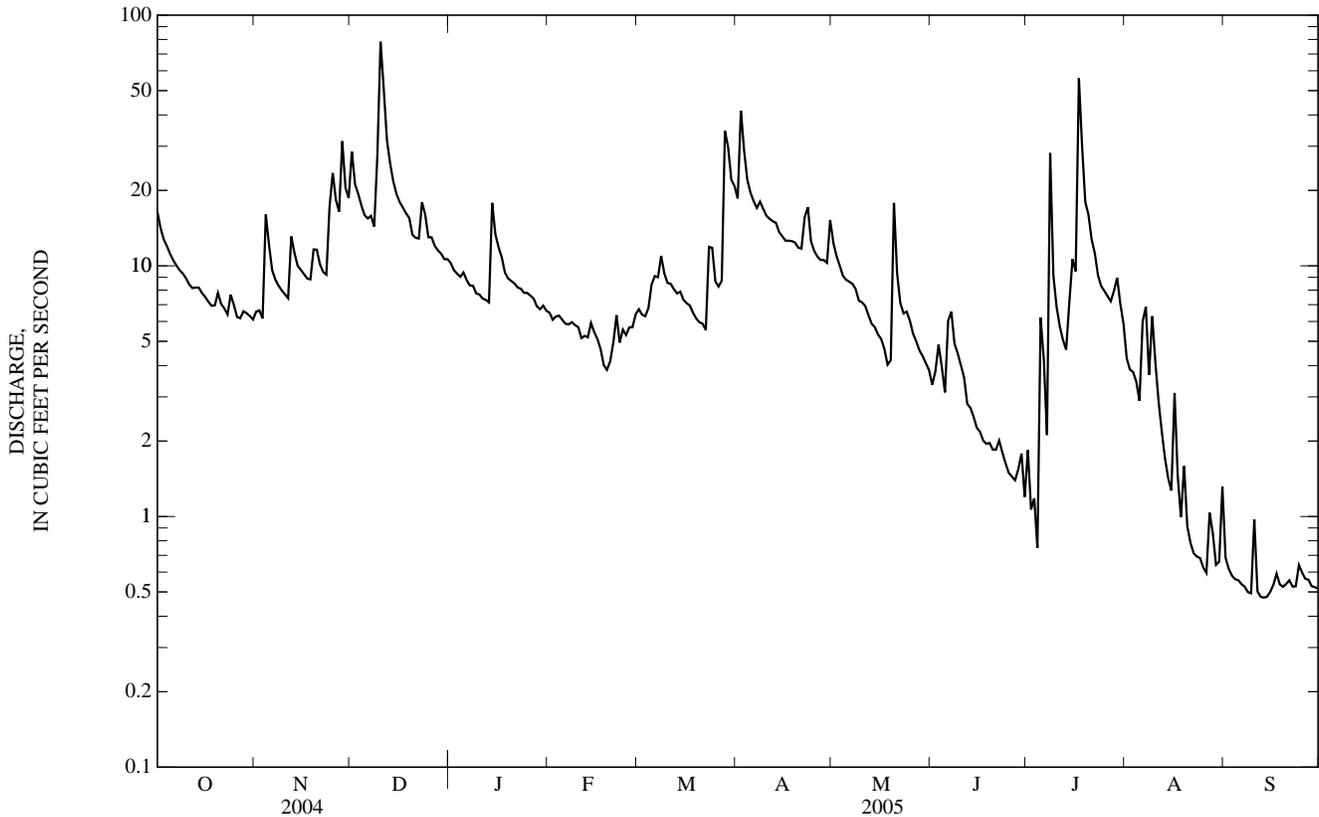
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2005, BY WATER YEAR (WY)

MEAN	6.96	7.57	10.9	15.2	15.9	18.3	12.5	10.1	10.8	8.58	7.25	14.6
MAX	22.1	19.3	37.5	66.9	63.5	44.0	26.3	22.7	40.8	35.7	33.8	105
(WY)	(1996)	(1997)	(1997)	(1996)	(1998)	(1998)	(2003)	(1998)	(2003)	(2003)	(1996)	(1996)
MIN	0.96	0.92	0.96	0.73	0.59	0.81	2.64	2.30	1.01	1.20	0.97	0.56
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1999)	(1999)	(1999)	(1999)	(2002)	(2005)

01621050 MUDDY CREEK AT MOUNT CLINTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1993 - 2005	
ANNUAL TOTAL	3,901.42		3,196.73		11.7	
ANNUAL MEAN	10.7		8.76		30.0	
HIGHEST ANNUAL MEAN					1.92	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	128	Sep 28	78	Dec 10	1,760	Sep 6, 1996
LOWEST DAILY MEAN	0.83	Sep 5	0.47	Sep 13	0.29	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	0.93	Aug 30	0.51	Sep 11	0.33	Sep 11, 2002
MAXIMUM PEAK FLOW			486	Jul 17	3,850	Sep 6, 1996
MAXIMUM PEAK STAGE			5.16	Jul 17	10.37	Sep 6, 1996
INSTANTANEOUS LOW FLOW			0.42	aJul 2	0.27	bOct 5, 2001
ANNUAL RUNOFF (CFSM)	0.751		0.617		0.825	
ANNUAL RUNOFF (INCHES)	10.22		8.37		11.21	
10 PERCENT EXCEEDS	18		17		23	
50 PERCENT EXCEEDS	8.8		7.1		5.7	
90 PERCENT EXCEEDS	2.5		0.73		1.1	

a Also July 4, 5, 2005.
 b Also Sept. 14, 2002.
 e Estimated.



01621050 MUDDY CREEK AT MOUNT CLINTON, VA—Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 2002 to September 2004 (discontinued).

WATER TEMPERATURE: January 2002 to September 2004 (discontinued).

INSTRUMENTATION.--Water-quality monitor January 2002 to September 2004.

EXTREMES FOR PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Maximum, 596 microsiemens/cm, Nov. 1-3, 2002; minimum, 136 microsiemens/cm, July 6, Sept. 19, 2003.

WATER TEMPERATURE: Maximum, 31.0°C, Aug. 2, 2002; minimum, 0.0°C, on many day during winter periods.

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

Date	Time	Sample type	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd 25 degC (00095)	Temperature, air, deg C (00020)	
Date	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	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, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Biomass periphyton, ashfree drymass g/m2 (49954)
NOV 01...	1115	Environmental	1028	80020	9.3	40	735	12.8	128	8.0	526	23.5	
JAN 04...	1100	Environmental	1028	80020	9.3	40	730	11.4	107	8.0	508	6.0	
MAR 03...	1000	Environmental	1028	80020	5.2	40	724	14.9	109	7.7	457	-2.5	
MAY 03...	0830	Environmental	1028	80020	9.7	40	727	12.1	106	8.1	430	8.0	
JUL 05...	0800	Environmental	1028	80020	.42	40	728	5.4	64	7.7	510	23.5	
JUL 05...	0805	Replicate	1028	80020	--	--	--	--	--	--	--	--	
JUL 26...	1400	Biological	--	80020	--	--	--	--	--	--	--	--	
SEP 06...	0815	Environmental	1028	80020	.80	40	736	6.9	71	7.8	503	19.5	
NOV 01...	13.6	240	283	8.82	12.0	E.02	6.24	6.28	.043	6.44	.050	.009	--
JAN 04...	10.7	251	302	8.27	12.8	E.02	7.45	7.47	.027	7.98	.018	.062	--
MAR 03...	.4	206	251	8.87	13.2	<.04	5.24	5.25	.014	5.61	.015	.055	--
MAY 03...	7.3	191	231	7.47	11.0	<.04	5.59	5.62	.030	6.04	.018	.067	--
JUL 05...	21.0	221	268	9.21	11.3	.05	3.28	3.41	.126	4.09	.039	.083	--
JUL 05...	--	225	273	8.86	11.2	.06	3.29	3.42	.126	4.08	.039	.087	--
JUL 26...	--	--	--	--	--	--	--	--	--	--	--	--	47.9
SEP 06...	15.4	189	230	8.51	10.5	E.02	4.62	4.66	.043	4.86	.046	.105	--

Agency collecting sample: 1028 - U.S. Geological Survey
 Agency analyzing sample: 80020 - USGS-National Water Quality Lab, Denver, CO
 Sampling method: 40 - Multiple verticals

01621050 MUDDY CREEK AT MOUNT CLINTON, VA—Continued

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

Date	Peri- phyton biomass ash weight, g/m2 (00572)	Peri- phyton biomass dry weight, g/m2 (00573)	Pheo- phytin a, peri- phyton, mg/m2 (62359)	Chloro- phyll a peri- phyton, chromo- fluoro, mg/m2 (70957)	1-Naph- thol, water, fltrd 0.7u GF ug/L (49295)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	2Chloro -2',6'- diethyl acet- anilide wat flt ug/L (61618)	CIAT, water, fltrd, ug/L (04040)	2-Ethyl -6- methyl- aniline water, fltrd, ug/L (61620)	3,4-Di- chloro- aniline water, fltrd, ug/L (61625)	3,5-Di- chloro- aniline water, fltrd, ug/L (61627)	4Chloro 2methyl phenol, water, fltrd, ug/L (61633)	Aceto- chlor, water, fltrd, ug/L (49260)
NOV 01...	--	--	--	--	<.09	<.006	<.005	E.100	<.004	<.004	--	<.006	<.006
JAN 04...	--	--	--	--	<.09	<.006	<.005	E.119	<.004	<.004	--	<.006	<.006
MAR 03...	--	--	--	--	<.09	<.006	<.005	E.086	<.004	<.004	--	<.006	<.006
MAY 03...	--	--	--	--	<.09	<.006	<.005	E.089	<.004	<.004	--	<.006	<.006
JUL 05...	--	--	--	--	<.09	<.006	<.005	E.148	<.004	<.004	<.004	<.006	<.006
05...	--	--	--	--	<.09	<.006	<.005	E.139	<.004	<.004	<.004	<.006	<.006
26...	830	873.2	60	121	--	--	--	--	--	--	--	--	--
SEP 06...	--	--	--	--	<.09	<.006	<.005	E.126	<.004	<.004	<.004	<.006	<.006
Date	Ala- chlor, water, fltrd, ug/L (46342)	alpha- Endo- sulfan, water, fltrd, ug/L (34362)	alpha- HCH-d6, surrog, Sch2003 wat flt percent recovry (99995)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl oxon, water, fltrd, ug/L (61635)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos oxon, water, fltrd, ug/L (61636)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	cis- Propi- cona- zole, water, fltrd, ug/L (79846)
NOV 01...	<.005	--	96.2	.067	<.07	<.050	<.010	<.041	--	<.06	<.005	<.006	--
JAN 04...	<.005	--	118	.080	<.07	<.050	<.010	<.041	--	<.06	<.005	<.006	--
MAR 03...	<.005	--	88.9	.046	<.07	<.050	<.010	<.041	--	<.06	<.005	<.006	--
MAY 03...	<.005	--	96.2	.087	<.07	<.050	<.010	<.041	--	<.06	<.005	<.006	--
JUL 05...	<.005	<.005	92.9	.136	<.07	<.050	<.010	E.006	E.006	<.06	<.005	<.006	<.008
05...	<.005	<.005	96.1	.140	<.07	<.050	<.010	E.006	E.006	<.06	<.005	<.006	<.008
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 06...	<.005	<.005	96.9	.070	<.07	<.050	<.010	<.041	<.020	<.06	<.005	<.006	<.008
Date	Cyana- zine, water, fltrd, ug/L (04041)	Cyflu- thrin, water, fltrd, ug/L (61585)	Cyper- methrin water, fltrd, ug/L (61586)	DCPA, water fltrd 0.7u GF ug/L (82682)	Desulf- inyl fipron- il, water, fltrd, ug/L (62170)	Diaz- inon oxon, water, fltrd, ug/L (61638)	Diazi- non, water, fltrd, ug/L (39572)	Diazi- non-d10 surrog, Sch2003 wat flt percent recovry (99994)	Dicro- tophos, water, fltrd, ug/L (38454)	Diel- drin, water, fltrd, ug/L (39381)	Dimeth- oate, water, fltrd 0.7u GF ug/L (82662)	Disulf- oton sulfone water, fltrd, ug/L (61640)	Disulf- foton, water, fltrd 0.7u GF ug/L (82677)
NOV 01...	--	<.008	<.009	<.003	<.012	<.01	<.005	94.2	<.08	<.009	<.006	--	--
JAN 04...	--	<.008	<.009	<.003	<.012	<.01	<.005	127	<.08	<.009	<.006	--	--
MAR 03...	--	<.008	<.009	<.003	<.012	<.01	<.005	92.5	<.08	<.009	<.006	--	--
MAY 03...	--	<.027	<.009	<.003	<.012	<.01	<.005	104	<.08	<.009	<.006	--	--
JUL 05...	<.018	<.027	<.009	<.003	<.012	<.01	E.007	102	<.08	<.009	<.006	<.01	<.02
05...	<.018	<.027	<.009	<.003	<.012	<.01	E.007	108	<.08	<.009	<.006	<.01	<.02
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 06...	<.018	<.027	<.009	<.003	<.012	<.01	<.005	107	<.08	<.009	<.006	<.01	<.02

01621050 MUDDY CREEK AT MOUNT CLINTON, VA—Continued

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

Date	Endo- sulfan sulfate water, fltrd, ug/L (61590)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethion monoxon water, fltrd, ug/L (61644)	Ethion, water, fltrd, ug/L (82346)	Etho- prop, water, fltrd 0.7u GF ug/L (82672)	Fenami- phos sulfone water, fltrd, ug/L (61645)	Fenami- phos sulf- oxide, water, fltrd, ug/L (61646)	Fenami- phos, water, fltrd, ug/L (61591)	Desulf- inyl- fipron- nil amide, wat flt ug/L (62169)	Fipron- nil sulfide water, fltrd, ug/L (62167)	Fipron- nil sulfone water, fltrd, ug/L (62168)	Fipron- nil, water, fltrd, ug/L (62166)	Fonofos oxon, water, fltrd, ug/L (61649)
NOV 01...	--	--	<.0020	<.004	--	<.049	<.04	<.03	<.029	<.013	<.024	<.016	<.003
JAN 04...	--	--	<.0020	<.004	--	<.049	<.04	<.03	<.029	<.013	<.024	<.016	<.003
MAR 03...	--	--	<.0020	<.004	--	<.049	<.04	<.03	<.029	<.013	<.024	<.016	--
MAY 03...	--	--	<.0020	<.004	--	<.049	<.04	<.03	<.029	<.013	<.024	<.016	--
JUL 05...	<.014	<.004	<.002	<.004	<.005	<.049	<.04	<.03	<.029	<.013	<.024	<.016	--
05...	<.014	<.004	<.002	<.004	<.005	<.049	<.04	<.03	<.029	<.013	<.024	<.016	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 06...	<.014	<.004	<.002	<.004	<.005	<.049	<.04	<.03	<.029	<.013	<.024	<.016	--

Date	Fonofos water, fltrd, ug/L (04095)	Hexa- zinone, water, fltrd, ug/L (04025)	Ipro- dione, water, fltrd, ug/L (61593)	Isofen- phos, water, fltrd, ug/L (61594)	Mala- oxon, water, fltrd, ug/L (61652)	Mala- thion, water, fltrd, ug/L (39532)	Meta- laxyl, water, fltrd, ug/L (61596)	Methi- althion water, fltrd, ug/L (61598)	Methyl para- oxon, water, fltrd, ug/L (61664)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)
NOV 01...	<.003	<.013	<.387	<.003	<.030	<.027	<.005	<.006	<.03	<.015	<.006	<.006	--
JAN 04...	<.003	<.013	<.387	<.003	<.030	<.027	<.005	<.006	<.03	<.015	<.006	<.006	--
MAR 03...	<.003	<.013	<.387	<.003	<.030	<.027	<.005	<.006	<.03	<.015	E.005	<.006	--
MAY 03...	<.003	<.013	<.538	<.003	<.030	<.027	<.005	<.006	<.03	<.015	.009	<.006	--
JUL 05...	<.003	<.013	<.538	<.003	<.030	<.027	<.005	<.006	<.03	<.015	.012	<.006	<.003
05...	<.003	<.013	<.538	<.003	<.030	<.027	<.005	<.006	<.03	<.015	.013	<.006	<.005
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 06...	<.003	<.013	<.538	<.003	<.030	<.027	<.005	<.006	<.03	<.015	.008	<.006	<.003

Date	Myclo- butanil water, fltrd, ug/L (61599)	Oxy- fluor- fen, water, fltrd, ug/L (61600)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate oxon, water, fltrd, ug/L (61666)	Phorate water fltrd 0.7u GF ug/L (82664)	Phosmet oxon, water, fltrd, ug/L (61668)	Phosmet water, fltrd, ug/L (61601)	Prome- ton, water, fltrd, ug/L (04037)	Prome- tryn, water, fltrd, ug/L (04036)	Propy- zamide, water, fltrd 0.7u GF ug/L (82676)	Pro- panil, water, fltrd 0.7u GF ug/L (82679)	Propar- gite, water, fltrd 0.7u GF ug/L (82685)	Simaz- ine, water, fltrd, ug/L (04035)
NOV 01...	<.008	--	<.022	<.10	<.011	<.05	<.008	<.01	<.005	<.004	--	--	.029
JAN 04...	<.008	--	<.022	<.10	<.011	<.05	<.008	<.01	<.005	<.004	--	--	.031
MAR 03...	<.008	--	<.022	<.10	<.011	<.05	<.008	<.01	<.005	<.004	--	--	.021
MAY 03...	<.008	--	<.022	<.10	<.011	<.05	<.008	E.01	<.005	<.004	--	--	.038
JUL 05...	<.008	<.007	<.022	<.10	<.011	--	--	E.01	<.005	<.004	<.011	<.02	.067
05...	<.008	<.007	<.022	<.10	<.011	--	--	E.01	<.005	<.004	<.011	<.02	.069
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 06...	<.008	<.007	<.022	<.10	<.011	<.05	<.008	E.01	<.005	<.004	<.011	<.02	.034

01622000 NORTH RIVER NEAR BURKETOWN, VA

LOCATION.--Lat 38°20'25", long 78°54'49", NAD83, Rockingham County, Hydrologic Unit 02070005, on right bank 0.8 mi downstream from Pleasant Run, 2.8 mi northeast of Burkettown, and 8.5 mi upstream from Middle River.

DRAINAGE AREA.--379 mi².

PERIOD OF RECORD.--October 1925 to October 1972, May 1975 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1171: 1936(M). WSP 1302: 1928-29(M), 1932-34(M), 1937-38(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,103.49 ft NGVD of 1929. Prior to Dec. 12, 1938, nonrecording gage at site 3.0 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Diurnal fluctuation at low and medium flow caused by wastewater treatment plant and diversions for industrial, municipal, and irrigation at points upstream. Maximum discharge, 70,400 ft³/s, from rating curve extended above 16,000 ft³/s on basis of slope-area measurements at gage heights 32.4 ft and 36.3 ft and contracted-opening measurements at gage heights 35.85 ft and 36.3 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.--Maximum stage since at least 1852, that of June 18, 1949.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 29	0545	2,560	6.32	Jul 18	0130	*2,590	*6.35

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	1,800	224	1,280	363	227	275	1,180	506	212	110	323	129
2	1,320	217	1,300	337	220	271	1,480	522	205	209	258	124
3	982	211	1,130	318	217	263	1,550	512	211	121	206	120
4	708	298	938	300	214	256	1,330	481	203	112	175	117
5	529	552	786	303	207	271	1,100	441	192	111	158	117
6	446	641	673	284	200	278	912	403	251	146	148	114
7	383	604	617	270	198	316	777	377	393	124	189	111
8	336	527	564	267	194	505	706	348	270	703	147	113
9	301	443	660	250	194	720	605	318	228	501	147	110
10	278	384	1,560	243	195	736	529	289	251	347	260	105
11	255	345	1,890	232	188	659	479	271	243	255	287	106
12	238	413	1,500	227	187	578	438	256	221	209	265	104
13	236	451	1,230	222	183	500	418	239	209	186	244	98
14	253	440	986	557	190	447	388	235	188	306	243	97
15	224	436	808	1,040	189	397	353	228	174	419	208	96
16	211	425	680	1,010	189	363	324	209	160	497	205	105
17	198	408	598	862	187	338	305	194	155	600	189	110
18	191	386	536	701	185	320	290	189	147	1,690	168	99
19	185	389	489	589	183	302	275	180	143	979	164	99
20	202	439	441	529	181	283	268	506	141	699	153	94
21	190	432	403	472	192	272	261	688	133	502	143	94
22	186	436	376	427	214	262	310	600	130	372	137	91
23	183	430	433	387	209	340	475	513	124	282	128	91
24	198	476	513	339	214	449	584	462	122	233	125	89
25	198	925	574	331	228	604	590	412	106	204	121	93
26	193	1,130	580	314	231	670	530	361	109	172	121	95
27	204	1,030	545	296	236	640	482	320	110	154	124	92
28	221	1,330	487	267	259	1,390	434	290	97	150	132	88
29	230	1,280	454	256	---	2,420	395	266	105	159	125	87
30	229	1,130	421	250	---	1,870	451	249	108	155	122	85
31	226	---	393	239	---	1,470	---	228	---	219	176	---
TOTAL	11,534	16,832	23,845	12,482	5,711	18,465	18,219	11,093	5,341	10,926	5,591	3,073
MEAN	372	561	769	403	204	596	607	358	178	352	180	102
MAX	1,800	1,330	1,890	1,040	259	2,420	1,550	688	393	1,690	323	129
MIN	183	211	376	222	181	256	261	180	97	110	121	85
CFSM	0.98	1.48	2.03	1.06	0.54	1.57	1.60	0.94	0.47	0.93	0.48	0.27
IN.	1.13	1.65	2.34	1.23	0.56	1.81	1.79	1.09	0.52	1.07	0.55	0.30

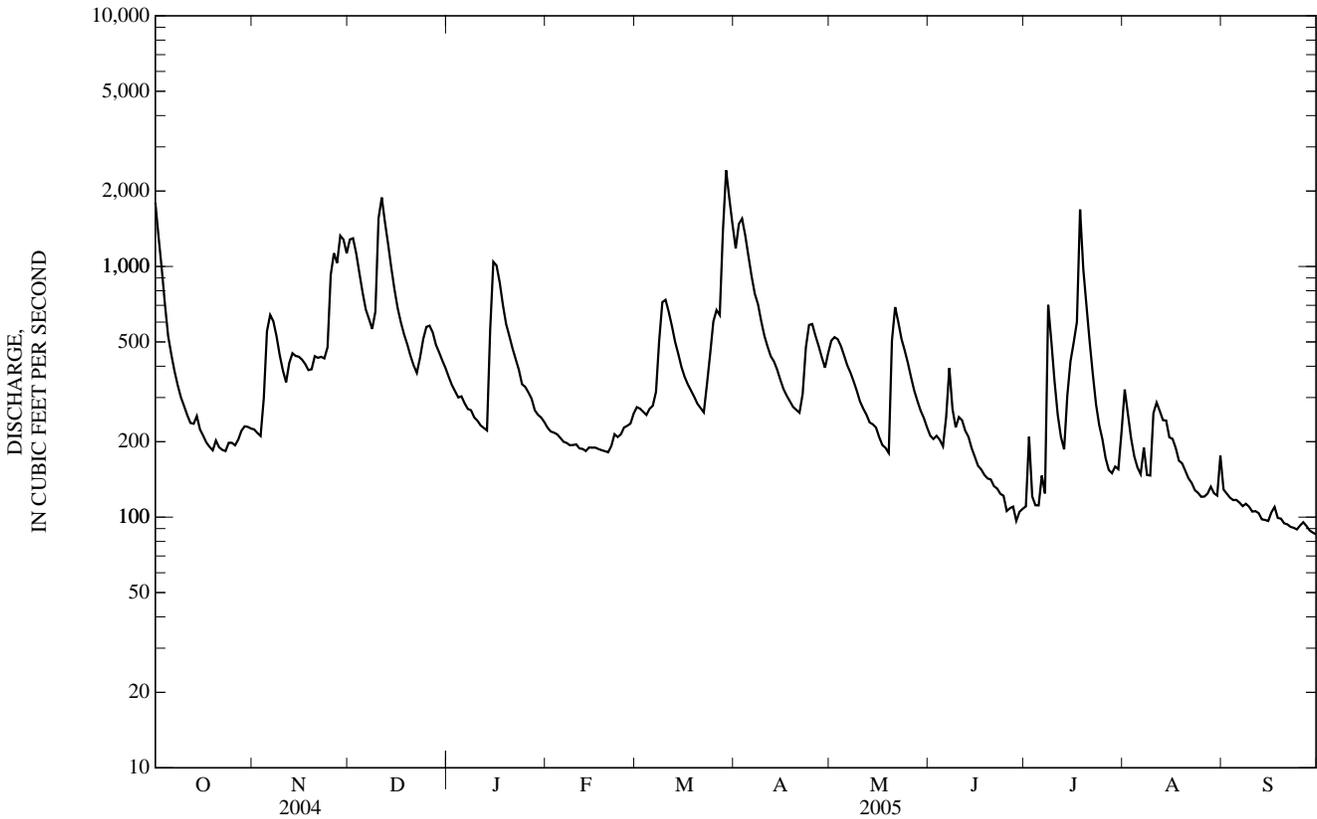
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1972, 1976 - 2005, BY WATER YEAR (WY)

MEAN	246	291	343	430	513	705	613	492	339	199	234	243
MAX	1,500	2,080	1,087	1,777	1,841	1,932	1,831	1,486	1,704	809	1,102	3,130
(WY)	(1943)	(1986)	(1935)	(1996)	(1998)	(1936)	(1987)	(1942)	(1949)	(1949)	(1949)	(1996)
MIN	38.1	36.5	39.2	53.5	47.9	136	107	106	72.7	41.5	41.0	34.2
(WY)	(1931)	(1931)	(1966)	(1966)	(1931)	(1981)	(1981)	(1930)	(1977)	(1999)	(1964)	(1930)

01622000 NORTH RIVER NEAR BURKETOWN, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS	
					1926 - 1972	1976 - 2005
ANNUAL TOTAL	173,056		143,112		386	
ANNUAL MEAN	473		392		871	
HIGHEST ANNUAL MEAN					145	
LOWEST ANNUAL MEAN					1996	
HIGHEST DAILY MEAN	4,560	Sep 29	2,420	Mar 29	e32,000	Sep 7, 1996
LOWEST DAILY MEAN	85	aSep 2	85	Sep 30	22	Sep 24, 1930
ANNUAL SEVEN-DAY MINIMUM	87	Aug 29	90	Sep 24	30	Dec 20, 1930
MAXIMUM PEAK FLOW			2,590	Jul 18	70,400	Sep 6, 1996
MAXIMUM PEAK STAGE			6.35	Jul 18	b36.70	Sep 6, 1996
INSTANTANEOUS LOW FLOW			82	Sep 30	c16	Nov 23, 1965
ANNUAL RUNOFF (CFSM)	1.25		1.03		1.02	
ANNUAL RUNOFF (INCHES)	16.99		14.05		13.84	
10 PERCENT EXCEEDS	926		752		832	
50 PERCENT EXCEEDS	345		268		207	
90 PERCENT EXCEEDS	122		119		64	

- a Also Sept. 3, 2004.
- b From high-water mark in gage house.
- c Result of temporary dam upstream.
- e Estimated.



01625000 MIDDLE RIVER NEAR GROTTOS, VA

LOCATION.--Lat 38°15'42", long 78°51'43", NAD83, Augusta County, Hydrologic Unit 02070005, on left bank at upstream side of bridge on State Highway 769 at Mount Meridian, 1.8 mi upstream from mouth, and 2.0 mi west of Grottoes.

DRAINAGE AREA.--375 mi².

PERIOD OF RECORD.--April 1927 to current year. Records for February 1925 to September 1926, published in WSP 601 and 621, are unreliable and should not be used.

REVISED RECORDS.--WSP 1051: 1928-29, 1930(M), 1932, 1935-37, 1938(M), 1940. WSP 1171: 1933. WSP 1302: 1928-29(M), 1931-34(M). WSP 2103: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,061.51 ft NGVD of 1929. Prior to Sep. 1, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are discharges of about 6.4 ft³/s from wastewater treatment plants upstream from station. Most of water discharged from treatment plants was diverted from another drainage basin for industrial and municipal supply. Small diurnal fluctuation at low flow caused by mills and irrigation upstream from station. Maximum discharge, 44,300 ft³/s, from rating curve extended above 15,000 ft³/s on basis of slope-area measurement at gage height 33.09 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.--Maximum stage since at least 1877, that of Sep. 7, 1996.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 29	0530	*2,000	*7.80				

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	849	160	725	248	236	303	654	430	192	151	119	100
2	620	157	1,000	236	229	292	890	426	185	239	115	92
3	503	156	758	224	226	276	1,330	391	201	155	109	82
4	426	169	592	220	232	271	933	352	208	138	103	79
5	371	229	489	226	228	320	733	317	192	136	98	77
6	324	222	426	221	220	402	616	294	184	132	96	78
7	297	216	414	210	217	644	549	277	172	130	94	75
8	274	207	398	210	218	1,000	574	270	167	537	96	74
9	256	199	499	210	218	953	514	253	164	378	100	72
10	244	186	1,610	197	220	698	450	238	196	244	115	72
11	228	177	1,540	194	211	572	417	229	180	188	125	71
12	219	252	1,050	191	204	500	393	222	182	164	114	70
13	231	565	765	189	203	440	379	221	165	152	105	69
14	324	421	603	629	206	456	372	213	158	711	100	68
15	262	364	492	1,050	211	422	346	231	150	565	95	68
16	223	324	422	715	209	377	319	218	142	356	122	71
17	208	293	388	574	200	357	302	201	136	266	138	84
18	196	285	358	468	196	341	294	191	135	225	111	71
19	189	278	337	412	188	322	287	188	145	194	98	70
20	192	415	311	383	186	305	283	354	138	201	104	69
21	188	333	276	373	194	292	276	456	133	167	96	68
22	183	299	275	349	279	278	348	406	158	147	89	67
23	179	288	295	e320	252	319	488	339	137	149	85	68
24	183	301	416	e233	236	494	568	332	128	132	83	70
25	191	613	366	e235	250	474	463	319	122	122	80	70
26	180	732	339	e293	256	455	391	276	119	116	80	73
27	171	550	317	294	261	422	348	247	115	110	85	75
28	174	726	288	265	279	907	317	228	114	115	111	73
29	172	740	270	e235	---	1,730	297	215	109	149	101	73
30	168	591	267	245	---	1,060	333	205	151	137	91	71
31	164	---	258	247	---	783	---	197	---	126	111	---
TOTAL	8,389	10,448	16,544	10,096	6,265	16,465	14,464	8,736	4,678	6,732	3,169	2,220
MEAN	271	348	534	326	224	531	482	282	156	217	102	74.0
MAX	849	740	1,610	1,050	279	1,730	1,330	456	208	711	138	100
MIN	164	156	258	189	186	271	276	188	109	110	80	67
CFSM	0.72	0.93	1.42	0.87	0.60	1.42	1.29	0.75	0.42	0.58	0.27	0.20
IN.	0.83	1.04	1.64	1.00	0.62	1.63	1.43	0.87	0.46	0.67	0.31	0.22

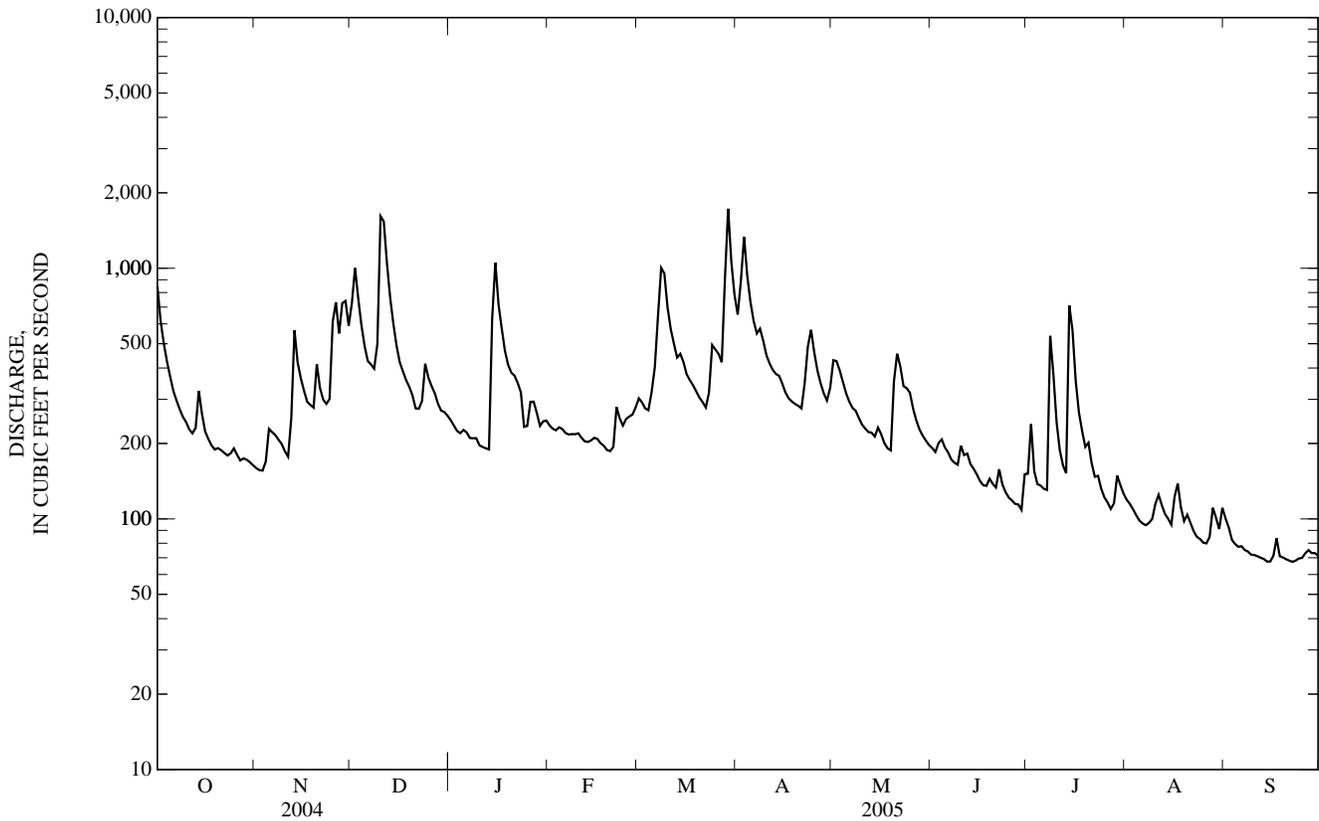
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2005, BY WATER YEAR (WY)

	229	237	306	395	464	575	461	342	260	179	191	215
MEAN	229	237	306	395	464	575	461	342	260	179	191	215
MAX	1,138	2,019	1,111	1,436	2,288	1,704	1,674	963	1,128	705	1,017	1,887
(WY)	(1980)	(1986)	(1949)	(1996)	(1998)	(1936)	(1987)	(1989)	(2003)	(1972)	(1940)	(1996)
MIN	57.6	58.9	55.8	56.4	50.2	78.2	95.8	89.7	47.1	47.2	31.8	37.8
(WY)	(2002)	(1931)	(1966)	(2002)	(2002)	(2002)	(1981)	(1969)	(2002)	(1966)	(2002)	(2002)

01625000 MIDDLE RIVER NEAR GROTTOS, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1928 - 2005	
ANNUAL TOTAL	130,493		108,206		320	
ANNUAL MEAN	357		296		75.6	
HIGHEST ANNUAL MEAN					623	1998
LOWEST ANNUAL MEAN					75.6	2002
HIGHEST DAILY MEAN	6,420	Sep 29	1,730	Mar 29	26,000	Nov 5, 1985
LOWEST DAILY MEAN	89	aSep 3	67	Sep 22	18	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	92	Aug 31	69	Sep 19	20	Sep 9, 2002
MAXIMUM PEAK FLOW			2,000	Mar 29	44,300	Sep 7, 1996
MAXIMUM PEAK STAGE			7.80	Mar 29	b35.62	Sep 7, 1996
INSTANTANEOUS LOW FLOW			67	cSep 14	d8.9	Dec 31, 2001
ANNUAL RUNOFF (CFSM)	0.951		0.791		0.854	
ANNUAL RUNOFF (INCHES)	12.94		10.73		11.61	
10 PERCENT EXCEEDS	606		573		635	
50 PERCENT EXCEEDS	262		229		189	
90 PERCENT EXCEEDS	143		93		82	

- a Also Sept. 4, 5, 2004.
- b From high-water mark in gage house.
- c Also Sept. 15, 16, 20-24, 2005.
- d Result of freezeup.
- e Estimated.



01626000 SOUTH RIVER NEAR WAYNESBORO, VA

LOCATION.--Lat 38°03'27", long 78°54'29", NAD83, Waynesboro City, Hydrologic Unit 02070005, on right bank 80 ft downstream from bridge on State Highway 664, 1.3 mi southwest of Waynesboro Post Office, and 2.4 mi downstream from Back Creek.

DRAINAGE AREA.--127 mi², of which 41 mi² are above flood-detention structures.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,296.20 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There is discharge of about 5 ft³/s from a wastewater treatment plant upstream from station, originating from well fields. Flow from 41 mi² upstream from station slightly regulated by flood-detention reservoirs (sixteen of which were built by Soil Conservation Service between 1954 and 1961). National Weather Service gage-height telemeter and Virginia Department of Emergency Services gage-height radio transmitter at station. Maximum discharge, 17,500 ft³/s, from rating curve extended above 4,200 ft³/s on basis of contracted-opening measurement at gage height 13.95 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 October 1942 reached a stage of 14.3 ft, from floodmarks, discharge, 14,500 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 23	1645	*1,220	*5.49	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	610	76	289	173	119	106	333	203	96	51	55	42
2	398	76	267	157	115	99	518	176	95	49	53	39
3	320	76	240	149	114	95	618	167	139	49	50	38
4	272	82	220	142	114	95	460	156	145	48	48	37
5	201	106	204	140	110	105	372	145	128	47	46	37
6	175	90	191	134	108	112	320	137	115	47	47	37
7	159	85	188	130	105	166	289	134	110	51	73	37
8	146	81	180	127	105	342	289	131	99	406	57	37
9	135	79	182	124	104	355	265	124	99	176	55	37
10	128	78	306	119	104	284	238	118	131	99	64	37
11	121	76	316	115	99	244	222	111	108	79	54	37
12	115	123	274	113	97	219	209	107	97	71	49	36
13	126	250	247	110	97	194	211	106	89	74	47	36
14	148	205	221	467	97	212	203	107	85	385	45	37
15	127	178	199	496	97	196	183	153	77	276	44	37
16	113	161	184	363	95	178	169	131	72	213	42	38
17	103	148	175	299	93	171	160	117	67	154	42	35
18	98	141	165	250	89	167	153	110	66	130	42	36
19	97	140	157	224	85	152	147	108	67	120	43	36
20	95	155	143	214	84	140	139	160	67	146	42	35
21	94	139	134	201	88	136	134	185	67	106	40	35
22	91	131	133	184	103	132	174	151	63	89	39	35
23	89	128	494	e162	93	161	231	137	60	78	39	34
24	89	150	703	e136	92	210	221	148	57	71	38	34
25	90	337	457	e142	94	191	204	142	55	66	39	35
26	88	280	339	146	94	189	187	129	54	62	38	35
27	85	229	277	150	93	183	175	119	52	57	39	37
28	84	400	239	e127	102	492	160	112	50	61	39	33
29	82	356	220	e120	---	664	150	104	53	63	39	35
30	80	290	204	127	---	481	177	98	53	61	39	37
31	79	---	186	124	---	386	---	101	---	58	41	---
TOTAL	4,638	4,846	7,734	5,665	2,790	6,857	7,311	4,127	2,516	3,443	1,428	1,091
MEAN	150	162	249	183	99.6	221	244	133	83.9	111	46.1	36.4
MAX	610	400	703	496	119	664	618	203	145	406	73	42
MIN	79	76	133	110	84	95	134	98	50	47	38	33
CFSM	1.18	1.27	1.96	1.44	0.78	1.74	1.92	1.05	0.66	0.87	0.36	0.29
IN.	1.36	1.42	2.27	1.66	0.82	2.01	2.14	1.21	0.74	1.01	0.42	0.32

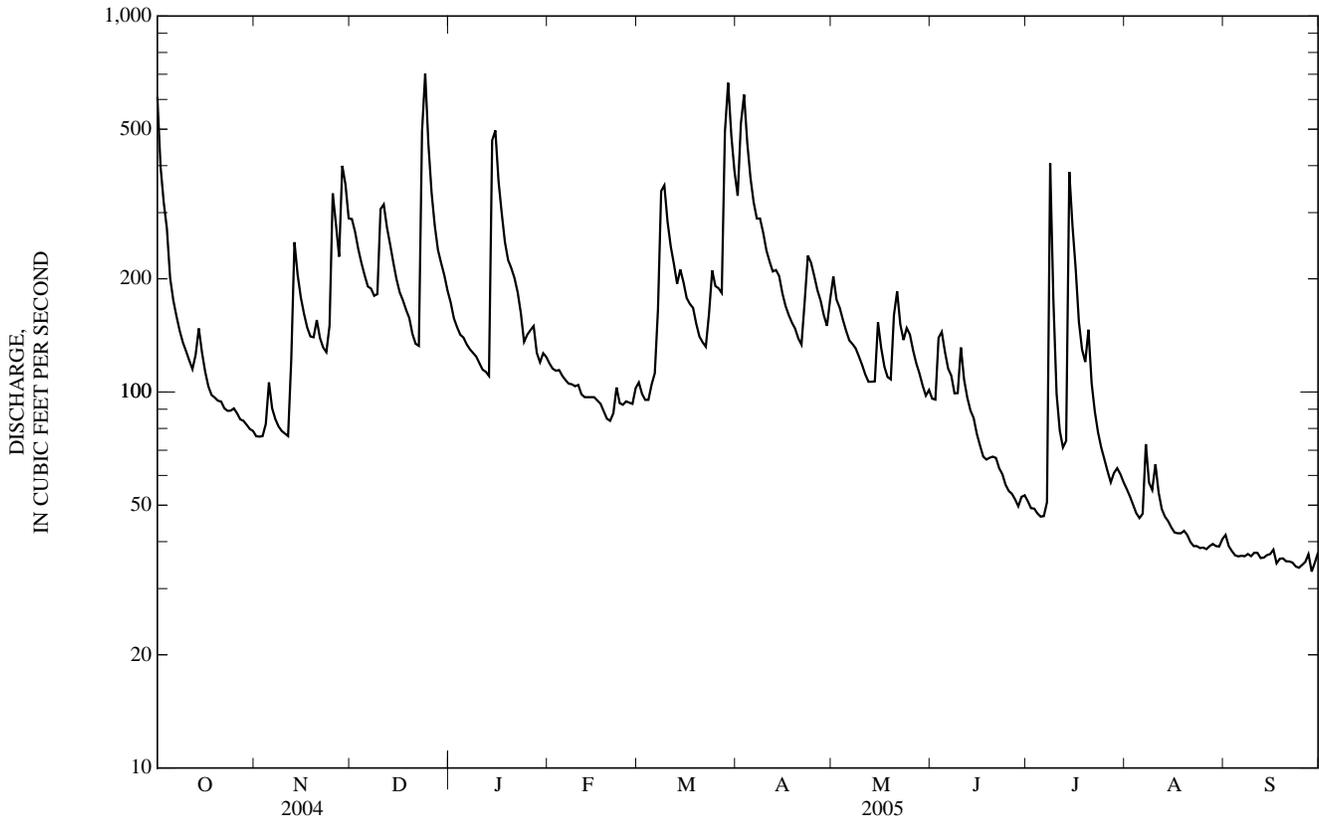
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2005, BY WATER YEAR (WY)

MEAN	111	136	139	174	203	273	240	164	118	68.7	78.6	99.3
MAX	549	1,214	375	767	1,312	748	1,062	485	875	305	700	776
(WY)	(1973)	(1986)	(2004)	(1996)	(1998)	(1993)	(1987)	(1989)	(1972)	(1972)	(1955)	(2003)
MIN	25.5	24.7	24.2	23.6	23.8	49.0	44.0	50.4	22.1	21.5	18.5	18.4
(WY)	(1966)	(2002)	(1966)	(1966)	(2002)	(1981)	(1981)	(1981)	(2002)	(2002)	(2002)	(2002)

01626000 SOUTH RIVER NEAR WAYNESBORO, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1953 - 2005	
ANNUAL TOTAL	62,761		52,446		150	
ANNUAL MEAN	171		144		312	
HIGHEST ANNUAL MEAN					37.1	
LOWEST ANNUAL MEAN					1998	
HIGHEST DAILY MEAN	2,130	Sep 28	703	Dec 24	9,670	Aug 18, 1955
LOWEST DAILY MEAN	35	aSep 3	33	Sep 28	16	bSep 12, 2002
ANNUAL SEVEN-DAY MINIMUM	38	Aug 30	35	cSep 20	16	dSep 11, 2002
MAXIMUM PEAK FLOW			1,220	Dec 23	17,500	Nov 4, 1985
MAXIMUM PEAK STAGE			5.49	Dec 23	15.30	Nov 4, 1985
INSTANTANEOUS LOW FLOW			33	fSep 23	g7.0	Jul 18, 1966
ANNUAL RUNOFF (CFSM)	1.35		1.13		1.18	
ANNUAL RUNOFF (INCHES)	18.38		15.36		16.04	
10 PERCENT EXCEEDS	289		278		301	
50 PERCENT EXCEEDS	131		115		84	
90 PERCENT EXCEEDS	61		39		33	

- a Also Sept. 4, 5, 2004.
- b Also Sept. 13-15, 19, 24, 25 and Oct. 9, 2002.
- c Also Sept. 21-23, 2005.
- d Also Sept. 12, 2002.
- e Estimated.
- f Also Sept. 24-29, 2005.
- g Result of regulation from unknown source upstream from gage.



01626000 SOUTH RIVER NEAR WAYNESBORO, VA

WATER-QUALITY RECORDS

PERIOD OF DISCRETE SAMPLE RECORD.--June 2005 to current.

PERIOD OF CONTINUOUS (15-MINUTE INTERVAL) RECORD.--

SPECIFIC CONDUCTANCE: June 2005 to current.

WATER TEMPERATURE: June 2005 to current.

pH: June 2005 to current.

TURBIDITY: June 2005 to current.

INSTRUMENTATION.-- Water-quality monitor June 2005 to current.

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

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: Maximum, 160 NTU, July 8, 14; minimum, 0.0 NTU, on several days.

pH: Maximum, 9.0 standard units, July 1, 4, Aug. 25, Sept. 23; minimum, 7.2 standard units, July 14.

SPECIFIC CONDUCTANCE: Maximum, 270 microsiemens/cm, July 6; minimum, 58 microsiemens/cm, July 14.

WATER TEMPERATURE: Maximum, 24.7°C, July 27; minimum, 13.1°C, Sept. 30.

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

Date	Time	Sample type	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd, std units (00400)	Specific conductance, wat unfltrd, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Chloride, water, fltrd, mg/L (00940)
JUN												
27...	0830	Blank	--	--	--	--	--	--	--	--	--	3.05
27...	0845	Environmental	2.58	53	735	8.8	94	7.9	236	24.5	18.6	4.24
JUL												
28...	0915	Environmental	2.63	61	730	8.3	94	7.9	201	24.5	21.3	4.10
AUG												
30...	0845	Environmental	2.48	39	764	8.3	90	7.9	257	26.0	19.1	4.27
SEP												
07...	0930	Environmental	2.47	37	735	8.8	91	8.0	249	20.5	15.5	3.94
07...	1042	Environmental	2.47	37	--	--	--	--	--	--	--	--
27...	0830	Environmental	2.49	39	730	8.7	94	7.8	252	20.5	16.7	4.17

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

Date	Sulfate water, fltrd, mg/L (00945)	Organic carbon, water, fltrd, mg/L (00681)	Mercury water, fltrd, ng/L (50287)	Mercury water, unfltrd, ng/L (50286)	Mercury suspnd, total, ng/L (62976)	Methylmercury, water, fltrd, ng/L (50285)	Methylmercury, suspnd, total, ng/L (62977)	Suspended sediment concentration, mg/L (80154)
JUN								
27...	.3	.4	<.04	--	<.048s	<.04	<.010	--
27...	10.4	1.1	.27	--	1.10	<.04	.030	14
JUL								
28...	9.5	1.1	.43	.43	.754	<.04	.017	12
AUG								
30...	13.2	1.7	.30	--	.495	<.04	.010	3
SEP								
07...	12.3	.9	.05	--	.626	<.04	<.017	--
07...	--	--	--	--	--	--	--	5
27...	14.2	1.0	.30	--	.473	<.04	<.014	3

Remark codes used in this table:

< -- Less than.

Value qualifier codes used in this table:

s -- Instrument sensitivity problem

01626000 SOUTH RIVER NEAR WAYNESBORO, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	24	4.6	8.1	9.5	3.2	5.8	---	---	---
2	---	---	---	19	5.1	9.2	12	3.6	6.0	3.3	0.0	1.1
3	---	---	---	31	5.0	10	11	3.5	6.0	---	---	---
4	---	---	---	24	4.7	8.2	10	2.9	5.0	2.4	0.0	0.8
5	---	---	---	12	5.0	8.1	14	3.0	5.3	2.3	0.1	1.0
6	---	---	---	13	5.0	8.4	13	2.9	5.4	2.5	0.3	1.1
7	---	---	---	50	6.9	9.9	27	7.9	12	---	---	---
8	---	---	---	160	36	44	26	5.6	9.7	3.7	0.5	1.4
9	---	---	---	36	12	21	100	7.2	10	3.3	0.8	1.6
10	---	---	---	18	6.3	12	46	5.8	10	---	---	---
11	---	---	---	16	5.9	11	23	4.9	8.2	---	---	---
12	---	---	---	15	5.5	11	12	4.7	7.9	---	---	---
13	---	---	---	62	5.5	12	11	4.8	6.4	---	---	---
14	---	---	---	160	16	22	---	---	---	---	---	---
15	13	4.8	9.0	27	9.5	16	---	---	---	---	---	---
16	13	4.8	8.9	17	6.4	10	---	---	---	---	---	---
17	15	4.7	8.8	17	5.4	9.3	---	---	---	---	---	---
18	12	4.7	8.2	13	5.4	9.1	---	---	---	---	---	---
19	13	4.1	8.6	17	4.9	9.7	---	---	---	---	---	---
20	12	4.3	7.2	20	12	15	---	---	---	---	---	---
21	19	4.9	8.1	16	5.7	9.5	---	---	---	---	---	---
22	15	4.4	7.3	11	5.1	7.5	---	---	---	---	---	---
23	25	4.5	8.4	9.5	4.4	6.5	---	---	---	---	---	---
24	20	4.1	8.8	12	3.3	6.0	---	---	---	---	---	---
25	32	4.9	12	14	3.3	5.6	---	---	---	---	---	---
26	34	4.4	9.3	12	2.9	5.0	---	---	---	---	---	---
27	22	4.3	8.2	9.5	3.3	5.1	---	---	---	---	---	---
28	23	4.2	7.8	9.9	3.0	5.8	---	---	---	---	---	---
29	32	6.6	11	14	3.7	7.2	---	---	---	---	---	---
30	51	5.7	12	12	3.1	6.2	---	---	---	10	1.6	2.1
31	---	---	---	10	3.2	6.2	---	---	---	---	---	---
MAX	51	6.6	12	160	36	44	100	7.9	12	10	1.6	2.1
MIN	12	4.1	7.2	9.5	2.9	5.0	9.5	2.9	5.0	2.3	0.0	0.8

POTOMAC RIVER BASIN

01626000 SOUTH RIVER NEAR WAYNESBORO, VA—Continued

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

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

01626000 SOUTH RIVER NEAR WAYNESBORO, 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	JUNE			JULY			AUGUST			SEPTEMBER		
				MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	247	236	244	229	219	222	---	---	---			
2	---	---	---	255	242	249	245	227	232	266	252	257			
3	---	---	---	255	243	249	247	233	241	261	254	257			
4	---	---	---	259	240	253	248	229	238	258	253	256			
5	---	---	---	265	240	250	240	221	237	258	251	254			
6	---	---	---	270	232	244	244	203	238	256	251	254			
7	---	---	---	251	201	248	258	213	233	---	---	---			
8	---	---	---	201	69	96	242	202	237	261	253	257			
9	---	---	---	140	99	118	242	215	226	261	256	258			
10	---	---	---	168	140	151	241	219	230	262	255	258			
11	---	---	---	185	167	177	236	221	230	263	256	259			
12	---	---	---	199	184	194	247	236	240	262	252	260			
13	---	---	---	202	181	198	255	245	249	253	247	250			
14	---	---	---	190	58	77	256	246	254	253	248	250			
15	201	194	195	98	83	93	255	236	252	256	249	252			
16	210	201	204	110	95	98	256	231	252	259	253	255			
17	213	206	209	124	110	115	254	243	250	261	254	258			
18	218	201	213	150	124	133	260	252	256	257	245	251			
19	219	199	208	151	120	149	260	241	254	258	251	254			
20	216	205	211	158	120	146	263	249	258	257	248	255			
21	221	186	214	166	144	156	263	251	260	---	---	---			
22	224	215	219	175	165	168	262	252	259	---	---	---			
23	228	216	224	188	175	181	263	250	258	---	---	---			
24	234	222	228	197	187	192	261	248	257	257	252	255			
25	239	225	232	204	194	198	259	243	254	255	249	254			
26	243	225	234	211	201	206	259	250	254	255	249	253			
27	240	229	237	217	205	212	---	---	---	262	254	255			
28	244	232	239	215	204	207	---	---	---	262	254	258			
29	244	203	237	216	208	212	---	---	---	258	252	255			
30	241	225	233	220	207	216	---	---	---	254	248	250			
31	---	---	---	220	212	217	---	---	---	---	---	---			
MAX	244	232	239	270	243	253	263	252	260	266	256	260			
MIN	201	186	195	98	58	77	229	202	222	253	245	250			

POTOMAC RIVER BASIN

01626000 SOUTH RIVER NEAR WAYNESBORO, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	22.9	19.9	21.7	22.5	18.4	20.2	---	---	---
2	---	---	---	21.7	19.9	20.9	23.0	19.3	21.1	20.7	17.5	19.5
3	---	---	---	21.8	19.5	20.8	23.5	19.7	21.7	20.0	17.2	19.3
4	---	---	---	22.4	19.4	20.8	23.2	20.0	22.2	19.8	17.1	18.8
5	---	---	---	22.3	19.6	21.0	22.8	19.9	21.9	18.8	16.8	18.0
6	---	---	---	21.4	19.5	20.7	22.3	20.3	21.5	19.0	16.1	17.6
7	---	---	---	20.4	18.4	18.8	22.5	19.2	20.8	---	---	---
8	---	---	---	20.8	18.2	19.6	22.1	20.4	21.3	18.6	15.2	17.2
9	---	---	---	22.0	18.4	19.6	21.3	19.6	20.4	18.8	15.7	17.4
10	---	---	---	22.7	18.3	20.4	22.7	19.2	20.4	19.4	16.4	17.8
11	---	---	---	22.8	19.2	21.2	22.9	19.3	21.1	19.0	16.7	18.2
12	---	---	---	22.1	19.8	20.6	23.4	20.0	21.7	18.9	15.8	17.7
13	---	---	---	22.5	19.1	20.3	23.6	20.4	22.3	18.9	15.6	17.5
14	---	---	---	22.2	19.4	19.8	23.8	20.7	22.4	19.2	17.4	18.3
15	23.5	20.1	22.1	21.1	18.9	19.8	23.4	20.6	22.3	19.4	17.1	18.3
16	22.1	19.2	20.9	21.9	19.2	20.3	22.5	20.3	21.7	19.7	17.6	19.0
17	21.1	17.3	19.4	22.7	19.7	21.1	22.7	20.1	21.4	20.3	17.7	19.0
18	19.5	16.5	18.7	23.6	19.7	21.2	21.4	19.0	19.4	19.8	17.4	18.9
19	18.9	17.1	18.1	23.7	20.6	22.2	20.9	18.4	19.0	19.1	16.8	18.2
20	19.6	17.1	18.1	24.5	20.1	21.9	22.4	19.3	20.6	19.3	17.1	18.4
21	19.2	16.7	18.5	24.6	20.7	22.6	22.9	20.0	21.5	---	---	---
22	20.3	17.2	18.5	24.0	21.0	23.0	21.8	19.1	20.9	---	---	---
23	22.0	17.3	19.4	24.3	20.7	22.6	20.8	18.8	19.8	---	---	---
24	21.8	18.1	20.4	23.0	19.8	21.8	20.6	18.0	19.3	19.8	17.3	18.1
25	22.2	18.4	20.4	24.3	20.1	21.8	20.7	17.9	19.5	17.9	16.8	17.2
26	22.0	18.5	20.6	24.6	20.6	22.9	19.5	17.6	18.5	18.7	17.5	18.1
27	23.1	18.6	20.4	24.7	21.4	23.4	---	---	---	18.8	16.6	17.9
28	22.3	20.2	21.5	23.3	20.5	21.2	---	---	---	17.7	15.1	17.0
29	22.4	19.6	21.2	21.1	19.6	20.4	---	---	---	17.7	15.8	16.7
30	23.3	19.4	21.0	21.3	19.5	20.3	---	---	---	15.8	13.1	14.9
31	---	---	---	21.2	19.4	20.4	---	---	---	---	---	---
MAX	23.5	20.2	22.1	24.7	21.4	23.4	23.8	20.7	22.4	20.7	17.7	19.5
MIN	18.9	16.5	18.1	20.4	18.2	18.8	19.5	17.6	18.5	15.8	13.1	14.9

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA

WATER-QUALITY RECORDS

PERIOD OF DISCRETE SAMPLE RECORD.--May 2005 to current.

PERIOD OF CONTINUOUS (15-MINUTE INTERVAL) RECORD.--

SPECIFIC CONDUCTANCE: April 2005 to current.

WATER TEMPERATURE: April 2005 to current.

pH: April 2005 to current.

TURBIDITY: May 2005 to current.

INSTRUMENTATION.-- Water-quality monitor April 2005 to current.

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

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: Maximum, 180 NTU, July 8; minimum, 0.0 NTU, Sept. 3, 4, 5.

pH: Maximum, 8.9 standard units, Apr. 21; minimum, 7.4 standard units, May 20.

SPECIFIC CONDUCTANCE: Maximum, 401 microsiemens/cm, June 24; minimum, 93 microsiemens/cm, July 14.

WATER TEMPERATURE: Maximum, 25.6°C, July 26; minimum, 10.3°C, Apr. 25.

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

Date	Time	Sample type	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Chlor- ide, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Organic carbon, water, fltrd, mg/L (00681)
MAY												
02...	1015	Blank	--	--	--	--	--	--	--	.20	<.2	E.2n
02...	1030	Environmental	731	9.9	95	7.9	172	9.0	13.4	5.80	6.3	1.7
JUN												
02...	0930	Environmental	735	7.9	42	7.7	213	15.5	16.9	7.04	7.7	1.3
27...	1030	Environmental	735	8.1	91	7.8	269	29.0	20.8	8.95	9.6	1.8
JUL												
28...	1045	Environmental	728	7.3	84	7.8	253	26.5	22.4	10.1	9.3	1.5
AUG												
30...	1000	Environmental	764	7.5	84	7.8	347	26.5	20.9	29.2	11.7	3.2
SEP												
07...	1245	Environmental	735	9.8	109	8.2	291	28.5	18.5	12.1	11.0	1.2
07...	1400	Replicate	--	--	--	--	--	--	--	--	--	--
07...	1500	Replicate	--	--	--	--	--	--	--	--	--	--
27...	0945	Environmental	730	7.7	86	7.7	338	24.5	18.4	25.6	12.1	1.5

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

Date	Mercury water fltrd, ng/L (50287)	Mercury suspnd sedimnt total, ng/L (62976)	Methyl- mercury water fltrd, ng/L (50285)	Methyl- mercury suspnd sedimnt total, ng/L (62977)	Sus- pended sediment concentration mg/L (80154)
MAY					
02...	.08	<.156	<.04	<.018	--
02...	3.42	90.5	.37	.641	9
JUN					
02...	5.45	174	.79	1.34	9
27...	10.1	299	1.01	1.27	12
JUL					
28...	7.55	65.7	.62	.342	5
AUG					
30...	8.11y	41.3	.49	.180	1
SEP					
07...	8.71	27.8	.59	.115	1
07...	8.65	23.6	.53	.119	1
07...	--	34.5	.51	.104	1
27...	10.6	45.2	.57	.148	2

Remark codes used in this table:

< -- Less than.

E -- Estimated.

Value qualifier codes used in this table:

n -- Below the LRL and above the LT-MDL

y -- Sample variability described in comment

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, 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	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	4.8	0.9	2.1
15	---	---	---	---	---	---	---	---	---	12	4.4	5.6
16	---	---	---	---	---	---	---	---	---	7.5	2.5	4.9
17	---	---	---	---	---	---	---	---	---	5.3	1.4	2.8
18	---	---	---	---	---	---	---	---	---	4.9	1.0	2.3
19	---	---	---	---	---	---	---	---	---	4.1	1.6	2.6
20	---	---	---	---	---	---	---	---	---	11	2.7	7.9
21	---	---	---	---	---	---	---	---	---	10	4.9	6.1
22	---	---	---	---	---	---	---	---	---	7.0	2.4	4.1
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	7.2	2.0	3.7
26	---	---	---	---	---	---	---	---	---	5.5	0.8	2.4
27	---	---	---	---	---	---	---	---	---	4.7	2.0	3.1
28	---	---	---	---	---	---	---	---	---	5.2	1.1	2.8
29	---	---	---	---	---	---	---	---	---	5.6	1.0	2.5
30	---	---	---	---	---	---	---	---	---	7.0	1.2	2.4
31	---	---	---	---	---	---	---	---	---	8.2	1.8	3.6
MAX	---	---	---	---	---	---	---	---	---	12	4.9	7.9
MIN	---	---	---	---	---	---	---	---	---	4.1	0.8	2.1

POTOMAC RIVER BASIN

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.0	2.1	3.9	13	4.9	6.9	13	2.4	3.4	---	---	---
2	15	2.2	4.4	12	5.0	8.4	---	---	---	4.2	0.3	1.4
3	20	4.5	11	11	5.0	7.4	---	---	---	---	---	---
4	28	4.7	7.1	13	3.8	6.2	---	---	---	2.3	0.0	0.7
5	8.7	3.7	5.9	14	3.7	6.7	4.0	1.8	2.6	2.5	0.0	0.7
6	31	3.3	8.6	16	3.1	4.5	23	1.6	2.6	3.4	0.5	1.1
7	28	2.1	5.1	20	3.0	5.6	24	3.1	5.5	---	---	---
8	6.6	1.4	3.4	180	20	56	10	3.9	5.9	7.2	1.3	2.3
9	34	2.7	5.3	---	---	---	29	4.4	7.9	5.9	1.9	3.2
10	61	7.9	19	16	6.0	9.3	32	3.5	7.0	5.2	1.7	2.6
11	24	4.7	11	12	4.1	6.3	13	2.2	4.1	3.1	1.6	2.2
12	15	4.3	6.9	9.2	4.0	6.1	5.3	2.0	3.0	3.6	1.3	1.8
13	14	3.8	7.0	20	3.7	6.8	12	1.6	2.5	3.9	1.2	1.8
14	16	4.4	7.3	81	11	32	3.3	1.6	2.6	7.7	1.0	1.8
15	15	5.3	8.1	33	15	22	8.1	1.5	2.6	---	---	---
16	9.9	5.5	7.8	18	12	15	14	1.6	3.4	2.6	1.0	1.8
17	10	5.5	7.5	18	7.8	12	16	2.2	3.8	3.4	0.7	1.7
18	11	5.4	8.1	13	6.0	8.0	16	2.4	4.2	3.8	0.8	1.6
19	16	6.1	9.7	52	4.7	8.5	5.4	2.4	3.8	2.7	1.0	1.8
20	13	4.8	8.6	23	8.1	12	6.5	2.1	3.6	3.5	1.1	1.9
21	43	6.6	9.1	13	4.8	7.4	7.2	1.8	3.1	5.3	0.9	1.9
22	29	10	17	8.3	3.5	5.2	4.5	1.9	2.7	4.4	1.0	1.9
23	11	5.0	8.0	---	---	---	5.1	2.3	2.9	7.1	0.6	1.7
24	13	5.0	7.3	14	3.2	4.7	7.7	2.8	3.9	2.8	0.8	1.4
25	14	5.3	7.7	5.2	2.2	3.3	9.7	3.6	5.0	3.9	1.3	1.9
26	---	---	---	4.5	1.8	2.8	8.6	4.5	6.3	4.0	1.2	1.9
27	---	---	---	4.5	1.8	3.0	11	5.6	7.0	3.1	1.0	1.7
28	10	3.6	5.2	6.1	2.2	3.8	---	---	---	5.6	1.1	2.0
29	150	4.6	6.6	7.7	3.0	4.8	---	---	---	6.2	1.4	2.0
30	52	6.8	10	7.4	2.6	5.0	---	---	---	4.9	0.6	2.0
31	---	---	---	10	3.0	4.4	---	---	---	---	---	---
MAX	150	10	19	180	20	56	32	5.6	7.9	7.7	1.9	3.2
MIN	6.6	1.4	3.4	4.5	1.8	2.8	3.3	1.5	2.5	2.3	0.0	0.7

POTOMAC RIVER BASIN

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued

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

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	---	---	---	---	---	---	8.4	7.6	7.8
2	---	---	---	---	---	---	---	---	---	8.1	7.6	7.8
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	8.5	7.6	7.9
5	---	---	---	---	---	---	---	---	---	8.6	7.7	8.0
6	---	---	---	---	---	---	---	---	---	8.6	7.7	7.9
7	---	---	---	---	---	---	---	---	---	8.5	7.8	8.0
8	---	---	---	---	---	---	---	---	---	8.7	7.7	8.0
9	---	---	---	---	---	---	---	---	---	8.7	7.7	8.0
10	---	---	---	---	---	---	---	---	---	8.8	7.7	8.0
11	---	---	---	---	---	---	---	---	---	8.7	7.6	7.9
12	---	---	---	---	---	---	---	---	---	8.5	7.6	7.8
13	---	---	---	---	---	---	---	---	---	8.4	7.6	7.8
14	---	---	---	---	---	---	---	---	---	8.6	7.5	7.8
15	---	---	---	---	---	---	---	---	---	8.0	7.5	7.7
16	---	---	---	---	---	---	---	---	---	8.3	7.5	7.7
17	---	---	---	---	---	---	---	---	---	8.3	7.5	7.7
18	---	---	---	---	---	---	---	---	---	8.3	7.5	7.8
19	---	---	---	---	---	---	---	---	---	8.2	7.5	7.7
20	---	---	---	---	---	---	---	---	---	7.6	7.4	7.6
21	---	---	---	---	---	---	---	---	---	8.0	7.6	7.7
22	---	---	---	---	---	---	8.8	7.6	7.8	8.1	7.5	7.7
23	---	---	---	---	---	---	8.4	7.6	7.8	---	---	---
24	---	---	---	---	---	---	8.6	7.6	7.9	---	---	---
25	---	---	---	---	---	---	8.7	7.6	8.0	7.9	7.6	7.7
26	---	---	---	---	---	---	8.7	7.6	7.9	8.2	7.6	7.7
27	---	---	---	---	---	---	8.7	7.6	8.0	8.2	7.5	7.7
28	---	---	---	---	---	---	8.8	7.6	8.0	8.2	7.6	7.7
29	---	---	---	---	---	---	8.3	7.6	7.8	8.3	7.6	7.8
30	---	---	---	---	---	---	8.0	7.6	7.7	8.3	7.6	7.8
31	---	---	---	---	---	---	---	---	---	8.3	7.6	7.8
MAX	---	---	---	---	---	---	8.8	7.6	8.0	8.8	7.8	8.0
MIN	---	---	---	---	---	---	8.0	7.6	7.7	7.6	7.4	7.6

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	8.5	7.6	7.8	8.3	7.7	8.0	8.4	7.7	8.0	8.3	7.6	8.0
2	8.0	7.6	7.7	8.3	7.8	8.0	8.4	7.7	8.0	8.4	7.7	8.0
3	7.8	7.6	7.7	8.4	7.8	8.0	8.4	7.6	8.0	8.4	7.7	8.0
4	8.2	7.6	7.7	8.4	7.8	8.1	8.5	7.7	8.0	8.4	7.7	8.0
5	8.2	7.6	7.7	8.3	7.8	8.0	8.5	7.7	8.2	8.5	7.7	8.0
6	8.2	7.5	7.7	8.2	7.8	8.0	8.6	7.7	8.2	8.4	7.7	8.0
7	8.2	7.6	7.7	8.0	7.7	7.9	8.4	7.5	8.0	8.4	7.7	8.0
8	8.2	7.5	7.7	7.9	7.5	7.6	8.3	7.7	8.0	8.4	7.7	8.0
9	7.9	7.5	7.7	7.8	7.5	7.6	8.1	7.6	7.8	8.6	7.7	8.2
10	8.1	7.5	7.7	8.0	7.6	7.8	8.3	7.7	7.9	8.6	7.7	8.2
11	8.0	7.5	7.7	8.0	7.6	7.8	8.3	7.6	7.9	8.6	7.7	8.1
12	8.0	7.5	7.7	8.0	7.6	7.8	8.4	7.6	7.9	8.5	7.7	8.1
13	8.0	7.6	7.7	8.2	7.7	7.8	8.4	7.6	8.0	8.5	7.7	8.0
14	8.3	7.6	7.8	7.9	7.5	7.6	8.4	7.6	8.0	8.5	7.7	8.0
15	8.4	7.7	7.9	7.8	7.6	7.6	8.3	7.6	7.9	8.3	7.7	8.0
16	8.4	7.8	8.0	7.9	7.6	7.6	8.2	7.5	7.8	8.4	7.6	7.9
17	8.5	7.8	8.0	8.0	7.6	7.7	8.2	7.5	7.8	8.3	7.5	7.8
18	8.4	7.8	8.0	8.1	7.6	7.8	8.1	7.6	7.8	8.4	7.6	7.9
19	8.4	7.7	8.0	8.1	7.6	7.7	8.2	7.7	7.8	8.4	7.6	8.0
20	8.6	7.8	8.1	8.1	7.6	7.8	8.2	7.6	7.9	8.4	7.6	8.0
21	8.4	7.8	7.9	8.2	7.7	7.8	8.2	7.6	7.8	8.3	7.6	7.9
22	8.3	7.7	7.8	8.2	7.7	7.9	8.3	7.6	7.9	8.5	7.6	7.9
23	8.6	7.8	8.1	8.2	7.7	7.9	8.3	7.6	8.0	8.5	7.6	8.0
24	8.7	7.7	8.2	8.3	7.7	7.9	8.4	7.7	8.0	8.0	7.5	7.8
25	8.8	7.8	8.3	8.4	7.7	7.9	8.4	7.7	8.0	8.2	7.6	7.8
26	8.8	7.7	8.2	8.4	7.7	8.0	8.2	7.7	8.1	8.1	7.6	7.8
27	8.7	7.7	8.1	8.4	7.6	7.9	8.0	7.7	7.9	8.3	7.6	7.8
28	8.5	7.7	8.2	8.1	7.6	7.8	8.3	7.6	8.0	8.3	7.6	7.9
29	8.4	7.7	8.0	8.2	7.6	7.9	8.3	7.6	8.0	8.3	7.7	7.8
30	8.3	7.7	7.9	8.2	7.7	7.8	8.2	7.6	7.9	8.4	7.7	7.9
31	---	---	---	8.3	7.7	7.9	8.3	7.6	7.9	---	---	---
MAX	8.8	7.8	8.3	8.4	7.8	8.1	8.6	7.7	8.2	8.6	7.7	8.2
MIN	7.8	7.5	7.7	7.8	7.5	7.6	8.0	7.5	7.8	8.0	7.5	7.8

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued

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

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	---	---	---	---	---	---	193	169	173
2	---	---	---	---	---	---	---	---	---	209	170	180
3	---	---	---	---	---	---	---	---	---	189	170	172
4	---	---	---	---	---	---	---	---	---	201	170	179
5	---	---	---	---	---	---	---	---	---	195	173	178
6	---	---	---	---	---	---	---	---	---	203	175	178
7	---	---	---	---	---	---	---	---	---	199	177	180
8	---	---	---	---	---	---	---	---	---	207	181	188
9	---	---	---	---	---	---	---	---	---	232	184	188
10	---	---	---	---	---	---	---	---	---	211	186	193
11	---	---	---	---	---	---	---	---	---	266	190	204
12	---	---	---	---	---	---	---	---	---	235	201	212
13	---	---	---	---	---	---	---	---	---	221	203	208
14	---	---	---	---	---	---	---	---	---	258	208	215
15	---	---	---	---	---	---	---	---	---	251	185	202
16	---	---	---	---	---	---	---	---	---	209	185	191
17	---	---	---	---	---	---	---	---	---	210	187	194
18	---	---	---	---	---	---	---	---	---	223	197	204
19	---	---	---	---	---	---	---	---	---	216	203	208
20	---	---	---	---	---	---	---	---	---	226	186	196
21	---	---	---	---	---	---	---	---	---	196	174	178
22	---	---	---	---	---	---	208	179	195	197	175	182
23	---	---	---	---	---	---	187	161	173	---	---	---
24	---	---	---	---	---	---	187	158	160	---	---	---
25	---	---	---	---	---	---	180	158	162	205	179	184
26	---	---	---	---	---	---	182	163	166	216	183	194
27	---	---	---	---	---	---	200	165	169	225	189	201
28	---	---	---	---	---	---	200	168	175	223	196	202
29	---	---	---	---	---	---	219	173	176	247	202	203
30	---	---	---	---	---	---	196	173	178	244	207	214
31	---	---	---	---	---	---	---	---	---	240	211	218
MAX	---	---	---	---	---	---	219	179	195	266	211	218
MIN	---	---	---	---	---	---	180	158	160	189	169	172

POTOMAC RIVER BASIN

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	232	208	216	305	261	268	284	250	261	327	283	296
2	262	212	223	317	269	291	307	256	282	288	271	279
3	252	190	200	317	273	285	278	251	260	327	287	303
4	208	173	178	311	271	278	331	261	285	335	273	282
5	205	181	189	344	279	297	338	262	271	347	276	294
6	228	186	190	322	271	274	292	266	276	321	282	299
7	221	192	198	337	271	288	282	222	256	311	281	292
8	245	196	199	273	109	144	322	254	267	330	277	289
9	251	209	220	182	133	157	304	248	260	303	271	285
10	245	214	224	210	172	187	285	250	256	329	279	295
11	246	210	219	256	210	219	329	234	270	328	269	282
12	237	210	218	269	229	241	287	260	272	329	281	292
13	252	217	226	263	236	243	301	265	276	327	273	282
14	257	222	226	268	93	110	334	272	287	312	287	296
15	265	226	237	148	119	132	311	268	285	310	268	279
16	287	235	245	164	128	143	319	271	281	313	275	291
17	285	235	246	189	153	163	324	226	271	320	271	295
18	279	238	250	231	163	172	326	280	291	318	266	284
19	292	240	249	231	156	191	312	276	288	355	276	287
20	268	238	249	231	173	191	312	282	288	296	270	277
21	305	192	243	233	198	205	350	280	290	334	275	291
22	331	217	234	259	208	220	354	279	297	296	276	284
23	330	250	262	246	215	224	310	285	296	347	284	303
24	401	255	280	280	223	239	349	287	300	316	279	285
25	307	252	274	257	223	235	304	280	294	283	272	279
26	310	252	272	281	234	242	326	283	299	328	276	299
27	315	259	270	311	239	267	351	283	286	341	275	304
28	333	274	294	275	245	252	327	284	289	312	275	288
29	301	172	271	268	243	247	324	279	286	321	279	292
30	292	211	254	320	247	254	353	287	304	332	276	280
31	---	---	---	283	247	259	319	282	295	---	---	---
MAX	401	274	294	344	279	297	354	287	304	355	287	304
MIN	205	172	178	148	93	110	278	222	256	283	266	277

POTOMAC RIVER BASIN

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued

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

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	---	---	---	---	---	---	16.3	13.6	14.8
2	---	---	---	---	---	---	---	---	---	14.8	12.4	13.4
3	---	---	---	---	---	---	---	---	---	14.3	11.0	12.2
4	---	---	---	---	---	---	---	---	---	15.1	12.9	13.8
5	---	---	---	---	---	---	---	---	---	15.7	13.1	14.0
6	---	---	---	---	---	---	---	---	---	14.0	13.0	13.7
7	---	---	---	---	---	---	---	---	---	14.6	11.9	13.3
8	---	---	---	---	---	---	---	---	---	16.8	12.7	14.2
9	---	---	---	---	---	---	---	---	---	18.4	14.4	15.8
10	---	---	---	---	---	---	---	---	---	19.6	15.8	17.5
11	---	---	---	---	---	---	---	---	---	20.8	17.1	18.7
12	---	---	---	---	---	---	---	---	---	20.8	18.4	19.1
13	---	---	---	---	---	---	---	---	---	18.9	16.7	17.7
14	---	---	---	---	---	---	---	---	---	20.0	15.8	17.4
15	---	---	---	---	---	---	---	---	---	18.3	17.4	18.0
16	---	---	---	---	---	---	---	---	---	18.8	16.1	17.3
17	---	---	---	---	---	---	---	---	---	18.1	16.5	17.0
18	---	---	---	---	---	---	---	---	---	19.4	15.8	17.1
19	---	---	---	---	---	---	---	---	---	19.1	17.3	17.9
20	---	---	---	---	---	---	---	---	---	17.7	15.1	16.8
21	---	---	---	---	---	---	---	---	---	17.3	14.0	15.1
22	---	---	---	---	---	---	15.9	14.9	15.3	17.6	15.3	16.2
23	---	---	---	---	---	---	15.5	13.6	14.6	---	---	---
24	---	---	---	---	---	---	13.6	11.4	12.2	---	---	---
25	---	---	---	---	---	---	13.1	10.3	11.4	15.0	14.4	14.7
26	---	---	---	---	---	---	13.8	11.9	12.6	18.1	13.8	15.0
27	---	---	---	---	---	---	15.1	13.3	14.0	18.9	16.2	17.4
28	---	---	---	---	---	---	15.4	12.9	13.8	18.7	16.8	17.3
29	---	---	---	---	---	---	14.2	13.4	13.6	18.6	16.1	17.2
30	---	---	---	---	---	---	14.3	13.4	13.9	18.9	15.9	17.2
31	---	---	---	---	---	---	---	---	---	19.7	16.5	17.8
MAX	---	---	---	---	---	---	15.9	14.9	15.3	20.8	18.4	19.1
MIN	---	---	---	---	---	---	13.1	10.3	11.4	14.0	11.0	12.2

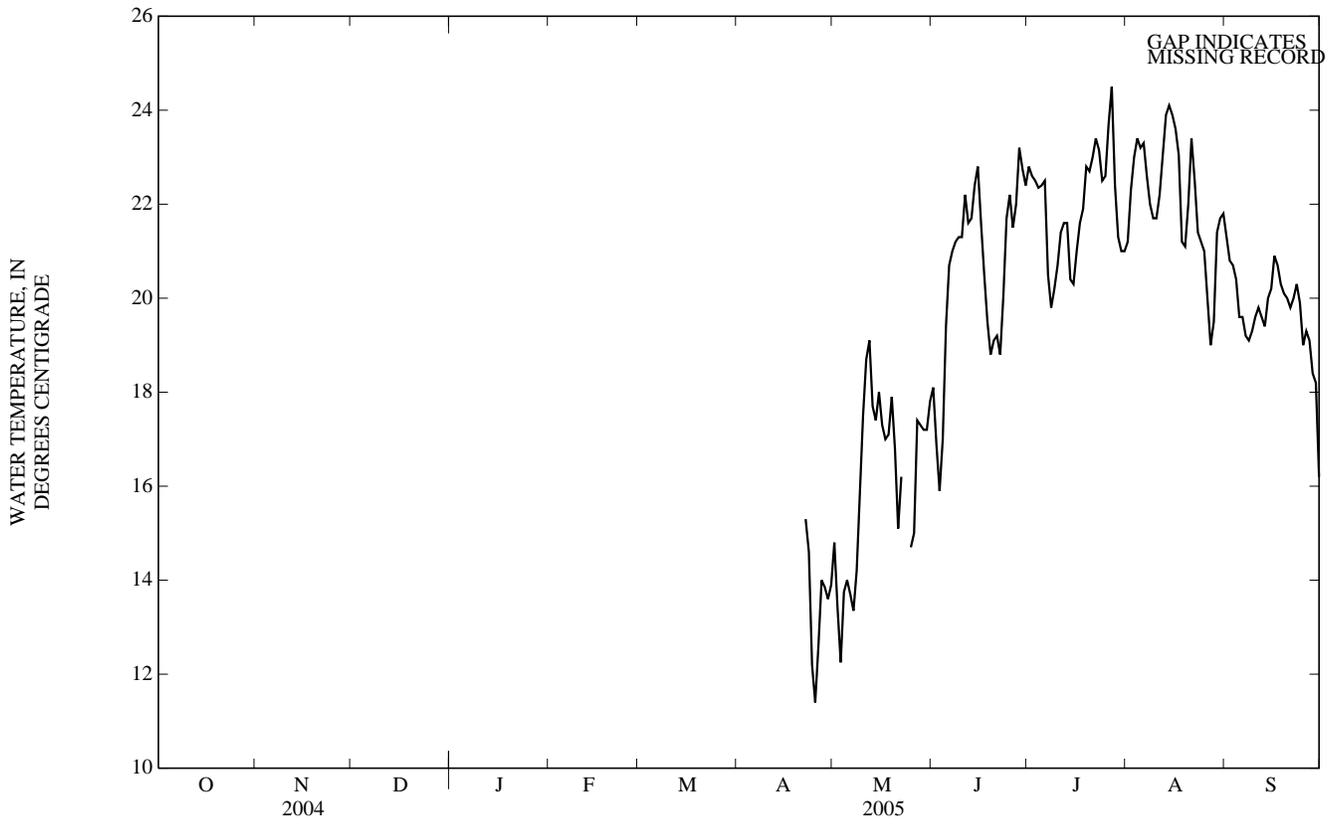
01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	19.6	16.8	18.1	24.1	21.2	22.8	22.9	19.4	21.2	21.8	19.7	21.3
2	18.0	16.2	16.9	23.7	21.5	22.6	23.5	20.2	22.3	21.4	19.2	20.8
3	16.2	15.5	15.9	23.1	20.9	22.5	24.2	21.0	23.0	21.0	19.0	20.7
4	18.9	15.8	17.0	23.2	20.9	22.4	24.3	21.3	23.4	21.0	18.9	20.4
5	21.6	17.9	19.4	23.5	21.0	22.4	24.0	21.4	23.2	20.2	18.4	19.6
6	22.4	19.8	20.7	23.4	21.3	22.5	23.9	21.7	23.3	20.2	18.2	19.6
7	22.5	20.0	21.0	22.6	20.2	20.5	23.4	21.4	22.6	19.6	17.4	19.2
8	23.4	19.9	21.2	20.5	18.8	19.8	22.8	21.0	22.0	19.6	17.2	19.1
9	22.7	20.6	21.3	21.3	19.1	20.2	22.5	21.0	21.7	19.7	17.6	19.3
10	23.1	20.4	21.3	22.7	19.6	20.7	22.7	20.3	21.7	20.0	18.3	19.6
11	23.7	21.4	22.2	23.2	20.3	21.4	23.7	20.5	22.2	20.4	18.6	19.8
12	22.4	20.5	21.6	22.5	20.7	21.6	24.3	21.1	23.1	20.1	17.9	19.6
13	23.4	20.6	21.7	23.1	20.2	21.6	24.6	21.9	23.9	19.8	17.8	19.4
14	24.5	21.0	22.4	22.6	20.2	20.4	24.7	22.3	24.1	20.4	19.3	20.0
15	24.4	21.2	22.8	21.4	20.0	20.3	24.5	22.2	23.9	20.9	19.1	20.2
16	23.0	20.5	21.6	21.8	20.4	21.0	24.0	22.3	23.6	21.2	19.7	20.9
17	21.7	18.6	20.5	22.6	21.0	21.6	23.7	21.8	23.1	21.2	19.7	20.7
18	20.4	17.7	19.5	23.5	21.3	21.9	23.1	20.7	21.2	20.6	19.1	20.3
19	19.8	17.8	18.8	24.5	21.9	22.8	22.0	20.2	21.1	20.4	18.8	20.1
20	20.1	17.8	19.1	24.0	22.0	22.7	23.4	20.6	22.0	20.3	19.1	20.0
21	20.2	17.5	19.2	24.5	22.1	23.0	24.2	21.8	23.4	20.2	18.7	19.8
22	21.1	18.2	18.8	24.7	22.2	23.4	23.6	20.9	22.5	20.7	18.9	20.0
23	22.4	18.3	20.1	24.6	21.8	23.1	22.5	20.3	21.4	21.1	19.4	20.3
24	23.3	19.2	21.7	23.6	21.0	22.5	21.6	19.9	21.2	21.2	19.0	19.9
25	23.1	19.8	22.2	24.8	20.8	22.6	21.4	19.6	21.0	19.3	18.7	19.0
26	22.8	19.8	21.5	25.6	21.6	23.7	21.1	19.5	20.0	19.5	18.9	19.3
27	23.8	20.0	22.0	25.4	22.5	24.5	20.2	18.9	19.0	19.8	18.2	19.1
28	23.8	21.4	23.2	24.9	21.7	22.4	21.4	18.6	19.5	19.1	17.2	18.4
29	23.6	21.3	22.8	21.7	20.7	21.3	22.0	19.9	21.4	18.7	17.0	18.2
30	24.2	21.0	22.4	21.8	20.3	21.0	22.0	20.9	21.7	17.0	15.1	16.2
31	---	---	---	21.9	20.0	21.0	22.4	21.1	21.8	---	---	---
MAX	24.5	21.4	23.2	25.6	22.5	24.5	24.7	22.3	24.1	21.8	19.7	21.3
MIN	16.2	15.5	15.9	20.5	18.8	19.8	20.2	18.6	19.0	17.0	15.1	16.2

POTOMAC RIVER BASIN

01626920 SOUTH RIVER AT OLD RT 611 AT DOOMS, VA—Continued



01627500 SOUTH RIVER AT HARRISTON, VA

LOCATION.--Lat 38°13'07", long 78°50'12", NAD83, Augusta County, Hydrologic Unit 02070005, on left bank 200 ft downstream from bridge on State Highway 778, 0.3 mi northwest of Harriston, 0.6 mi downstream from Paine Run, and 7.2 mi upstream from confluence with North River.

DRAINAGE AREA.--212 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1925 to September 1951, October 1968 to current year.

REVISED RECORDS.--WSP 1171: 1926(M), 1927-28, 1929-32(M), 1933, 1934(M), 1935, 1937. WSP 1302: 1937(M), 1938(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,129.87 ft NGVD of 1929. Prior to Sept. 1, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There are discharges of about 11.9 ft³/s from industrial and municipal wastewater treatment plants upstream from station, originating from well fields. Maximum discharge, 28,900 ft³/s, from rating curve extended above 10,000 ft³/s on basis of slope-area measurement at gage height 15.47 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.--Floods in 1870 and 1877 reached a stage of about 18.8 ft, from information by observer in 1925.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 23	2315	*1,690	*5.15	Mar 28	2200	1,290	4.65
Jan 14	1445	1,240	4.57				

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	986	143	497	297	222	221	558	283	145	101	96	80
2	728	141	453	280	216	210	756	252	140	100	93	75
3	553	141	397	268	213	202	986	236	174	90	87	74
4	457	156	357	260	214	200	755	228	201	88	84	74
5	358	177	326	260	211	217	603	218	180	85	81	72
6	294	168	304	252	204	233	509	208	165	84	81	71
7	266	156	305	244	201	307	448	204	158	87	115	70
8	244	153	292	238	199	673	445	199	147	577	109	70
9	229	148	316	233	199	727	403	188	147	324	100	70
10	219	144	600	224	199	563	352	180	178	175	107	70
11	207	143	602	218	196	468	322	173	163	142	103	72
12	198	217	511	217	191	405	303	168	143	126	91	71
13	208	452	438	212	188	360	296	165	135	121	86	68
14	242	379	378	842	188	386	291	163	128	387	83	69
15	219	312	333	929	188	364	267	192	120	342	84	70
16	196	278	304	664	185	332	246	195	113	282	96	82
17	182	254	289	538	182	319	235	172	106	221	104	81
18	173	245	274	440	179	308	229	164	104	188	84	72
19	169	248	265	385	175	295	223	159	113	175	86	71
20	169	276	250	363	172	277	218	208	110	214	85	72
21	166	254	234	344	177	269	217	238	109	169	81	72
22	160	237	228	319	218	261	247	208	131	144	79	71
23	156	230	526	e295	198	294	326	192	102	131	77	71
24	159	245	1,210	e260	195	357	313	203	96	120	76	72
25	161	510	755	e262	197	334	286	201	95	112	75	72
26	156	503	571	264	196	327	264	185	94	105	75	73
27	151	401	462	268	195	319	247	172	91	101	78	72
28	150	631	393	246	209	705	231	162	89	105	81	71
29	148	630	359	230	---	1,160	222	156	101	110	79	68
30	148	512	337	232	---	847	248	147	118	105	78	70
31	145	---	315	231	---	659	---	145	---	102	81	---
TOTAL	7,997	8,484	12,881	10,315	5,507	12,599	11,046	5,964	3,896	5,213	2,715	2,166
MEAN	258	283	416	333	197	406	368	192	130	168	87.6	72.2
MAX	986	631	1,210	929	222	1,160	986	283	201	577	115	82
MIN	145	141	228	212	172	200	217	145	89	84	75	68
CFSM	1.22	1.33	1.96	1.57	0.93	1.92	1.74	0.91	0.61	0.79	0.41	0.34
IN.	1.40	1.49	2.26	1.81	0.97	2.21	1.94	1.05	0.68	0.91	0.48	0.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1951, 1969 - 2005, BY WATER YEAR (WY)

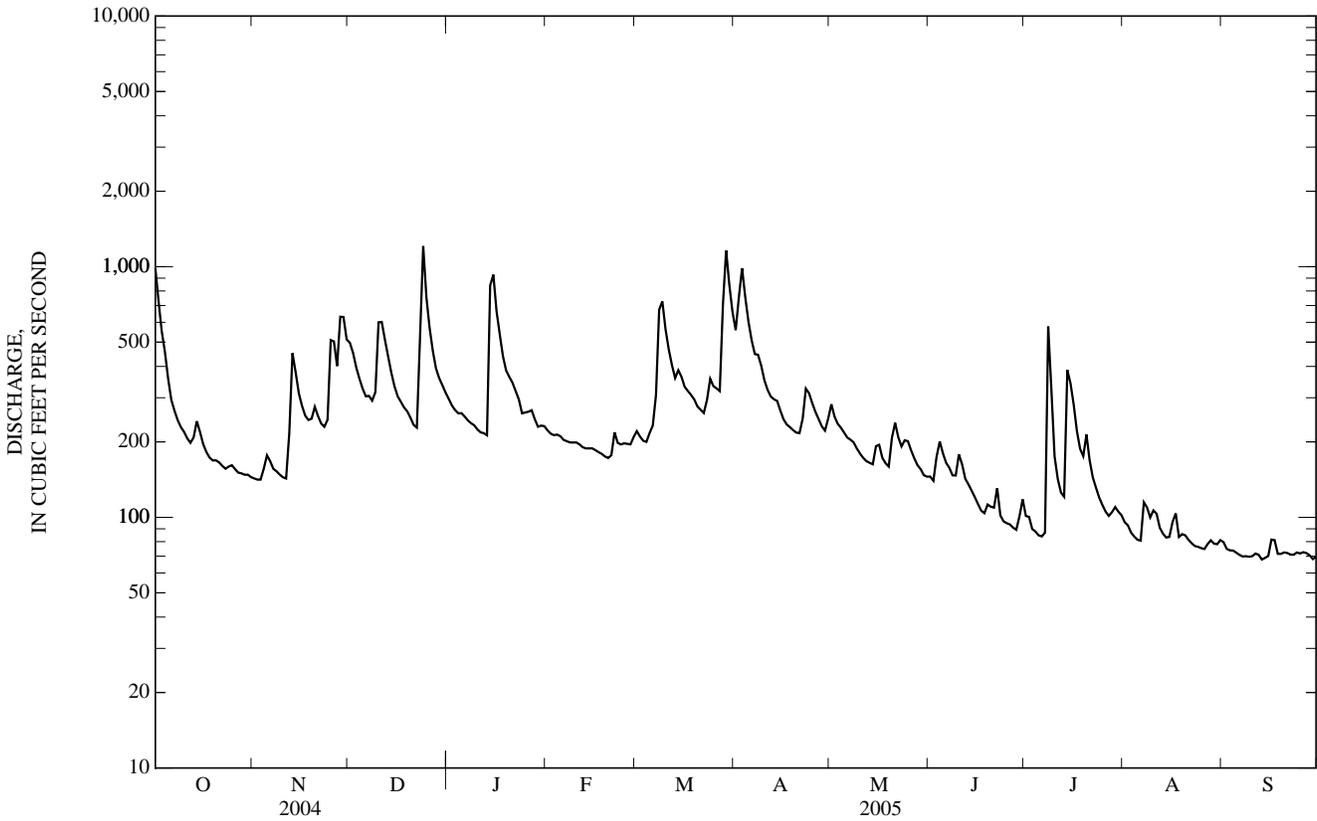
MEAN	218	237	256	307	348	400	392	280	207	134	146	200
MAX	1,048	1,988	802	1,252	2,160	1,407	1,414	819	1,454	520	925	1,185
(WY)	(1943)	(1986)	(1949)	(1996)	(1998)	(1936)	(1987)	(1989)	(1972)	(1972)	(1940)	(2003)
MIN	46.5	54.0	53.8	55.7	55.4	97.8	93.1	83.2	47.6	46.8	38.5	41.0
(WY)	(1931)	(1931)	(1932)	(2002)	(2002)	(2002)	(1981)	(1930)	(2002)	(2002)	(2002)	(1930)

POTOMAC RIVER BASIN

01627500 SOUTH RIVER AT HARRISTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS	
					1926 - 1951	1969 - 2005
ANNUAL TOTAL	107,831		88,783			
ANNUAL MEAN	295		243		261	
HIGHEST ANNUAL MEAN					516	1998
LOWEST ANNUAL MEAN					69.8	2002
HIGHEST DAILY MEAN	4,070	Sep 29	1,210	Dec 24	16,400	Nov 5, 1985
LOWEST DAILY MEAN	73	Sep 5	68	aSep 13	b25	Aug 24, 1930
ANNUAL SEVEN-DAY MINIMUM	77	Aug 24	70	cSep 8	36	Aug 21, 2002
MAXIMUM PEAK FLOW			1,690	Dec 23	28,900	Sep 6, 1996
MAXIMUM PEAK STAGE			5.15	Dec 23	d17.20	Oct 15, 1942
INSTANTANEOUS LOW FLOW			66	Sep 13	b17	Nov 14, 1941
ANNUAL RUNOFF (CFSM)	1.39		1.15		1.23	
ANNUAL RUNOFF (INCHES)	18.92		15.58		16.72	
10 PERCENT EXCEEDS	504		459		494	
50 PERCENT EXCEEDS	222		201		156	
90 PERCENT EXCEEDS	118		81		68	

- a Also Sept. 29, 2005.
- b Probably result of regulation by mill then in existence upstream from station.
- c Also Sept. 9, 2005.
- d Peak discharge 23,100 ft³/s.
- e Estimated.



01627500 SOUTH RIVER AT HARRISTON, VA

WATER-QUALITY RECORDS

PERIOD OF DISCRETE SAMPLE RECORD.--June 2005 to current.

PERIOD OF CONTINUOUS (15-MINUTE INTERVAL) RECORD.--

SPECIFIC CONDUCTANCE: June 2005 to current.

WATER TEMPERATURE: June 2005 to current.

pH: June 2005 to current.

TURBIDITY: June 2005 to current.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: 1948-1949.

WATER TEMPERATURE: 1948-1949.

INSTRUMENTATION.-- Water-quality monitor June 2005 to current.

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

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: Maximum, 670 NTU, July 2; minimum, 0.0 NTU, on several days.

pH: Maximum, 8.6 standard units, on several days; minimum, 7.4 standard units, July 8, 9.

SPECIFIC CONDUCTANCE: Maximum, 353 microsiemens/cm, June 25; minimum, 116 microsiemens/cm, July 8.

WATER TEMPERATURE: Maximum, 27.0°C, July 27; minimum, 16.0°C, June 4, Sept. 30.

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

Date	Time	Sample type	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Sampling depth, feet (00003)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
JUN												
02...	1130	Blank	--	--	--	--	--	--	--	--	--	--
02...	1145	Environmental	2.71	138	--	735	8.9	93	7.9	220	20.0	17.5
27...	1200	Environmental	2.56	92	--	735	8.5	98	8.0	274	33.0	22.6
JUL												
28...	1140	Environmental	2.59	101	--	728	8.1	96	8.0	258	26.5	23.9
AUG												
30...	1200	Environmental	2.51	80	.10	764	--	--	8.3	277	27.0	22.9
30...	1215	Environmental	2.50	77	.10	--	--	--	--	--	--	--
30...	1230	Environmental	2.50	77	1.90	--	--	--	--	--	--	--
30...	1245	Environmental	2.50	77	.10	--	--	--	--	--	--	--
30...	1300	Environmental	2.50	77	1.40	--	--	--	--	--	--	--
30...	1315	Environmental	2.50	77	.10	--	--	--	--	--	--	--
30...	1330	Environmental	2.50	77	.60	--	--	--	--	--	--	--
30...	1345	Environmental	2.50	77	.10	--	--	--	--	--	--	--
SEP												
27...	1115	Environmental	2.48	73	--	730	9.4	107	8.1	276	26.5	19.6

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

Date	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	Organic carbon, water, fltrd, mg/L (00681)	Mercury, water, fltrd, ng/L (50287)	Mercury suspnd sedimnt total, ng/L (62976)	Methylmercury, water, fltrd, ng/L (50285)	Methylmercury suspnd sedimnt total, ng/L (62977)	Suspended sediment concentration, mg/L (80154)	Location in X-sect. looking dwnstrm 1 bank (00009)
JUN									
02...	<.20	<.2	<.3	.12	<.083	<.04	--	--	--
02...	8.87	7.5	1.4	16.4	108	1.83	1.29	7	--
27...	12.1	9.1	2.5	19.0	71.6	1.69	.819	5	--
JUL									
28...	12.7	8.6	1.7	12.7	59.1	1.29	.548	5	--
AUG									
30...	9.49	10.3	4.0	9.23	41.1	.95	.212	2	3.0
30...	9.49	10.3	4.8	9.41	40.0	1.12	.234	2	13.0
30...	9.45	10.3	1.7	9.67	36.6	.92	.288	2	13.0
30...	9.39	10.2	2.1	10.4	44.3	1.11	.269	2	33.0
30...	9.27	10.2	3.6	9.47	54.6	1.08	.352	2	33.0
30...	9.29	10.2	3.3	10.1	43.2	.94	.236	2	54.0
30...	9.32	10.2	2.1	9.72	95.1	.93	.531	2	54.0
30...	9.33	10.2	3.2	9.77	33.0	.97	.208	6	65.0
SEP									
27...	8.88	10.8	1.5	9.55	25.5	.97	.138	11	--

Remark codes used in this table:

< -- Less than.

01627500 SOUTH RIVER AT HARRISTON, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	---	---	---	---	---	---	8.5	1.2	1.9
2	---	---	---	---	---	---	---	---	---	4.8	1.4	2.5
3	---	---	---	---	---	---	---	---	---	3.2	1.3	2.0
4	12	7.0	9.3	---	---	---	---	---	---	3.2	1.1	1.9
5	---	---	---	---	---	---	3.5	1.8	2.5	2.6	1.2	1.8
6	6.8	3.9	5.1	---	---	---	3.5	1.7	2.6	---	---	---
7	5.9	3.4	4.6	5.9	3.4	4.1	---	---	---	---	---	---
8	5.6	3.0	4.2	380	5.6	66	---	---	---	---	---	---
9	11	3.3	4.1	51	14	26	14	2.9	3.8	---	---	---
10	18	5.7	7.6	14	5.9	9.6	---	---	---	---	---	---
11	17	5.6	8.4	7.9	4.1	6.3	---	---	---	---	---	---
12	9.0	4.4	5.5	7.1	4.1	5.0	---	---	---	---	---	---
13	5.7	3.9	4.6	---	---	---	---	---	---	---	---	---
14	9.7	3.5	4.4	---	---	---	---	---	---	---	---	---
15	7.1	2.7	4.2	---	---	---	---	---	---	---	---	---
16	4.9	3.0	3.7	---	---	---	150	1.6	3.7	---	---	---
17	9.9	3.2	4.2	---	---	---	76	2.1	4.8	13	0.3	3.5
18	7.6	2.7	4.0	---	---	---	4.1	2.3	3.1	---	---	---
19	6.1	3.0	4.4	---	---	---	4.5	1.7	2.9	---	---	---
20	5.2	3.1	3.9	---	---	---	---	---	---	---	---	---
21	22	2.7	3.9	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	4.1	1.7	2.6	---	---	---	---	---	---	1.7	0.6	1.0
25	6.5	1.7	2.5	---	---	---	3.2	1.5	2.0	1.5	0.6	1.1
26	3.6	1.5	2.6	---	---	---	3.3	1.5	2.4	---	---	---
27	8.3	1.3	2.3	---	---	---	---	---	---	---	---	---
28	5.4	1.2	2.3	---	---	---	---	---	---	---	---	---
29	25	1.2	2.4	5.8	3.3	4.4	---	---	---	---	---	---
30	---	---	---	5.9	3.1	4.3	---	---	---	---	---	---
31	---	---	---	---	---	---	9.0	0.7	2.0	---	---	---
MAX	25	7.0	9.3	380	14	66	150	2.9	4.8	13	1.4	3.5
MIN	3.6	1.2	2.3	5.8	3.1	4.1	3.2	0.7	2.0	1.5	0.3	1.0

POTOMAC RIVER BASIN

01627500 SOUTH RIVER AT HARRISTON, VA—Continued

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

DAY	MAX	MIN	MEDIAN									
1	---	---	---	---	---	---	---	---	---	8.5	8.0	8.1
2	---	---	---	---	---	---	---	---	---	8.5	8.1	8.2
3	---	---	---	---	---	---	---	---	---	8.5	8.1	8.2
4	8.1	7.7	7.8	---	---	---	---	---	---	8.5	8.1	8.2
5	---	---	---	---	---	---	8.6	8.0	8.3	8.6	8.1	8.3
6	8.1	7.7	7.8	---	---	---	8.5	8.0	8.3	---	---	---
7	8.2	7.7	7.9	8.1	7.9	8.0	8.5	7.9	8.3	---	---	---
8	8.2	7.7	7.9	7.9	7.4	7.6	8.4	7.7	8.2	---	---	---
9	8.0	7.7	7.8	7.7	7.4	7.6	8.3	7.9	8.1	---	---	---
10	8.2	7.7	7.8	8.0	7.6	7.7	---	---	---	---	---	---
11	8.2	7.7	7.9	8.1	7.6	7.8	---	---	---	---	---	---
12	8.1	7.7	7.9	8.0	7.7	7.9	---	---	---	---	---	---
13	8.3	7.7	7.9	---	---	---	---	---	---	---	---	---
14	8.2	7.8	8.0	---	---	---	---	---	---	8.6	8.0	8.2
15	8.2	7.8	8.0	---	---	---	---	---	---	8.5	8.0	8.2
16	8.3	7.8	8.0	---	---	---	8.4	7.9	8.2	8.4	7.9	8.0
17	8.4	7.9	8.1	---	---	---	8.4	7.8	8.0	8.4	7.8	8.0
18	8.3	7.9	8.1	---	---	---	8.2	7.9	8.1	8.5	7.9	8.1
19	8.5	7.9	8.2	---	---	---	8.4	7.9	8.1	8.5	7.9	8.1
20	8.4	7.9	8.2	---	---	---	---	---	---	8.5	8.0	8.1
21	8.4	8.0	8.2	---	---	---	---	---	---	---	---	---
22	---	---	---	8.2	7.7	8.0	---	---	---	---	---	---
23	---	---	---	8.2	7.7	8.0	---	---	---	---	---	---
24	8.5	8.0	8.3	8.3	7.8	8.1	---	---	---	8.3	8.0	8.0
25	8.5	8.0	8.3	8.3	7.8	8.1	8.6	8.2	8.3	8.4	7.9	8.0
26	8.5	8.0	8.3	8.3	7.8	8.2	8.5	8.1	8.3	---	---	---
27	8.5	8.0	8.3	---	---	---	---	---	---	---	---	---
28	8.4	8.0	8.3	---	---	---	---	---	---	---	---	---
29	8.4	8.0	8.2	8.3	7.8	8.0	---	---	---	---	---	---
30	---	---	---	8.3	7.8	8.0	---	---	---	---	---	---
31	---	---	---	---	---	---	8.5	8.0	8.1	---	---	---
MAX	8.5	8.0	8.3	8.3	7.9	8.2	8.6	8.2	8.3	8.6	8.1	8.3
MIN	8.0	7.7	7.8	7.7	7.4	7.6	8.2	7.7	8.0	8.3	7.8	8.0

01627500 SOUTH RIVER AT HARRISTON, VA—Continued

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

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	---	---	---	---	---	---	309	292	298
2	---	---	---	---	---	---	---	---	---	301	276	283
3	---	---	---	---	---	---	---	---	---	301	275	285
4	210	178	193	---	---	---	---	---	---	303	271	275
5	---	---	---	---	---	---	294	256	272	305	281	293
6	198	186	189	---	---	---	293	271	279	---	---	---
7	211	188	200	291	264	284	276	264	270	---	---	---
8	208	194	195	285	116	173	271	248	256	---	---	---
9	223	196	199	153	117	142	288	254	260	---	---	---
10	---	---	---	181	145	172	---	---	---	---	---	---
11	234	212	220	213	181	192	---	---	---	---	---	---
12	224	209	217	238	212	215	---	---	---	---	---	---
13	221	210	215	---	---	---	---	---	---	---	---	---
14	243	216	230	---	---	---	---	---	---	306	284	292
15	248	226	234	---	---	---	---	---	---	304	282	294
16	256	228	244	---	---	---	282	254	272	303	263	295
17	266	237	256	---	---	---	280	257	269	287	243	266
18	265	238	248	---	---	---	277	244	259	306	282	286
19	270	246	257	---	---	---	300	261	283	305	280	288
20	274	240	259	---	---	---	---	---	---	321	283	287
21	264	243	256	---	---	---	---	---	---	---	---	---
22	---	---	---	212	201	203	---	---	---	---	---	---
23	---	---	---	243	212	218	---	---	---	---	---	---
24	301	258	268	237	220	223	---	---	---	297	287	291
25	353	261	296	256	227	236	307	280	292	314	294	304
26	295	270	282	255	231	238	293	285	287	---	---	---
27	294	265	282	---	---	---	---	---	---	---	---	---
28	284	263	274	---	---	---	---	---	---	---	---	---
29	299	263	290	261	246	250	---	---	---	---	---	---
30	---	---	---	261	245	247	---	---	---	---	---	---
31	---	---	---	---	---	---	309	278	282	---	---	---
MAX	353	270	296	291	264	284	309	285	292	321	294	304
MIN	198	178	189	153	116	142	271	244	256	287	243	266

POTOMAC RIVER BASIN

01627500 SOUTH RIVER AT HARRISTON, VA—Continued

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

DAY	MAX	MIN	MEDIAN									
1	---	---	---	---	---	---	---	---	---	23.0	21.1	22.1
2	---	---	---	---	---	---	---	---	---	22.8	20.5	21.7
3	---	---	---	---	---	---	---	---	---	22.4	20.1	21.2
4	19.1	16.0	17.2	---	---	---	---	---	---	22.0	19.9	21.0
5	---	---	---	---	---	---	25.8	23.4	24.6	21.0	19.2	20.3
6	22.6	20.1	21.4	---	---	---	25.3	23.7	24.5	---	---	---
7	23.1	20.8	21.8	23.7	21.3	22.0	25.2	22.9	23.8	---	---	---
8	23.4	20.7	22.0	21.3	19.6	20.6	24.3	23.0	23.9	---	---	---
9	23.0	21.4	22.4	21.6	19.6	20.5	23.8	22.4	23.0	---	---	---
10	24.0	21.1	22.4	22.8	19.8	20.8	---	---	---	---	---	---
11	24.2	22.0	23.1	23.7	21.1	22.1	---	---	---	---	---	---
12	23.7	21.7	22.9	23.6	21.7	22.8	---	---	---	---	---	---
13	23.8	21.6	22.7	---	---	---	---	---	---	---	---	---
14	24.9	21.6	23.0	---	---	---	---	---	---	21.1	19.4	20.1
15	25.2	22.3	23.9	---	---	---	---	---	---	21.8	19.7	20.3
16	23.7	21.6	22.7	---	---	---	25.5	23.9	24.7	22.1	20.5	21.1
17	22.1	19.6	21.2	---	---	---	25.8	23.4	24.3	22.5	20.4	21.1
18	20.9	18.6	20.1	---	---	---	24.6	22.5	23.1	22.3	20.5	21.4
19	20.5	18.7	19.9	---	---	---	23.4	21.9	22.5	21.7	19.8	20.9
20	20.6	18.7	19.8	---	---	---	---	---	---	21.4	20.1	20.6
21	20.3	18.3	19.7	---	---	---	---	---	---	---	---	---
22	---	---	---	25.6	23.4	24.3	---	---	---	---	---	---
23	---	---	---	26.0	23.3	24.6	---	---	---	---	---	---
24	23.4	20.1	21.7	25.0	22.4	24.1	---	---	---	21.8	20.2	20.9
25	23.9	21.1	22.7	26.0	22.5	23.9	22.6	21.0	22.0	20.5	19.8	20.1
26	23.9	21.4	22.9	26.4	23.0	24.9	21.9	20.5	21.0	---	---	---
27	24.9	21.7	22.9	---	---	---	---	---	---	---	---	---
28	24.9	23.0	24.0	---	---	---	---	---	---	---	---	---
29	24.5	22.9	24.1	23.1	22.1	22.7	---	---	---	---	---	---
30	---	---	---	23.2	21.8	22.4	---	---	---	---	---	---
31	---	---	---	---	---	---	23.7	22.5	22.8	---	---	---
MAX	25.2	23.0	24.1	26.4	23.4	24.9	25.8	23.9	24.7	23.0	21.1	22.1
MIN	19.1	16.0	17.2	21.3	19.6	20.5	21.9	20.5	21.0	20.5	19.2	20.1

01628500 SOUTH FORK SHENANDOAH RIVER NEAR LYNNWOOD, VA

LOCATION.--Lat 38°19'21", long 78°45'17", NAD83, Rockingham County, Hydrologic Unit 02070005, on left bank 1.2 mi northeast of Lynnwood and 3.3 mi downstream from confluence of North and South Rivers.

DRAINAGE AREA.--1,084 mi².

PERIOD OF RECORD.--September 1930 to current year.

REVISED RECORDS.--WSP 1171: 1933(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,013.17 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low flow prior to 1960 caused by mill at Lynnwood and since by irrigation. National Weather Service rain gage and gage-height telemeters and Virginia Department of Emergency Services gage-height radio transmitter at station. Maximum discharge, 107,000 ft³/s, from rating curve extended above 22,000 ft³/s on basis of computations of flow over dam at gage heights 23.60 ft and 27.2 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.--Maximum stage since at least 1870, that of Sept. 7, 1996.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 29	0900	*6,200	*8.33				

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	4,050	608	2,550	975	713	807	2,540	1,240	589	372	567	368
2	2,920	594	2,860	920	689	788	3,020	1,230	562	672	526	339
3	2,230	590	2,430	878	680	752	4,020	1,180	606	413	455	319
4	1,750	625	2,010	853	685	737	3,190	1,100	656	367	411	312
5	1,380	922	1,700	861	671	805	2,570	1,020	611	345	380	302
6	1,160	1,010	1,480	842	650	915	2,150	953	571	379	368	299
7	1,050	996	1,390	806	639	1,210	1,850	900	753	368	415	292
8	963	926	1,320	789	633	2,010	1,800	862	636	1,500	399	287
9	896	848	1,430	777	631	2,500	1,600	813	571	1,350	375	282
10	860	779	3,760	745	631	2,080	1,400	762	633	856	447	274
11	809	738	4,300	726	613	1,760	1,280	725	627	647	553	273
12	770	839	3,310	711	591	1,530	1,190	696	582	538	510	268
13	779	1,460	2,650	701	587	1,330	1,150	668	547	491	466	260
14	908	1,270	2,160	1,810	588	1,300	1,110	647	514	1,090	464	253
15	831	1,130	1,790	3,090	600	1,210	1,030	687	485	1,460	430	253
16	750	1,050	1,530	2,530	592	1,090	957	673	448	1,120	626	257
17	708	984	1,380	2,080	580	1,030	906	613	426	1,080	574	314
18	671	945	1,270	1,680	566	985	879	583	416	2,020	423	266
19	653	915	1,180	1,420	555	939	851	564	425	1,460	395	248
20	655	1,130	1,100	1,310	547	885	832	948	420	1,240	397	248
21	664	1,040	1,000	1,220	559	854	810	1,370	404	917	382	247
22	635	993	975	1,120	710	819	928	1,250	443	751	356	243
23	621	969	1,080	1,030	677	900	1,220	1,070	401	624	345	242
24	634	991	2,240	e875	653	1,300	1,480	1,020	379	541	337	241
25	658	1,800	1,760	e900	684	1,360	1,380	971	355	491	332	244
26	629	2,390	1,550	909	694	1,440	1,240	866	345	447	324	247
27	618	2,050	1,380	883	700	1,380	1,130	784	345	415	335	249
28	633	2,620	1,230	e800	745	2,480	1,030	724	333	415	372	244
29	641	2,750	1,140	e735	---	5,750	966	679	318	455	363	235
30	632	2,340	1,080	750	---	4,050	1,030	639	395	443	343	230
31	619	---	1,030	743	---	3,110	---	610	---	433	406	---
TOTAL	31,777	36,302	56,065	34,469	17,863	48,106	45,539	26,847	14,796	23,700	13,076	8,136
MEAN	1,025	1,210	1,809	1,112	638	1,552	1,518	866	493	765	422	271
MAX	4,050	2,750	4,300	3,090	745	5,750	4,020	1,370	753	2,020	626	368
MIN	618	590	975	701	547	737	810	564	318	345	324	230
CFSM	0.95	1.12	1.67	1.03	0.59	1.43	1.40	0.80	0.45	0.71	0.39	0.25
IN.	1.09	1.25	1.92	1.18	0.61	1.65	1.56	0.92	0.51	0.81	0.45	0.28

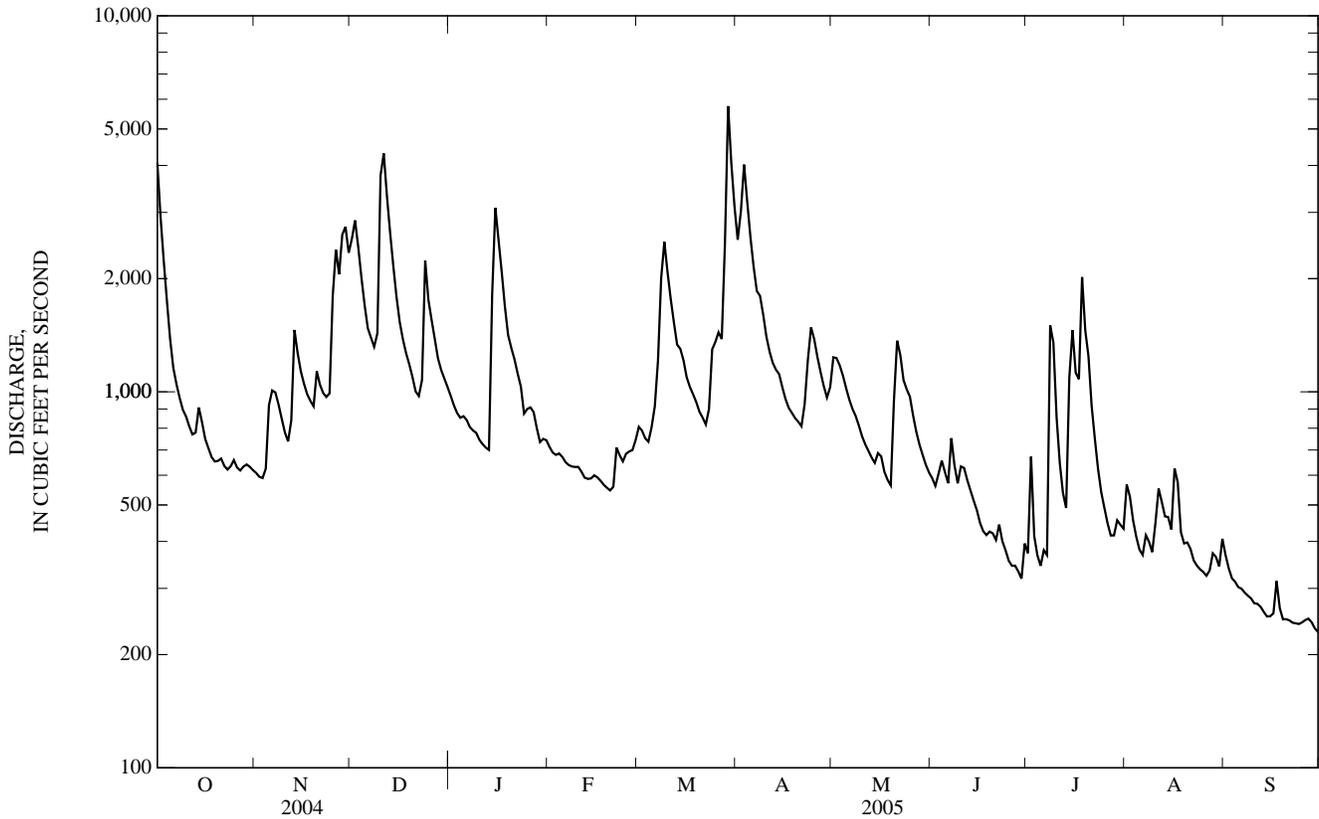
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2005, BY WATER YEAR (WY)

MEAN	718	793	969	1,222	1,431	1,851	1,571	1,197	876	550	604	682
MAX	4,172	6,886	3,302	4,904	6,939	5,785	5,454	3,086	3,656	2,013	2,895	5,822
(WY)	(1943)	(1986)	(1949)	(1996)	(1998)	(1936)	(1987)	(1989)	(1972)	(1949)	(1940)	(1996)
MIN	122	150	156	154	168	333	317	362	215	155	137	142
(WY)	(1931)	(1931)	(1966)	(1966)	(2002)	(2002)	(1981)	(1977)	(2002)	(2002)	(2002)	(2002)

01628500 SOUTH FORK SHENANDOAH RIVER NEAR LYNNWOOD, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1931 - 2005	
ANNUAL TOTAL	452,279		356,676		1,036	
ANNUAL MEAN	1,236		977		2,020	
HIGHEST ANNUAL MEAN					306	1996
LOWEST ANNUAL MEAN					84	2002
HIGHEST DAILY MEAN	20,700	Sep 29	5,750	Mar 29	e63,500	Sep 7, 1996
LOWEST DAILY MEAN	259	Sep 5	230	Sep 30	90	aJul 7, 2002
ANNUAL SEVEN-DAY MINIMUM	267	Aug 31	241	Sep 24	90	bAug 21, 2002
MAXIMUM PEAK FLOW			6,200	Mar 29	107,000	Sep 7, 1996
MAXIMUM PEAK STAGE			8.33	Mar 29	c30.84	Sep 7, 1996
INSTANTANEOUS LOW FLOW			228	dSep 29	f32	Sep 20, 1932
ANNUAL RUNOFF (CFSM)	1.14		0.901		0.956	
ANNUAL RUNOFF (INCHES)	15.52		12.24		12.99	
10 PERCENT EXCEEDS	2,180		1,830		2,120	
50 PERCENT EXCEEDS	932		762		604	
90 PERCENT EXCEEDS	426		344		235	

- a Also Aug. 25, 2002.
- b Also Aug. 22, 2002.
- c From high-water mark in gage house.
- d Also Sept. 30, 2005.
- e Estimated.
- f Result of regulation.



01629500 SOUTH FORK SHENANDOAH RIVER NEAR LURAY, VA

LOCATION.--Lat 38°38'46", long 78°32'05", NAD83, Page County, Hydrologic Unit 02070005, on right bank between bridges on U.S. Highway 211, 1.2 mi downstream from Big Run, 2.2 mi upstream from Mill Creek, and 4.1 mi west of Luray.

DRAINAGE AREA.--1,377 mi².

PERIOD OF RECORD.--April 1925 to September 1930, October 1938 to September 1951, June 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 721.76 ft NGVD of 1929. April 1925 to September 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low and medium flow caused by powerplant 10 mi upstream from station. Virginia Department of Emergency Services and National Weather Service gage-height transmitters at station. Maximum discharge, 112,000 ft³/s, from rating curve extended above 86,300 ft³/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 Mar. 18, 1936, reached a stage of 23.6 ft, from floodmarks, discharge, 81,600 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 29	1715	*7,920	*7.58				

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	6,610	779	2,920	1,350	992	1,060	3,350	1,540	760	456	537	505
2	4,300	766	3,390	1,290	951	1,060	3,220	1,640	731	489	651	457
3	3,130	749	3,110	1,240	935	1,030	5,180	1,580	738	693	600	419
4	2,520	833	2,630	1,180	926	990	4,350	1,520	820	474	526	397
5	2,070	995	2,260	1,170	922	1,020	3,370	1,450	828	436	478	381
6	1,740	1,250	2,000	1,170	898	1,140	2,840	1,340	762	464	472	374
7	1,560	1,310	1,850	1,120	859	1,350	2,480	1,270	728	459	499	370
8	1,430	1,260	1,810	1,080	853	1,980	2,330	1,210	920	901	509	363
9	1,310	1,150	1,750	1,060	853	3,320	2,200	1,130	749	2,210	487	359
10	1,230	1,050	3,750	1,030	856	2,810	1,980	1,060	696	1,400	461	360
11	1,150	975	5,650	998	846	2,380	1,810	990	775	920	538	353
12	1,080	1,020	4,650	974	807	2,070	1,710	941	731	754	633	351
13	1,040	1,640	3,520	967	786	1,840	1,630	881	692	652	624	349
14	1,110	1,860	2,880	1,640	790	1,690	1,580	861	647	671	553	345
15	1,230	1,630	2,400	3,970	792	1,650	1,510	843	594	1,710	548	337
16	1,060	1,510	2,080	3,440	797	1,500	1,420	901	551	1,500	553	337
17	973	1,410	1,880	2,800	783	1,400	1,310	843	539	1,360	852	383
18	897	1,340	1,750	2,300	753	1,330	1,260	774	499	1,630	656	418
19	880	1,310	1,640	1,950	729	1,290	1,210	741	489	2,140	515	380
20	854	1,390	1,540	1,780	721	1,230	1,160	958	501	1,660	485	347
21	875	1,480	1,440	1,670	724	1,160	1,130	1,650	494	1,340	482	344
22	857	1,370	1,350	1,560	841	1,120	1,150	1,720	476	1,100	447	337
23	824	1,330	1,360	1,440	972	1,190	1,430	1,570	522	856	410	334
24	820	1,320	2,230	e1,300	909	1,580	1,750	1,440	459	735	395	335
25	846	1,620	2,340	e1,150	900	1,720	1,800	1,420	441	648	387	329
26	846	2,600	2,050	1,220	930	1,800	1,670	1,300	415	590	375	333
27	807	2,520	1,870	1,210	941	1,790	1,550	1,130	404	547	390	336
28	806	2,780	1,690	e1,150	971	2,040	1,450	1,010	399	511	410	333
29	822	3,490	1,560	e1,000	---	6,780	1,340	926	391	520	435	323
30	833	3,060	1,480	1,030	---	6,030	1,340	828	376	562	425	308
31	807	---	1,410	1,010	---	4,240	---	809	---	541	452	---
TOTAL	45,317	45,797	72,240	46,249	24,037	61,590	60,510	36,276	18,127	28,929	15,785	10,897
MEAN	1,462	1,527	2,330	1,492	858	1,987	2,017	1,170	604	933	509	363
MAX	6,610	3,490	5,650	3,970	992	6,780	5,180	1,720	920	2,210	852	505
MIN	806	749	1,350	967	721	990	1,130	741	376	436	375	308
CFSM	1.06	1.11	1.69	1.08	0.62	1.44	1.46	0.85	0.44	0.68	0.37	0.26
IN.	1.22	1.24	1.95	1.25	0.65	1.66	1.63	0.98	0.49	0.78	0.43	0.29

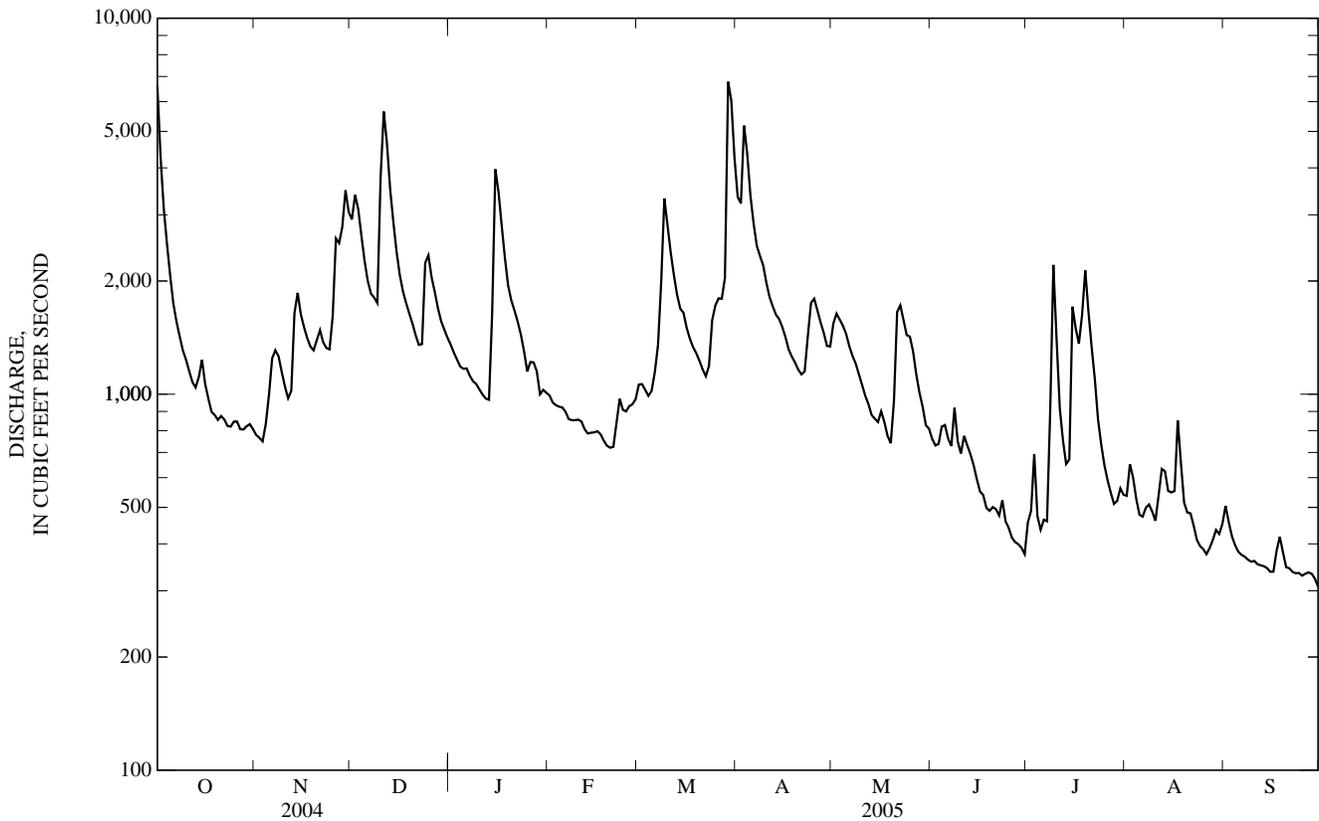
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1930, 1939 - 1951, 1980 - 2005, BY WATER YEAR (WY)

MEAN	1,005	1,159	1,363	1,554	1,963	2,236	2,163	1,646	1,243	759	830	1,143
MAX	6,332	8,783	3,821	6,490	9,892	7,143	7,412	4,449	4,372	2,460	3,637	8,043
(WY)	(1943)	(1986)	(1949)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(1949)	(1940)	(1996)
MIN	237	249	307	260	276	482	452	499	332	231	216	228
(WY)	(2002)	(2002)	(2002)	(1981)	(2002)	(2002)	(1981)	(1930)	(1999)	(2002)	(2002)	(2002)

01629500 SOUTH FORK SHENANDOAH RIVER NEAR LURAY, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS	
					1926 - 1930	1939 - 1951
ANNUAL TOTAL	612,526		465,754		1,411	
ANNUAL MEAN	1,674		1,276		2,707	
HIGHEST ANNUAL MEAN					440	1996
LOWEST ANNUAL MEAN					84,400	2002
HIGHEST DAILY MEAN	28,500	Sep 29	6,780	Mar 29	168	Sep 7, 1996
LOWEST DAILY MEAN	323	Sep 6	308	Sep 30	a135	bSep 28, 1930
ANNUAL SEVEN-DAY MINIMUM	338	Sep 1	328	Sep 24	112,000	Aug 21, 2002
MAXIMUM PEAK FLOW			c7,920	Mar 29	26.95	Sep 7, 1996
MAXIMUM PEAK STAGE			c7.58	Mar 29	a70	Sep 7, 1996
INSTANTANEOUS LOW FLOW			264	dSep 16	1.02	Sep 27, 1941
ANNUAL RUNOFF (CFSM)	1.22		0.927		13.92	
ANNUAL RUNOFF (INCHES)	16.55		12.58		842	
10 PERCENT EXCEEDS	2,820		2,330		354	
50 PERCENT EXCEEDS	1,260		1,020			
90 PERCENT EXCEEDS	538		413			

- a Result of regulation.
- b Also Sept. 16, 1925; data collected for only part of 1925 water year.
- c Maximum discharge, 8,340 ft³/s, Oct. 1, 2004, gage height, 7.59 ft, stage falling, peak occurred Sept. 29, 2004.
- d Also Sept. 30, 2005.
- e Estimated.



01630700 GOONEY RUN NEAR GLEN ECHO, VA

LOCATION.--Lat 38°50'06", long 78°13'55", NAD83, Warren County, Hydrologic Unit 02070005, on right bank along State Highway 649 (Browntown Road), 40 ft upstream from bridge on State Highway 622, 6.3 mi southwest of Front Royal, and 1.1 mi south of Glen Echo.

DRAINAGE AREA.--20.6 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 810.97 ft NAVD of 1988.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Miscellaneous water-quality data collected at this site in 1968 and 1969 were published as site 01630600.

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	108	14	62	27	e23	25	71	30	31	5.0	4.7	4.7
2	80	14	51	25	e23	23	190	26	29	13	4.1	3.2
3	65	14	46	25	e22	23	228	25	37	6.0	3.6	2.5
4	55	31	41	24	22	23	139	25	31	5.2	3.1	2.2
5	46	26	38	24	22	24	100	24	26	5.0	2.6	2.1
6	40	21	35	23	22	26	80	23	24	9.0	2.3	2.0
7	35	19	35	22	22	32	71	23	22	6.4	2.8	1.9
8	31	18	35	23	23	57	68	22	19	213	5.7	1.7
9	29	17	48	21	24	52	58	21	18	49	7.3	1.5
10	26	16	68	21	28	46	53	19	17	31	5.9	1.4
11	24	16	64	20	23	43	49	18	15	24	4.4	1.3
12	23	41	57	20	22	39	45	18	14	19	3.4	1.1
13	21	49	52	20	22	35	42	17	14	17	2.9	0.98
14	23	37	45	121	27	33	38	110	14	15	2.4	e0.84
15	22	33	40	79	26	30	36	78	11	13	2.1	0.94
16	20	30	37	65	25	28	33	53	10	11	2.2	1.1
17	18	27	34	56	24	27	32	41	9.7	12	2.6	1.4
18	17	27	32	e50	e23	26	31	34	9.3	13	2.1	1.1
19	17	26	30	e46	e22	25	30	30	9.3	10	2.5	0.96
20	20	25	e28	41	e22	24	29	108	9.0	9.2	2.7	e0.84
21	21	23	e27	36	25	24	29	84	8.3	12	2.1	e0.83
22	18	22	26	e34	27	23	30	66	8.4	11	1.5	e0.82
23	17	21	54	e33	23	42	36	66	8.4	7.9	1.2	e0.82
24	17	23	49	e32	24	44	29	68	6.9	6.6	1.2	1.3
25	17	28	41	e30	24	41	28	83	6.0	5.9	1.1	1.3
26	16	25	37	e28	24	40	26	71	5.4	5.1	1.0	1.2
27	15	25	34	e26	23	39	25	60	5.0	4.6	1.9	1.3
28	15	108	e33	e25	25	121	24	53	5.2	6.0	2.8	0.91
29	15	70	32	e24	---	146	24	45	6.0	6.7	2.1	0.85
30	17	60	30	e24	---	106	33	39	6.5	6.6	6.2	e0.84
31	15	---	29	e24	---	84	---	35	---	5.6	21	---
TOTAL	903	906	1,270	1,069	662	1,351	1,707	1,415	435.4	563.8	111.5	43.93
MEAN	29.1	30.2	41.0	34.5	23.6	43.6	56.9	45.6	14.5	18.2	3.60	1.46
MAX	108	108	68	121	28	146	228	110	37	213	21	4.7
MIN	15	14	26	20	22	23	24	17	5.0	4.6	1.0	0.82
CFSM	1.41	1.47	1.99	1.67	1.15	2.12	2.76	2.22	0.70	0.88	0.17	0.07
IN.	1.63	1.64	2.29	1.93	1.20	2.44	3.08	2.56	0.79	1.02	0.20	0.08

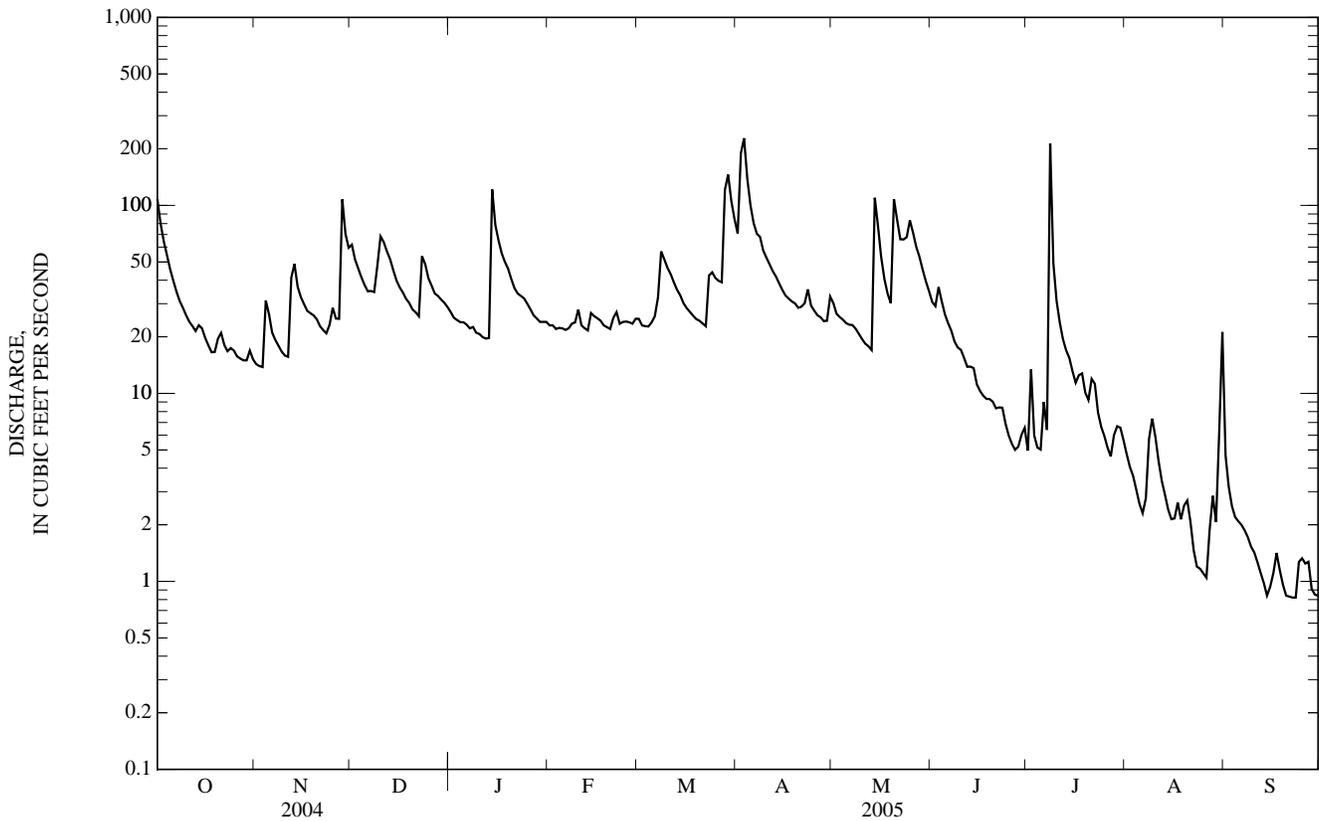
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2005, BY WATER YEAR (WY)

MEAN	22.8	37.8	52.5	32.7	31.7	59.6	65.1	50.3	28.3	14.6	4.22	52.6
MAX	29.1	47.9	84.5	35.9	36.5	102	77.7	64.5	73.6	33.8	9.40	106
(WY)	(2005)	(2004)	(2004)	(2003)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	14.0	30.2	32.0	27.6	23.6	32.7	56.9	40.8	9.60	1.69	0.53	1.46
(WY)	(2003)	(2005)	(2003)	(2004)	(2005)	(2004)	(2005)	(2004)	(2002)	(2002)	(2002)	(2005)

01630700 GOONEY RUN NEAR GLEN ECHO, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	12,816.57		10,437.63			
ANNUAL MEAN	35.0		28.6		40.0	
HIGHEST ANNUAL MEAN					51.6	2003
LOWEST ANNUAL MEAN					28.6	2005
HIGHEST DAILY MEAN	479	Sep 28	228	Apr 3	1,040	Sep 19, 2003
LOWEST DAILY MEAN	e0.98	Sep 3	e0.82	Sep 22	0.18	aAug 26, 2002
ANNUAL SEVEN-DAY MINIMUM	1.2	Aug 30	0.95	Sep 18	0.25	Aug 22, 2002
MAXIMUM PEAK FLOW			917	May 14	2,650	Sep 19, 2003
MAXIMUM PEAK STAGE			5.53	May 14	8.89	Sep 19, 2003
INSTANTANEOUS LOW FLOW			(b)		0.17	cAug 17, 2002
ANNUAL RUNOFF (CFSM)	1.70		1.39		1.94	
ANNUAL RUNOFF (INCHES)	23.14		18.85		26.38	
10 PERCENT EXCEEDS	62		57		84	
50 PERCENT EXCEEDS	26		24		26	
90 PERCENT EXCEEDS	3.8		2.2		4.2	

a Also Aug. 27 and Sept. 14, 2002.
 b Not determined.
 c Also Aug. 23, 24, 26-28, and Sept. 19, 2002.
 e Estimated.



01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA

LOCATION.--Lat 38°54'50", long 78°12'39", NAD83, Warren County, Hydrologic Unit 02070005, on left bank 0.7 mi downstream from bridge on State Highway 619, 1.0 mi west of Front Royal, and 3.5 mi upstream from confluence with North Fork.

DRAINAGE AREA.--1,642 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to September 1906, October 1930 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 951: 1936(M). WSP 1171: 1935(M), 1937(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 469.38 ft NGVD of 1929. June 1899 to July 1906, nonrecording gage at site 1.0 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Large diurnal fluctuation at low and medium flow caused by powerplants upstream from station prior to 1954; occasional large diurnal fluctuation thereafter. National Weather Service gage-height telemeter at station. Maximum discharge, 130,000 ft³/s, from rating curve extended above 92,000 ft³/s on basis of slope-area measurement of peak flow. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1870, that of Oct. 16, 1942.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 1	0000	*10,000	*7.22				

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	7,900	894	3,280	1,550	1,300	1,330	4,260	1,580	973	445	562	511
2	5,450	888	3,420	1,480	1,270	1,390	4,160	1,770	920	491	556	560
3	4,150	876	3,590	1,420	1,240	1,370	6,390	1,790	920	504	653	552
4	3,290	908	3,170	1,370	1,230	1,340	5,760	1,720	916	662	612	501
5	2,680	1,040	2,660	1,330	1,220	1,320	4,580	1,630	958	519	546	490
6	2,230	1,120	2,360	1,320	1,210	1,370	3,750	1,550	940	513	507	480
7	1,900	1,290	2,110	1,310	1,190	1,530	3,210	1,440	886	506	522	468
8	1,710	1,350	2,020	1,280	1,170	2,000	2,950	1,400	863	1,190	546	464
9	1,550	1,260	2,000	1,200	1,170	3,180	2,750	1,350	967	1,510	541	462
10	1,440	1,170	2,770	1,200	1,200	3,570	2,500	1,270	889	1,820	545	459
11	1,360	1,090	5,430	1,180	1,180	3,030	2,280	1,220	801	1,130	502	454
12	1,280	1,120	5,420	1,140	1,170	2,680	2,150	1,160	838	879	539	449
13	1,200	1,330	4,370	1,120	1,140	2,390	2,120	1,110	803	740	635	443
14	1,200	2,020	3,530	1,520	1,140	2,190	2,090	e1,070	782	638	637	440
15	1,270	1,950	2,960	3,330	1,140	2,040	2,050	e1,060	726	661	583	432
16	1,300	1,730	2,520	4,300	1,140	1,960	1,930	e1,050	665	1,980	582	425
17	1,150	1,580	2,230	3,520	1,140	1,800	1,820	e1,140	628	1,400	608	407
18	1,070	1,490	2,030	2,970	1,120	1,700	1,540	e1,070	615	1,330	823	443
19	1,020	1,430	1,870	2,550	1,090	1,630	1,480	e980	584	e1,890	683	434
20	1,020	1,420	1,770	2,270	1,070	1,590	1,440	1,450	567	1,700	580	433
21	1,010	1,530	e1,640	2,150	1,070	1,500	1,400	1,570	567	1,390	554	402
22	1,000	1,530	e1,540	2,010	1,110	1,460	1,400	1,940	567	1,150	546	379
23	975	1,430	e1,570	e1,890	1,200	1,540	1,470	1,870	552	980	520	372
24	953	1,400	1,680	e1,770	1,300	1,860	1,690	1,770	566	809	488	387
25	949	1,460	2,760	e1,630	1,240	2,170	2,010	1,660	523	699	475	375
26	960	2,020	2,430	e1,550	1,230	2,190	1,960	1,610	498	631	463	366
27	946	2,780	2,190	e1,510	1,260	2,230	1,800	1,430	481	596	474	371
28	918	2,960	1,990	e1,440	1,280	2,500	1,660	1,270	471	557	492	360
29	915	3,730	1,810	e1,390	---	4,870	1,570	1,180	500	532	493	349
30	938	3,680	1,700	e1,330	---	7,050	1,550	1,090	461	539	503	339
31	921	---	1,620	1,320	---	5,330	---	983	---	576	555	---
TOTAL	54,655	48,476	80,440	55,350	33,220	72,110	75,720	43,183	21,427	28,967	17,325	13,007
MEAN	1,763	1,616	2,595	1,785	1,186	2,326	2,524	1,393	714	934	559	434
MAX	7,900	3,730	5,430	4,300	1,300	7,050	6,390	1,940	973	1,980	823	560
MIN	915	876	1,540	1,120	1,070	1,320	1,400	980	461	445	463	339
CFSM	1.07	0.98	1.58	1.09	0.72	1.42	1.54	0.85	0.43	0.57	0.34	0.26
IN.	1.24	1.10	1.82	1.25	0.75	1.63	1.72	0.98	0.49	0.66	0.39	0.29

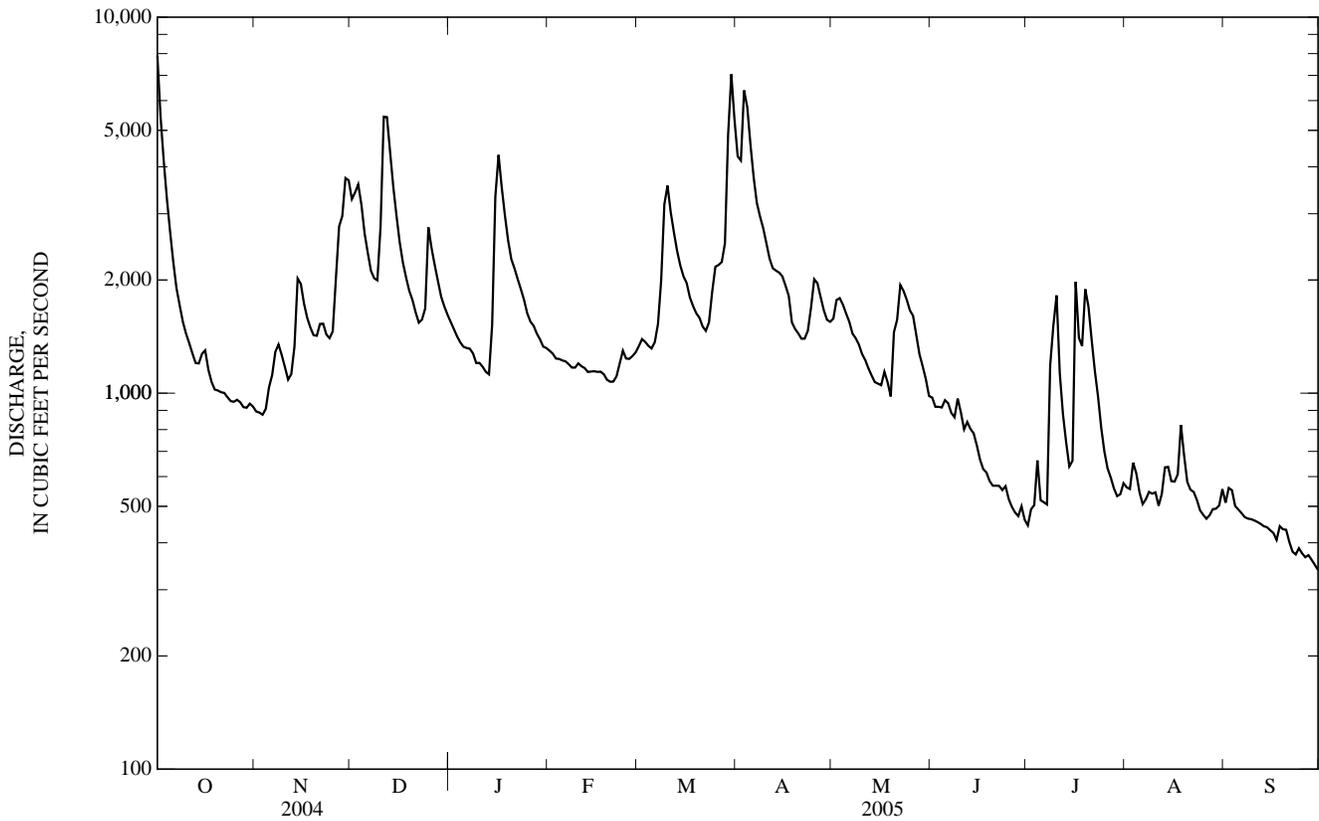
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2005, BY WATER YEAR (WY)

MEAN	1,145	1,235	1,503	1,879	2,188	2,821	2,449	1,834	1,343	808	925	1,060
MAX	8,678	10,130	4,795	7,876	10,600	10,300	7,963	4,807	6,586	2,876	6,807	9,631
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1936)	(1987)	(1989)	(1972)	(1949)	(1955)	(1996)
MIN	225	242	268	285	311	510	516	578	377	252	260	280
(WY)	(1931)	(1931)	(1966)	(1966)	(2002)	(2002)	(1981)	(1977)	(1999)	(1966)	(2002)	(2002)

01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1931 - 2005	
ANNUAL TOTAL	684,662		543,880		1,596	
ANNUAL MEAN	1,871		1,490		3,189	
HIGHEST ANNUAL MEAN					493	1996
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	22,300	Sep 29	7,900	Oct 1	114,000	Oct 16, 1942
LOWEST DAILY MEAN	499	Aug 12	339	Sep 30	107	Nov 18, 1930
ANNUAL SEVEN-DAY MINIMUM	519	Aug 24	364	Sep 24	152	Sep 6, 1966
MAXIMUM PEAK FLOW			10,000	Oct 1	130,000	Oct 16, 1942
MAXIMUM PEAK STAGE			7.22	Oct 1	a34.80	Oct 16, 1942
INSTANTANEOUS LOW FLOW			328	bSep 29	59	Jan 30, 1934
ANNUAL RUNOFF (CFSM)	1.14		0.907		0.972	
ANNUAL RUNOFF (INCHES)	15.51		12.32		13.20	
10 PERCENT EXCEEDS	3,200		2,760		3,200	
50 PERCENT EXCEEDS	1,450		1,270		952	
90 PERCENT EXCEEDS	594		493		386	

a From floodmarks.
 b Also Sept. 30, 2005.
 e Estimated.



01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1930-1931, 1945, 1948-1949, 1951-1956, 1967-1986, 1994, 1996-2002, 2004-current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Some data from 1952-1980.

SPECIFIC CONDUCTANCE: Some data from 1952-1980.

SEDIMENT CONCENTRATION: Some data from 1953-1956.

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, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 deg C (00095)	Temperature, air, deg C (00020)
MAR												
08...	1215	Environmental	85116	2.49	2,020	9.6	732	12.2	106	8.2	308	2.0
09...	1330	Environmental	85116	3.50	3,210	20	743	12.6	104	8.4	269	5.5
30...	1130	Environmental	85116	5.83	7,160	100	748	10.6	94	7.9	207	15.5
MAY												
21...	1030	Environmental	85116	2.12	1,480	11	745	9.9	102	8.1	228	18.0
21...	1045	Replicate	85116	--	--	--	--	--	--	--	--	--
JUL												
08...	1500	Environmental	85116	2.07	1,250	53	750	8.3	99	7.9	194	29.0
21...	1300	Environmental	85116	2.25	1,410	26	751	8.0	104	8.1	228	32.5
AUG												
25...	1350	Blank	85116	--	--	--	--	--	--	--	--	--
25...	1355	Environmental	85116	1.38	467	1.7	753	9.9	126	8.9	269	29.5
SEP												
22...	1220	Environmental	85116	1.23	362	.6	750	10.6	126	9.1	315	34.0

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)
MAR										
08...	7.6	11	13	<.040	1.13	1.4	.009	.040	95	11
09...	6.0	30	34	<.040	1.15	1.5	.013	.070	89	31
30...	9.3	105	119	.100	1.10	1.9	.047	.250	30	386
MAY										
21...	15.7	12	14	<.040	.670	1.1	.005	.040	74	14
21...	--	12	14	<.040	.680	1.1	.005	.040	82	13
JUL										
08...	23.1	55	64	.080	.420	1.1	.049	.160	--	65
21...	28.0	27	32	<.040	1.12	1.4	.069	.140	--	32
AUG										
25...	--	<3	<3	<.070	<.040	<.10	.003	.020	--	<.5
25...	27.0	<3	<3	<.080	<.340	.66	.023	.070	--	2
SEP										
22...	23.2	<3	<3	<.040	.260	.53	.020	.050	--	1

Remark codes used in this table:

< -- Less than.

01632000 NORTH FORK SHENANDOAH RIVER AT COOTES STORE, VA

LOCATION.--Lat 38°38'13", long 78°51'10", NAD83, Rockingham County, Hydrologic Unit 02070006, on right bank at Cootes Store, 300 ft upstream from bridge on State Highway 259, and 3.7 mi upstream from Linville Creek.

DRAINAGE AREA.--210 mi².

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

REVISED RECORDS.--WSP 726: 1928-31. WSP 951: 1936, 1939(M). WSP 1171: 1935, 1937, 1938(M). WSP 1502: 1926, 1927-28(M), 1929, 1930-34(M). WSP 2103: Drainage area. WDR VA-03-1: 1997-2002.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,051.8 ft NGVD of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 15, 1937, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. National Weather Service gage-height telemeter and Virginia Department of Emergency Services gage-height radio transmitter at station. Maximum discharge, 63,400 ft³/s, from rating curve extended above 9,000 ft³/s on basis of indirect 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.--Maximum stage since at least 1836, that of Oct. 15, 1942.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 28	1745	*5,100	*7.67	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	381	76	416	127	69	156	452	216	59	13	35	e15
2	242	76	390	116	65	151	967	211	56	12	29	e14
3	188	75	354	107	66	141	1,150	204	57	10	23	e13
4	151	194	308	102	66	138	669	188	56	8.7	20	e12
5	123	343	271	100	66	158	471	172	52	8.4	15	e9.9
6	107	273	245	97	63	169	386	157	79	11	e18	e9.0
7	95	216	234	95	63	309	344	148	90	9.2	e87	e7.9
8	85	177	222	92	64	643	325	137	60	600	e19	e6.9
9	77	147	257	86	67	597	289	123	131	239	84	e6.1
10	70	124	1,440	82	71	422	263	110	271	144	116	e5.3
11	64	111	1,150	82	68	322	243	99	142	99	75	e4.9
12	60	159	661	80	66	266	226	90	94	74	63	e3.9
13	57	214	446	78	67	226	216	79	67	64	63	e3.6
14	56	202	320	904	70	198	202	70	55	62	47	e3.0
15	54	189	251	767	75	173	186	66	47	61	39	e2.6
16	51	172	213	499	77	159	169	62	42	73	e43	e2.7
17	46	157	191	360	80	149	155	57	38	72	e58	e3.0
18	42	150	171	267	79	142	146	53	34	275	e51	e2.6
19	40	145	158	227	72	132	140	51	32	211	e48	e2.6
20	41	159	e138	212	74	124	133	154	29	165	e45	e2.6
21	41	158	e126	188	76	118	127	234	27	131	e42	e2.6
22	40	154	118	162	103	114	141	188	23	113	e38	e2.6
23	38	152	160	e136	98	150	211	160	19	94	e34	e2.6
24	43	175	245	e120	102	295	227	163	16	78	e30	e2.6
25	47	414	231	e114	107	338	223	164	15	66	e26	e2.6
26	43	445	210	e112	118	312	208	149	13	57	e24	e2.6
27	41	348	191	e108	130	275	193	130	11	48	e20	e2.6
28	48	651	163	e80	146	2,190	179	112	12	43	e20	e2.6
29	54	559	158	e75	---	2,470	167	95	11	50	e18	e2.6
30	69	420	147	e73	---	1,030	193	80	10	46	e17	e2.6
31	74	---	137	e70	---	617	---	68	---	41	e16	---
TOTAL	2,568	6,835	9,722	5,718	2,268	12,684	9,001	3,990	1,648	2,978.3	1,263	156.6
MEAN	82.8	228	314	184	81.0	409	300	129	54.9	96.1	40.7	5.22
MAX	381	651	1,440	904	146	2,470	1,150	234	271	600	116	15
MIN	38	75	118	70	63	114	127	51	10	8.4	15	2.6
CFSM	0.39	1.08	1.49	0.88	0.39	1.95	1.43	0.61	0.26	0.46	0.19	0.02
IN.	0.45	1.21	1.72	1.01	0.40	2.25	1.59	0.71	0.29	0.53	0.22	0.03

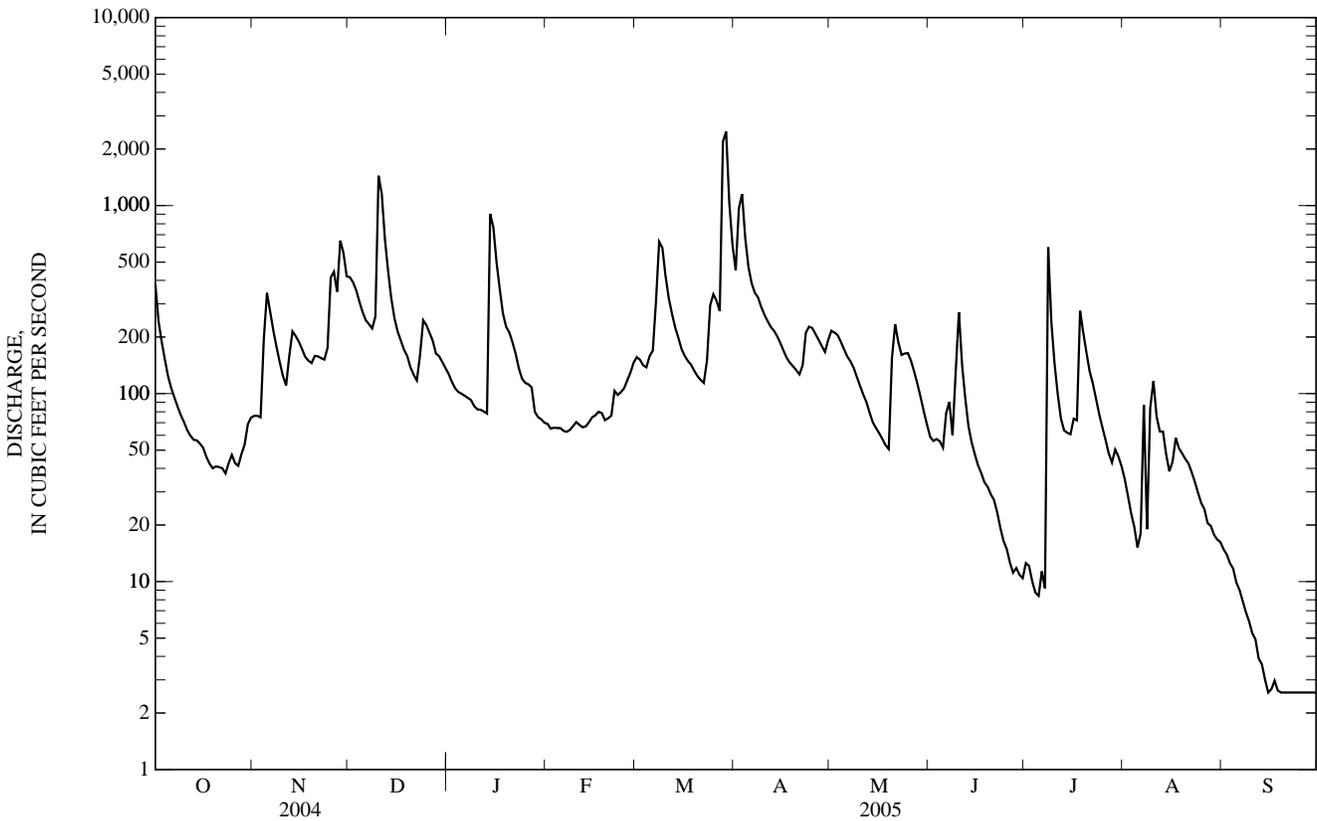
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2005, BY WATER YEAR (WY)

MEAN	122	149	187	214	284	411	349	272	136	65.3	85.2	95.7
MAX	1,401	1,883	850	1,114	1,182	1,536	1,156	964	906	552	697	1,582
(WY)	(1943)	(1986)	(1974)	(1996)	(1998)	(1936)	(1987)	(1942)	(1972)	(1949)	(1955)	(1996)
MIN	0.76	3.26	3.04	5.13	11.3	38.4	27.7	24.3	6.10	1.15	0.52	0.66
(WY)	(1931)	(1931)	(1966)	(1966)	(1934)	(1981)	(1981)	(1977)	(1977)	(1999)	(1930)	(1930)

01632000 NORTH FORK SHENANDOAH RIVER AT COOTES STORE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1925 - 2005	
ANNUAL TOTAL	95,347.0		58,831.9		198	
ANNUAL MEAN	261		161		463	
HIGHEST ANNUAL MEAN					58.1	
LOWEST ANNUAL MEAN					1934	
HIGHEST DAILY MEAN	5,390	Sep 28	2,470	Mar 29	26,400	Sep 6, 1996
LOWEST DAILY MEAN	9.0	aSep 4	2.6	Sep 15	0.20	bAug 28, 1957
ANNUAL SEVEN-DAY MINIMUM	10	Sep 1	2.6	Sep 18	0.27	Sep 3, 1966
MAXIMUM PEAK FLOW			5,100	Mar 28	63,400	Sep 6, 1996
MAXIMUM PEAK STAGE			7.67	Mar 28	c27.86	Sep 6, 1996
INSTANTANEOUS LOW FLOW			(d)		0.20	Aug 28, 1957
ANNUAL RUNOFF (CFSM)	1.24		0.768		0.941	
ANNUAL RUNOFF (INCHES)	16.89		10.42		12.78	
10 PERCENT EXCEEDS	471		323		430	
50 PERCENT EXCEEDS	178		99		64	
90 PERCENT EXCEEDS	21		12		4.9	

- a Also Sept. 6, 7, 2004.
- b Also Aug. 29, Sept. 4, 1957, and Sept. 7-10, 1966.
- c From floodmarks.
- d Not determined.
- e Estimated.



01632082 LINVILLE CREEK AT BROADWAY, VA

LOCATION.--Lat 38°36'24", long 78°48'12", NAD83, Rockingham County, Hydrologic Unit 02070006, on left bank at Broadway, 170 ft downstream from bridge on State Highway 1421, and 1.1 mi upstream from mouth.

DRAINAGE AREA.--45.5 mi².

PERIOD OF RECORD.--August 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,029.90 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 17,800 ft³/s, from rating curve extended above 1,860 ft³/s on basis of slope-area measurement at gage height 12.58 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 9	2100	669	3.90	Apr 2	1315	561	3.71
Dec 10	1445	669	3.90	Aug 6	2115	*693	*3.94

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	130	23	176	33	25	26	71	27	15	9.6	15	e9.1
2	101	24	106	32	24	25	243	25	15	9.0	14	e8.7
3	80	23	84	32	24	25	140	24	16	9.3	14	e8.6
4	67	65	68	31	24	26	98	24	15	9.4	13	e8.4
5	56	55	61	30	23	29	80	23	14	10	12	e8.1
6	48	42	58	30	23	29	69	22	16	16	86	e8.0
7	43	36	57	29	23	30	64	22	18	13	41	e7.8
8	38	33	51	29	23	35	61	21	15	130	19	e7.6
9	35	31	185	27	22	35	53	20	14	36	19	e7.5
10	33	29	415	27	22	34	48	20	14	28	18	e7.3
11	31	28	267	27	21	34	45	19	14	27	14	e7.2
12	30	48	152	26	20	32	43	19	13	24	13	e7.1
13	30	50	120	26	20	31	40	18	13	25	12	e7.0
14	31	42	91	74	21	30	38	18	13	24	11	e6.9
15	28	39	74	57	21	28	36	17	12	23	11	e6.7
16	27	37	68	48	20	28	34	16	12	19	14	e7.0
17	26	34	63	44	20	27	34	16	11	21	13	e7.3
18	25	33	57	39	19	26	33	15	11	35	11	e8.4
19	25	38	53	37	18	25	32	15	12	44	11	e7.7
20	27	42	48	36	18	25	31	39	11	36	11	e7.3
21	26	38	45	34	20	25	31	28	11	27	10	e7.2
22	25	37	43	32	23	24	34	22	11	25	9.7	e7.3
23	24	36	52	e30	20	37	34	21	11	22	9.6	7.0
24	27	45	47	29	21	39	30	22	9.9	20	9.5	7.7
25	26	86	41	30	22	34	29	21	9.5	19	9.4	7.6
26	25	63	39	31	22	34	28	19	9.6	17	9.2	7.9
27	25	57	37	28	22	33	27	17	9.8	17	11	7.9
28	27	226	36	26	25	176	26	16	11	17	11	7.5
29	26	99	35	25	---	178	26	16	11	18	9.4	7.3
30	25	79	34	26	---	103	30	15	9.9	17	e9.1	6.8
31	24	---	34	25	---	82	---	15	---	16	e10	---
TOTAL	1,191	1,518	2,697	1,030	606	1,345	1,588	632	377.7	763.3	479.9	227.9
MEAN	38.4	50.6	87.0	33.2	21.6	43.4	52.9	20.4	12.6	24.6	15.5	7.60
MAX	130	226	415	74	25	178	243	39	18	130	86	9.1
MIN	24	23	34	25	18	24	26	15	9.5	9.0	9.1	6.7
CFSM	0.84	1.11	1.91	0.73	0.48	0.95	1.16	0.45	0.28	0.54	0.34	0.17
IN.	0.97	1.24	2.21	0.84	0.50	1.10	1.30	0.52	0.31	0.62	0.39	0.19

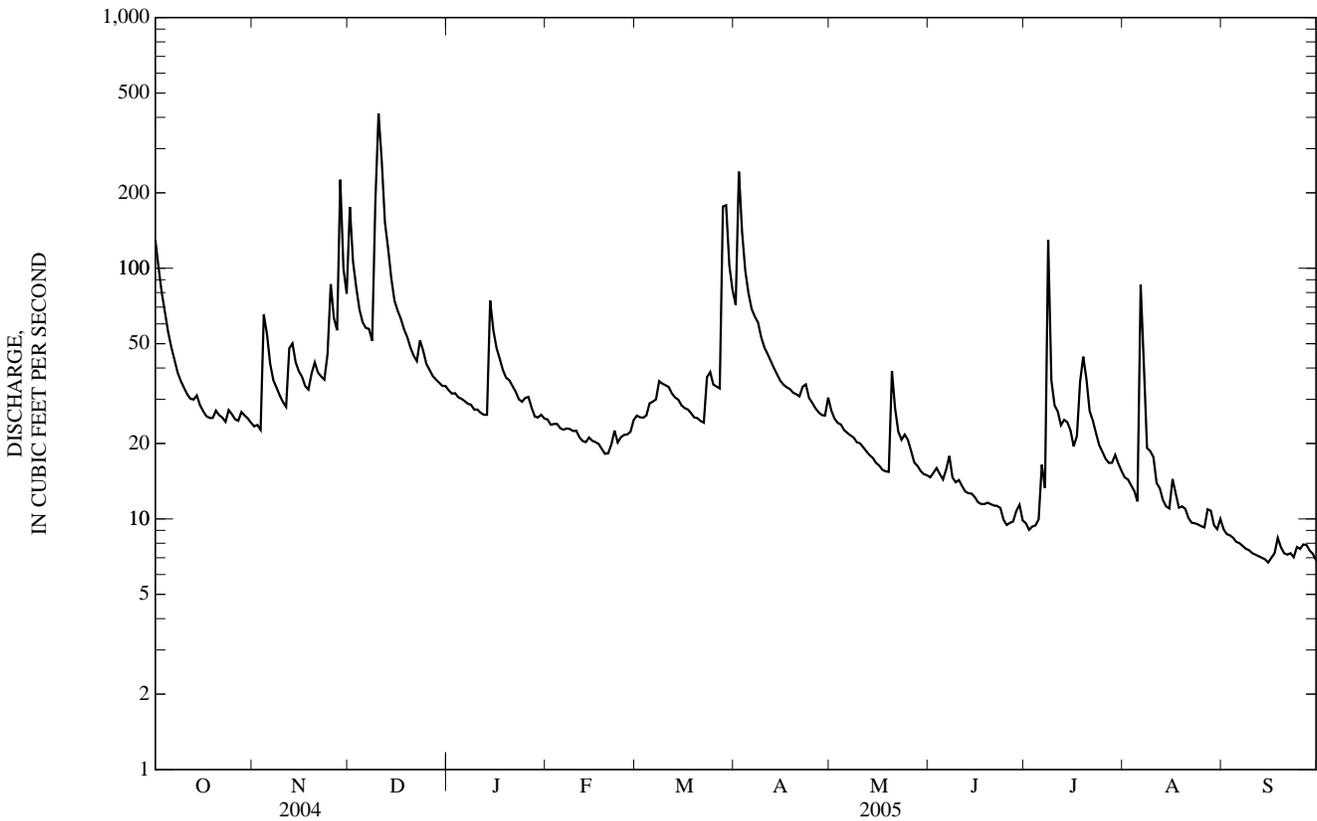
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2005, BY WATER YEAR (WY)

MEAN	25.0	32.7	38.1	53.0	50.4	70.0	49.7	34.6	31.0	21.6	24.5	44.1
MAX	108	144	115	213	195	206	135	91.0	186	100	138	275
(WY)	(1991)	(1986)	(1997)	(1996)	(1998)	(1994)	(1993)	(1989)	(2003)	(2003)	(1996)	(1996)
MIN	6.48	6.11	5.53	4.75	4.16	6.96	11.5	12.9	6.58	3.62	4.31	5.21
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1995)	(1986)	(1999)	(1999)	(1999)	(1986)

01632082 LINVILLE CREEK AT BROADWAY, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985 - 2005	
ANNUAL TOTAL	17,453.0		12,455.8		39.6	
ANNUAL MEAN	47.7		34.1		8.22	
HIGHEST ANNUAL MEAN					108	2003
LOWEST ANNUAL MEAN					8.22	2002
HIGHEST DAILY MEAN	1,260	Sep 28	415	Dec 10	e4,700	Sep 6, 1996
LOWEST DAILY MEAN	7.6	Sep 5	e6.7	Sep 15	1.7	Aug 11, 1999
ANNUAL SEVEN-DAY MINIMUM	8.1	Aug 31	e7.0	aSep 10	2.3	Aug 7, 1999
MAXIMUM PEAK FLOW			693	Aug 6	17,800	Sep 6, 1996
MAXIMUM PEAK STAGE			3.94	Aug 6	13.23	Sep 6, 1996
INSTANTANEOUS LOW FLOW			(b)	(c)	1.0	dAug 8, 1999
ANNUAL RUNOFF (CFSM)	1.05		0.750		0.871	
ANNUAL RUNOFF (INCHES)	14.27		10.18		11.84	
10 PERCENT EXCEEDS	91		63		80	
50 PERCENT EXCEEDS	29		25		19	
90 PERCENT EXCEEDS	12		9.4		6.9	

- a Also Sept. 11, 2005.
- b Unknown.
- c Probably occurred Sept. 15, 2005.
- d Also Aug. 13, 1999.
- e Estimated.



01632900 SMITH CREEK NEAR NEW MARKET, VA

LOCATION.--Lat 38°41'36", long 78°38'34", NAD83, Shenandoah County, Hydrologic Unit 02070006, on left bank 25 ft upstream from bridge on State Highway 620, 3.6 mi north of New Market, and 4.4 mi upstream from mouth.

DRAINAGE AREA.--93.2 mi².

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

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 881.50 ft NGVD of 1929. Prior to Aug. 2, 1963, on right bank a short distance downstream, at datum 0.71 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 12,400 ft³/s, from rating curve extended above 2,300 ft³/s on basis of contracted-opening measurement at gage height 16.38 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 of Oct. 1, 1959, reached a stage of 10.7 ft, discharge not determined, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 10	0000	*456	*4.44				

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	195	54	179	77	57	67	147	64	39	27	25	20
2	161	53	162	74	56	64	213	58	39	26	24	19
3	141	51	140	71	56	61	238	56	41	26	23	19
4	125	110	125	70	57	61	169	54	42	26	23	18
5	111	127	114	70	57	69	146	52	40	25	22	18
6	101	87	108	69	55	72	132	51	38	30	23	18
7	94	75	109	67	55	80	124	50	36	30	28	17
8	88	68	111	66	55	136	124	49	35	251	26	17
9	83	63	173	63	55	154	112	47	35	83	25	17
10	79	61	408	61	58	117	103	46	34	46	25	17
11	74	59	308	60	55	105	97	45	33	38	24	17
12	70	91	210	59	53	96	92	45	32	35	22	17
13	70	152	175	58	51	88	89	44	31	34	22	17
14	78	114	152	177	53	86	84	43	31	69	22	17
15	69	97	134	160	54	79	81	43	30	41	21	16
16	65	89	124	119	52	75	75	43	30	35	24	17
17	62	83	118	106	51	72	72	42	29	32	25	17
18	59	82	110	93	51	70	69	41	29	33	24	20
19	58	83	106	87	49	67	68	41	29	30	23	18
20	60	103	96	86	48	64	66	72	29	44	22	17
21	64	91	91	84	50	63	64	86	29	36	21	17
22	59	85	89	78	66	61	68	57	29	34	20	17
23	57	82	108	78	58	104	72	51	29	30	20	17
24	61	83	132	e71	56	146	65	52	28	28	20	17
25	64	109	104	74	58	110	62	54	27	26	20	17
26	58	100	95	70	59	101	59	51	27	25	19	18
27	56	90	89	68	60	95	57	46	26	24	21	17
28	58	257	84	61	63	200	55	44	27	24	22	17
29	59	171	82	e57	---	316	55	42	27	26	20	16
30	61	139	82	e58	---	209	61	41	27	27	20	16
31	57	---	81	59	---	168	---	41	---	26	20	---
TOTAL	2,497	2,909	4,199	2,451	1,548	3,256	2,919	1,551	958	1,267	696	522
MEAN	80.5	97.0	135	79.1	55.3	105	97.3	50.0	31.9	40.9	22.5	17.4
MAX	195	257	408	177	66	316	238	86	42	251	28	20
MIN	56	51	81	57	48	61	55	41	26	24	19	16
CFSM	0.86	1.04	1.45	0.85	0.59	1.13	1.04	0.54	0.34	0.44	0.24	0.19
IN.	1.00	1.16	1.68	0.98	0.62	1.30	1.17	0.62	0.38	0.51	0.28	0.21

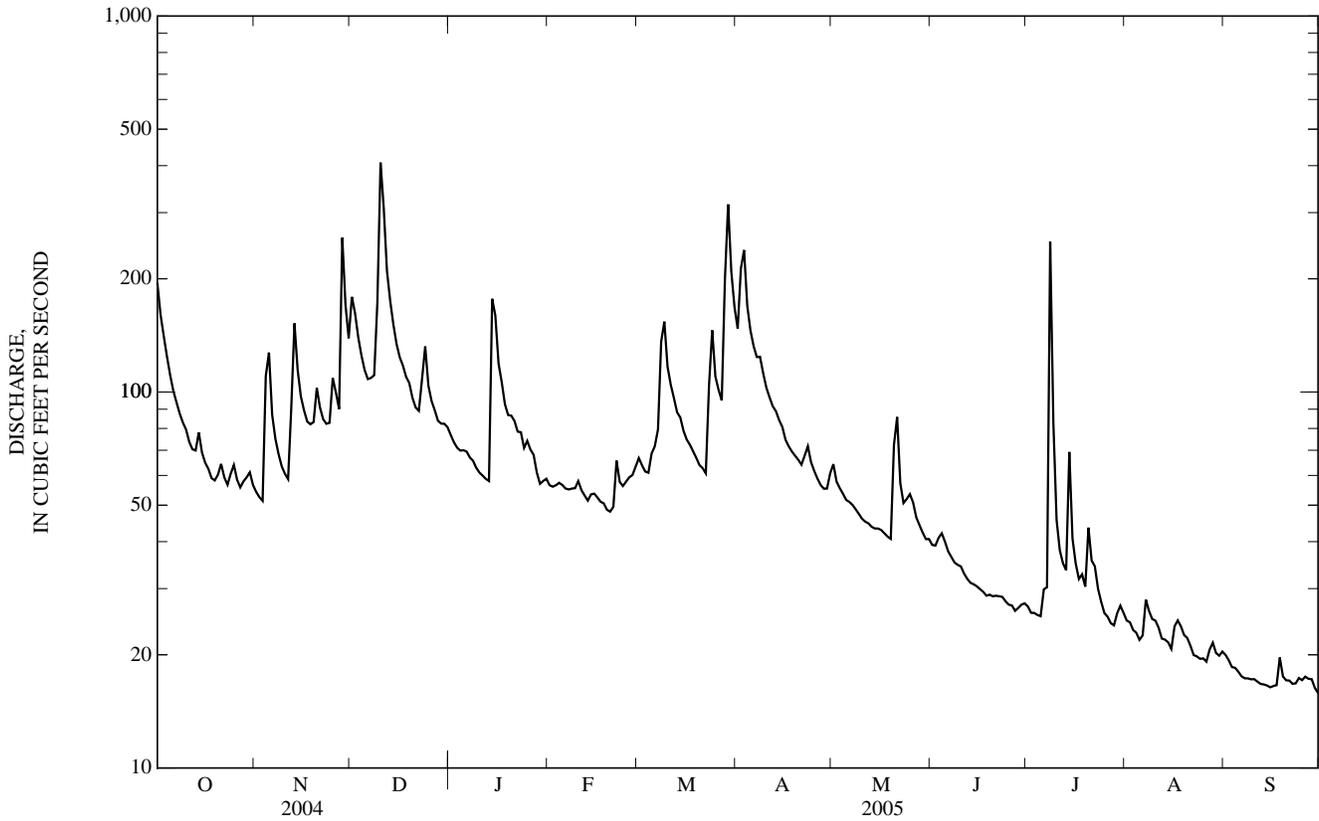
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2005, BY WATER YEAR (WY)

MEAN	53.2	58.7	72.0	97.9	111	151	115	81.6	60.3	37.0	35.9	49.2
MAX	297	324	240	423	447	530	372	238	294	131	139	408
(WY)	(1973)	(1986)	(1997)	(1996)	(1998)	(1994)	(1987)	(1988)	(1972)	(2003)	(1996)	(1996)
MIN	8.56	11.0	8.86	10.1	9.58	18.4	19.4	20.0	12.3	8.64	6.83	9.36
(WY)	(1987)	(1966)	(1966)	(1966)	(2002)	(2002)	(1981)	(1969)	(1999)	(2002)	(2002)	(1986)

01632900 SMITH CREEK NEAR NEW MARKET, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1960 - 2005	
ANNUAL TOTAL	34,138		24,773		76.8	
ANNUAL MEAN	93.3		67.9		178	
HIGHEST ANNUAL MEAN					17.0	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	1,170	Sep 29	408	Dec 10	5,190	Jan 19, 1996
LOWEST DAILY MEAN	19	aSep 2	16	bSep 15	e2.8	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	19	cAug 31	17	dSep 9	e3.3	Sep 8, 2002
MAXIMUM PEAK FLOW			456	Dec 9	12,400	Sep 6, 1996
MAXIMUM PEAK STAGE			4.44	Dec 9	17.62	Sep 6, 1996
INSTANTANEOUS LOW FLOW			15	Sep 30	(f)	(g)
ANNUAL RUNOFF (CFSM)	1.00		0.728		0.824	
ANNUAL RUNOFF (INCHES)	13.63		9.89		11.19	
10 PERCENT EXCEEDS	152		125		153	
50 PERCENT EXCEEDS	72		58		43	
90 PERCENT EXCEEDS	28		20		15	

- a Also Sept. 3-6, 2004.
- b Also Sept. 29, 30, 2005.
- c Also Sept. 1, 2004.
- d Also Sept. 10, 11, 24, 2005.
- e Estimated.
- f Not determined.
- g Probably occurred Sept. 14, 2002.



01633000 NORTH FORK SHENANDOAH RIVER AT MOUNT JACKSON, VA

LOCATION.--Lat 38°44'44", long 78°38'20", NAD83, Shenandoah County, Hydrologic Unit 02070006, on right bank at upstream side of bridge on State Highway 698 at Mount Jackson and 0.4 mi downstream from Mill Creek.

DRAINAGE AREA.--506 mi².

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

REVISED RECORDS.--WSP 1382: 1945, 1948-50(M), 1951-53(P), 1954(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 838.55 ft NGVD of 1929. Prior to July 1, 1976, nonrecording gage, and July 1, 1976, to Oct. 23, 1981, water-stage recorder, at site 400 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some diversion during low flow for irrigation at points upstream from station. Virginia Department of Emergency Services gage-height radio transmitter at station. Maximum discharge, 103,000 ft³/s, Sept. 6, 1996, from rating curve extended above 19,000 ft³/s on basis of peak runoff for stations at Cootes Store and near Strasburg. 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 October 1942 reached a stage of 20.2 ft, from floodmarks, discharge, about 80,000 ft³/s, from rating curve extended above 18,000 ft³/s on basis of peak runoff for flood in October, 1942 for stations at Cootes Store and near Strasburg.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 28	2315	*5,510	*8.92	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	1,210	212	1,000	355	234	339	988	401	169	76	95	59
2	872	205	951	334	225	333	1,460	378	159	72	86	47
3	713	202	843	317	223	313	2,320	365	163	72	79	43
4	588	330	728	306	224	304	1,480	344	165	70	74	41
5	495	808	631	299	223	337	1,070	316	156	66	72	40
6	431	624	558	294	218	365	853	292	146	77	75	41
7	384	498	526	285	213	511	730	278	198	88	265	38
8	346	413	508	280	211	1,070	684	269	172	1,140	120	36
9	317	349	575	270	216	1,180	608	251	149	655	103	36
10	293	305	2,680	260	226	876	536	234	405	334	151	35
11	273	277	2,640	252	220	703	489	219	280	235	127	35
12	255	347	1,640	248	211	596	451	210	201	187	101	35
13	247	591	1,200	244	208	512	428	200	162	182	93	33
14	266	518	932	1,170	215	452	399	193	142	201	86	32
15	243	464	760	1,560	222	397	368	191	128	167	78	32
16	224	427	653	1,060	222	361	339	182	116	164	81	31
17	214	390	590	818	221	339	319	172	108	160	95	32
18	201	370	538	634	216	322	303	163	102	300	81	37
19	194	355	499	534	209	306	291	156	101	326	73	37
20	195	412	449	503	206	290	284	275	98	274	70	34
21	205	400	414	459	209	277	273	530	92	211	66	33
22	193	380	394	410	252	265	287	399	89	181	58	34
23	184	368	420	e350	248	338	369	327	86	154	51	33
24	192	371	634	e335	244	645	408	314	77	132	48	34
25	208	733	582	347	255	693	396	326	74	120	47	35
26	192	911	525	318	261	669	372	302	73	108	46	38
27	180	772	485	306	279	598	344	267	70	100	58	38
28	185	1,400	427	e255	307	1,700	322	239	70	96	70	35
29	191	1,270	410	e235	---	3,950	302	218	90	103	63	33
30	210	980	391	e250	---	2,020	337	196	79	116	53	32
31	215	---	373	244	---	1,320	---	181	---	101	67	---
TOTAL	10,116	15,682	23,956	13,532	6,418	22,381	17,810	8,388	4,120	6,268	2,632	1,099
MEAN	326	523	773	437	229	722	594	271	137	202	84.9	36.6
MAX	1,210	1,400	2,680	1,560	307	3,950	2,320	530	405	1,140	265	59
MIN	180	202	373	235	206	265	273	156	70	66	46	31
CFSM	0.64	1.03	1.53	0.86	0.45	1.43	1.17	0.53	0.27	0.40	0.17	0.07
IN.	0.74	1.15	1.76	0.99	0.47	1.65	1.31	0.62	0.30	0.46	0.19	0.08

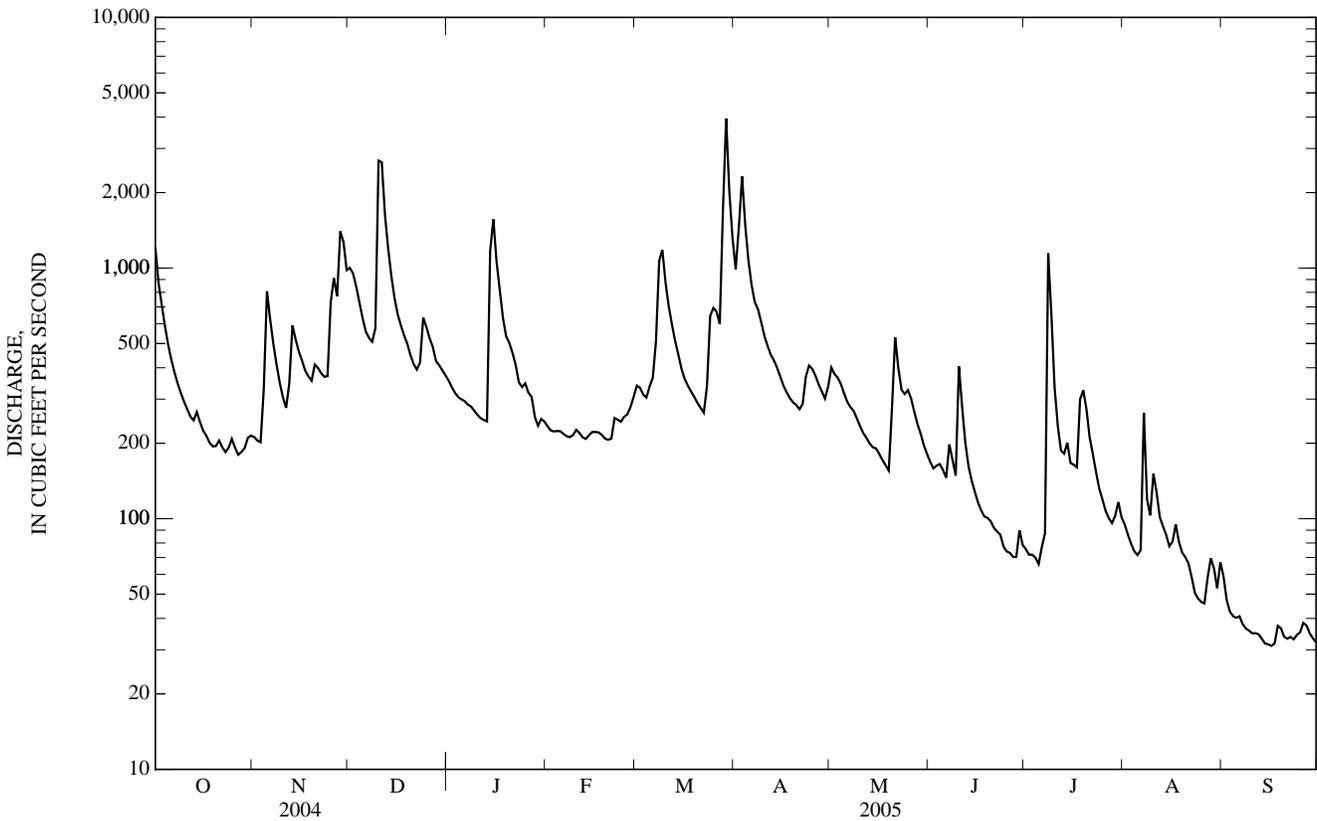
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2005, BY WATER YEAR (WY)

MEAN	234	299	391	473	570	830	647	515	319	170	211	238
MAX	1,580	2,371	1,272	2,283	2,445	2,387	2,193	1,418	1,483	834	1,403	2,804
(WY)	(1980)	(1986)	(1973)	(1996)	(1998)	(1994)	(1987)	(1988)	(1972)	(1949)	(1955)	(1996)
MIN	22.2	26.3	22.7	30.1	29.4	119	79.2	84.3	31.1	8.80	15.0	26.2
(WY)	(1987)	(1966)	(1966)	(1966)	(2002)	(1981)	(1981)	(1969)	(1999)	(1999)	(2002)	(1954)

01633000 NORTH FORK SHENANDOAH RIVER AT MOUNT JACKSON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1944 - 2005	
ANNUAL TOTAL	184,345		132,402		407	
ANNUAL MEAN	504		363		136	
HIGHEST ANNUAL MEAN					935	1996
LOWEST ANNUAL MEAN					136	1981
HIGHEST DAILY MEAN	7,010	Sep 29	3,950	Mar 29	32,200	Sep 6, 1996
LOWEST DAILY MEAN	41	aSep 4	31	Sep 16	1.8	Aug 13, 1999
ANNUAL SEVEN-DAY MINIMUM	42	Sep 1	33	Sep 11	2.8	Aug 7, 1999
MAXIMUM PEAK FLOW			5,510	Mar 28	103,000	Sep 6, 1996
MAXIMUM PEAK STAGE			8.92	Mar 28	22.17	Sep 6, 1996
INSTANTANEOUS LOW FLOW			30	bSep 15	1.5	cAug 12, 1999
ANNUAL RUNOFF (CFSM)	0.995		0.717		0.805	
ANNUAL RUNOFF (INCHES)	13.55		9.73		10.94	
10 PERCENT EXCEEDS	941		731		872	
50 PERCENT EXCEEDS	370		260		190	
90 PERCENT EXCEEDS	89		59		44	

a Also Sept. 6, 2004.
 b Also Sept. 16, 2005.
 c Also Aug. 13, 1999.
 e Estimated.



01634000 NORTH FORK SHENANDOAH RIVER NEAR STRASBURG, VA

LOCATION.--Lat 38°58'36", long 78°20'10", NAD83, Warren County, Hydrologic Unit 02070006, on right bank at upstream side of bridge on State Highway 55, 1.5 mi southeast of Strasburg, 2.2 mi upstream from Cedar Creek, and 10 mi upstream from confluence with South Fork.

DRAINAGE AREA.--768 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 951: 1936(M). WSP 1001: 1931. WSP 1171: 1929(M), 1933(M), 1936-37. WSP 1302: 1928(M), 1930(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 494.03 ft NGVD of 1929. Prior to Sept. 21, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Large diurnal fluctuation at low and medium flow from unknown cause. Water-level elevations at the site were affected during the 1992-93 water years by construction of a new bridge about 50 ft downstream from the gage. National Weather Service gage-height telemeter at station. Maximum discharge, 114,000 ft³/s, from rating curve extended above 46,000 ft³/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.--Maximum stage since at least 1870, that of Sept. 7, 1996.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 29	1400	*5,760	*8.64				

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	2,250	339	1,430	657	446	525	1,780	664	340	185	225	150
2	1,540	334	1,480	638	429	561	1,710	712	335	183	201	153
3	1,190	327	1,340	596	376	531	3,380	667	319	179	194	156
4	983	368	1,200	580	410	502	2,840	640	330	178	182	139
5	823	564	1,050	580	412	503	2,030	604	333	173	176	131
6	712	1,020	930	574	410	536	1,630	563	289	173	171	129
7	632	819	845	559	416	583	1,410	533	268	179	166	125
8	574	687	807	562	389	834	1,270	508	286	684	259	123
9	525	588	845	560	397	1,480	1,190	487	308	1,760	310	124
10	486	521	1,900	531	410	1,360	1,060	458	347	892	265	121
11	451	463	4,610	515	398	1,100	963	433	678	545	267	120
12	419	514	3,010	504	403	934	889	407	466	374	293	117
13	402	600	2,130	496	380	822	833	395	351	326	249	112
14	404	816	1,700	732	389	730	788	374	351	303	221	111
15	405	723	1,420	2,360	426	663	733	431	275	355	194	112
16	387	660	1,220	1,870	402	603	682	367	237	355	176	115
17	361	616	1,080	1,420	413	568	639	350	214	599	170	115
18	342	582	1,020	1,150	403	537	613	364	201	566	164	114
19	335	571	941	954	391	512	583	288	199	492	190	110
20	329	544	874	847	375	492	570	553	192	664	177	110
21	338	592	793	793	375	468	559	735	191	500	176	114
22	335	578	734	e740	389	452	561	865	193	415	164	113
23	326	566	754	e690	414	582	620	713	206	322	156	113
24	318	551	842	e640	432	801	795	784	192	295	150	115
25	317	599	1,010	e600	437	977	756	754	195	262	134	117
26	335	1,020	923	e575	452	961	710	694	188	237	126	122
27	323	1,140	853	e555	438	931	664	615	184	221	138	118
28	308	1,260	800	e515	465	1,150	621	540	185	206	148	120
29	304	2,050	728	e480	---	3,930	586	464	193	190	144	120
30	323	1,590	708	470	---	3,730	605	434	182	196	172	116
31	328	---	683	e450	---	2,360	---	417	---	206	163	---
TOTAL	17,105	21,602	38,660	23,193	11,477	30,718	32,070	16,813	8,228	12,215	5,921	3,655
MEAN	552	720	1,247	748	410	991	1,069	542	274	394	191	122
MAX	2,250	2,050	4,610	2,360	465	3,930	3,380	865	678	1,760	310	156
MIN	304	327	683	450	375	452	559	288	182	173	126	110
CFSM	0.72	0.94	1.62	0.97	0.53	1.29	1.39	0.71	0.36	0.51	0.25	0.16
IN.	0.83	1.05	1.87	1.12	0.56	1.49	1.55	0.81	0.40	0.59	0.29	0.18

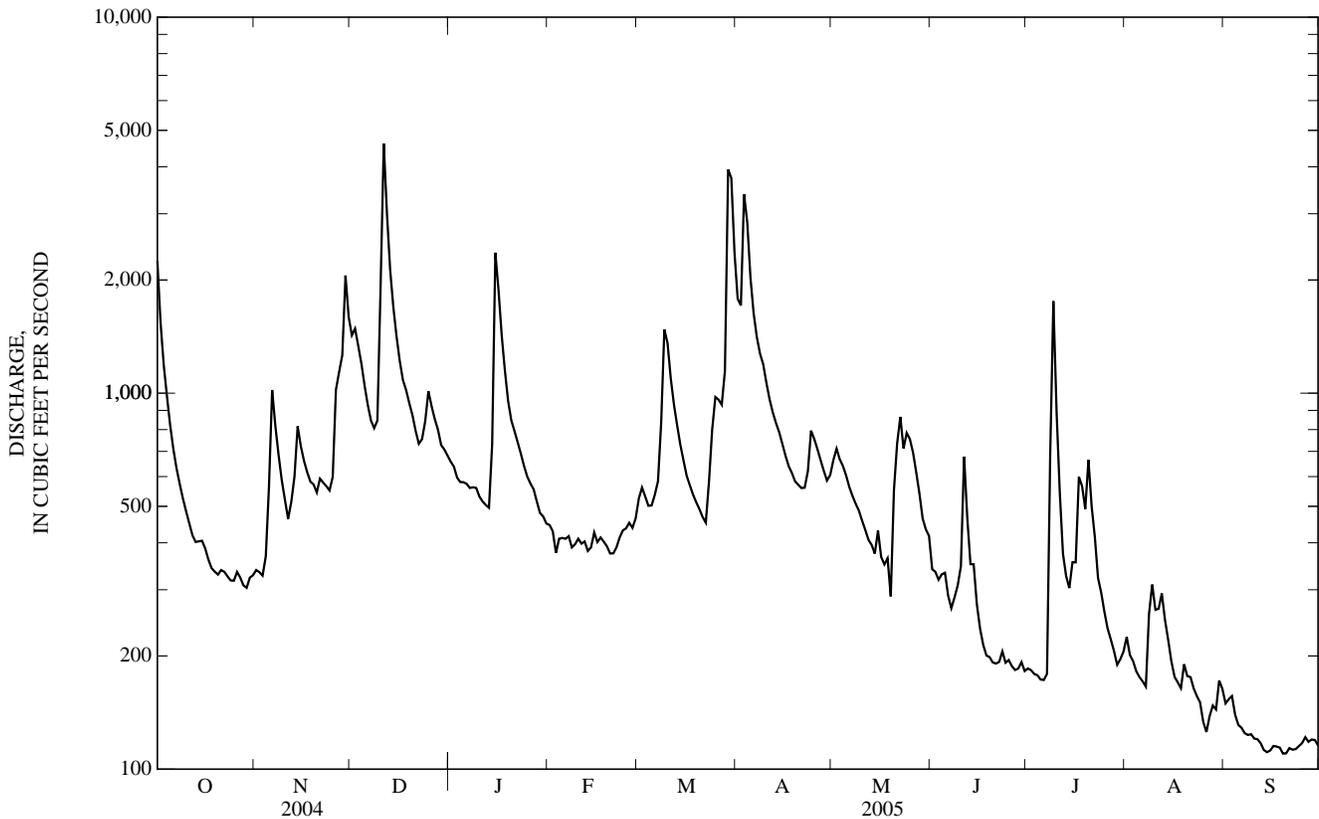
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2005, BY WATER YEAR (WY)

MEAN	400	431	556	686	865	1,149	989	762	489	300	351	346
MAX	3,488	2,813	1,955	3,394	3,466	5,017	2,876	1,821	2,234	1,169	2,510	3,838
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1936)	(1993)	(1988)	(1972)	(1949)	(1955)	(1996)
MIN	58.9	75.8	82.0	86.4	94.0	183	182	154	84.6	56.6	66.7	67.1
(WY)	(1931)	(1931)	(1932)	(1966)	(1931)	(1931)	(1981)	(1969)	(1999)	(1999)	(1930)	(1986)

01634000 NORTH FORK SHENANDOAH RIVER NEAR STRASBURG, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1925 - 2005	
ANNUAL TOTAL	297,266		221,657		610	
ANNUAL MEAN	812		607		226	
HIGHEST ANNUAL MEAN					1,360	1996
LOWEST ANNUAL MEAN					226	1934
HIGHEST DAILY MEAN	8,310	Sep 29	4,610	Dec 11	60,700	Sep 7, 1996
LOWEST DAILY MEAN	110	Sep 6	110	aSep 19	35	bOct 15, 1985
ANNUAL SEVEN-DAY MINIMUM	116	Sep 1	112	Sep 14	45	Sep 13, 1986
MAXIMUM PEAK FLOW			5,760	Mar 29	114,000	Sep 7, 1996
MAXIMUM PEAK STAGE			8.64	Mar 29	32.27	Sep 7, 1996
INSTANTANEOUS LOW FLOW			106	Sep 22	6.0	Feb 9, 1934
ANNUAL RUNOFF (CFSM)	1.06		0.791		0.794	
ANNUAL RUNOFF (INCHES)	14.40		10.74		10.79	
10 PERCENT EXCEEDS	1,560		1,150		1,290	
50 PERCENT EXCEEDS	616		470		322	
90 PERCENT EXCEEDS	209		156		112	

a Also Sept. 20, 2005.
 b Also Sept. 14, 18, 1986.
 e Estimated.



01634000 NORTH FORK SHENANDOAH RIVER NEAR STRASBURG, VA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1929, 1945, 1968-1986, 1994, 1996-2002, 2004-current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Some data from 1948-1956 and 1969-1971.
 SPECIFIC CONDUCTANCE: Some data from 1948-1956 and 1969-1971.
 SEDIMENT CONCENTRATION: Some data from 1955-1956.

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)	Specific conductance, wat unfiltered, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
MAR												
08...	1345	Environmental	85116	3.23	917	19	732	12.0	105	8.3	338	3.5
09...	1130	Environmental	85116	4.24	1,600	46	745	12.0	97	8.1	294	7.0
30...	0945	Environmental	85116	6.86	3,860	89	748	11.0	95	7.9	144	11.5
MAY												
21...	1230	Environmental	85116	2.91	710	2.2	745	12.7	134	8.6	330	21.0
JUL												
08...	1330	Environmental	85116	3.06	710	18	750	8.6	103	8.4	334	29.0
21...	1040	Blank	85116	--	--	--	--	--	--	--	--	--
21...	1045	Environmental	85116	2.70	481	7.3	751	8.0	101	8.2	320	32.5
AUG												
25...	1200	Environmental	85116	1.95	128	1.0	755	9.2	112	8.6	344	31.0
SEP												
22...	1000	Environmental	85116	1.85	115	.2	750	8.8	101	8.6	388	33.0
22...	1015	Replicate	85116	--	--	--	--	--	--	--	--	--

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)
MAR										
08...	8.0	25	29	<.040	1.84	2.2	.061	.130	81	26
09...	5.5	64	72	<.040	1.67	2.0	.063	.180	84	74
30...	8.3	105	117	.070	1.24	1.8	.049	.180	87	128
MAY										
21...	16.7	<3	3	<.040	1.11	1.4	.046	.080	67	2
JUL										
08...	23.7	20	23	.050	.410	.97	.055	.120	--	21
21...	--	<3	<3	<.040	<.040	<.10	.002	.010	--	<.5
21...	26.5	8	10	<.040	1.21	1.6	.093	.150	--	9
AUG										
25...	24.6	<3	<3	<.060	<.630	.99	.024	.070	--	1
SEP										
22...	21.2	<3	<3	<.040	.150	.46	.030	.050	--	3
22...	--	<3	<3	<.040	.150	.47	.030	.050	--	1

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

01634500 CEDAR CREEK NEAR WINCHESTER, VA

LOCATION.--Lat 39°04'52", long 78°19'46", NAD83, Frederick County, Hydrologic Unit 02070006, on left bank 0.2 mi upstream from Fawcett Run, 0.3 mi upstream from bridge on State Highway 628, 1.3 mi downstream from Froman Run, and 11.4 mi southwest of Winchester.

DRAINAGE AREA.--103 mi².

PERIOD OF RECORD.--June 1937 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 647.09 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 22,000 ft³/s, from rating curve extended above 15,000 ft³/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 Mar. 17, 1936, reached a stage of about 25 ft, discharge, about 18,000 ft³/s, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 10	1630	1,590	5.85	Apr 2	1500	1,170	5.02
Mar 28	1645	*1,730	*6.11	Apr 3	0345	1,200	5.09

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	56	254	68	e68	71	271	91	55	21	19	16
2	161	52	210	62	69	67	672	74	49	19	18	13
3	124	50	176	59	60	62	796	69	53	18	17	12
4	98	87	150	58	62	63	394	65	53	18	15	11
5	79	142	130	72	66	74	281	60	46	18	15	11
6	67	98	116	82	62	86	224	57	41	20	14	11
7	59	84	120	75	62	160	191	56	41	18	14	11
8	52	75	118	82	67	234	185	55	35	203	14	11
9	48	63	182	83	73	192	152	51	32	94	26	10
10	45	58	941	80	80	162	132	48	55	40	28	10
11	41	55	607	76	66	147	118	46	161	29	19	10
12	39	104	344	74	63	132	106	43	64	27	17	10
13	37	198	249	71	61	116	100	41	49	41	16	9.7
14	48	138	187	397	68	101	90	39	120	73	15	9.6
15	53	113	149	303	84	91	81	52	56	40	14	9.8
16	46	100	128	218	78	85	74	41	44	41	14	12
17	40	90	120	177	74	81	69	37	39	178	15	15
18	36	85	107	132	69	77	66	35	34	111	14	12
19	35	84	100	133	62	73	63	33	32	60	14	10
20	40	90	77	131	64	70	61	312	30	53	16	9.8
21	66	80	89	111	66	66	60	229	29	39	14	9.6
22	59	74	77	e93	66	63	66	130	29	40	13	9.7
23	54	71	114	e92	61	250	146	160	31	32	12	9.6
24	54	76	139	e85	61	334	101	326	27	27	11	9.7
25	60	107	100	e105	63	210	86	203	24	25	11	11
26	53	96	92	e92	62	174	77	159	23	23	11	11
27	49	86	83	e82	61	162	72	122	21	22	15	11
28	48	364	82	e73	66	778	66	99	21	21	26	11
29	47	253	78	e70	---	961	62	88	24	21	19	10
30	76	191	73	e67	---	490	92	71	23	22	16	9.6
31	67	---	70	e66	---	347	---	64	---	21	17	---
TOTAL	2,006	3,220	5,462	3,369	1,864	5,979	4,954	2,956	1,341	1,415	499	326.1
MEAN	64.7	107	176	109	66.6	193	165	95.4	44.7	45.6	16.1	10.9
MAX	225	364	941	397	84	961	796	326	161	203	28	16
MIN	35	50	70	58	60	62	60	33	21	18	11	9.6
CFSM	0.63	1.04	1.71	1.06	0.65	1.87	1.60	0.93	0.43	0.44	0.16	0.11
IN.	0.72	1.16	1.97	1.22	0.67	2.16	1.79	1.07	0.48	0.51	0.18	0.12

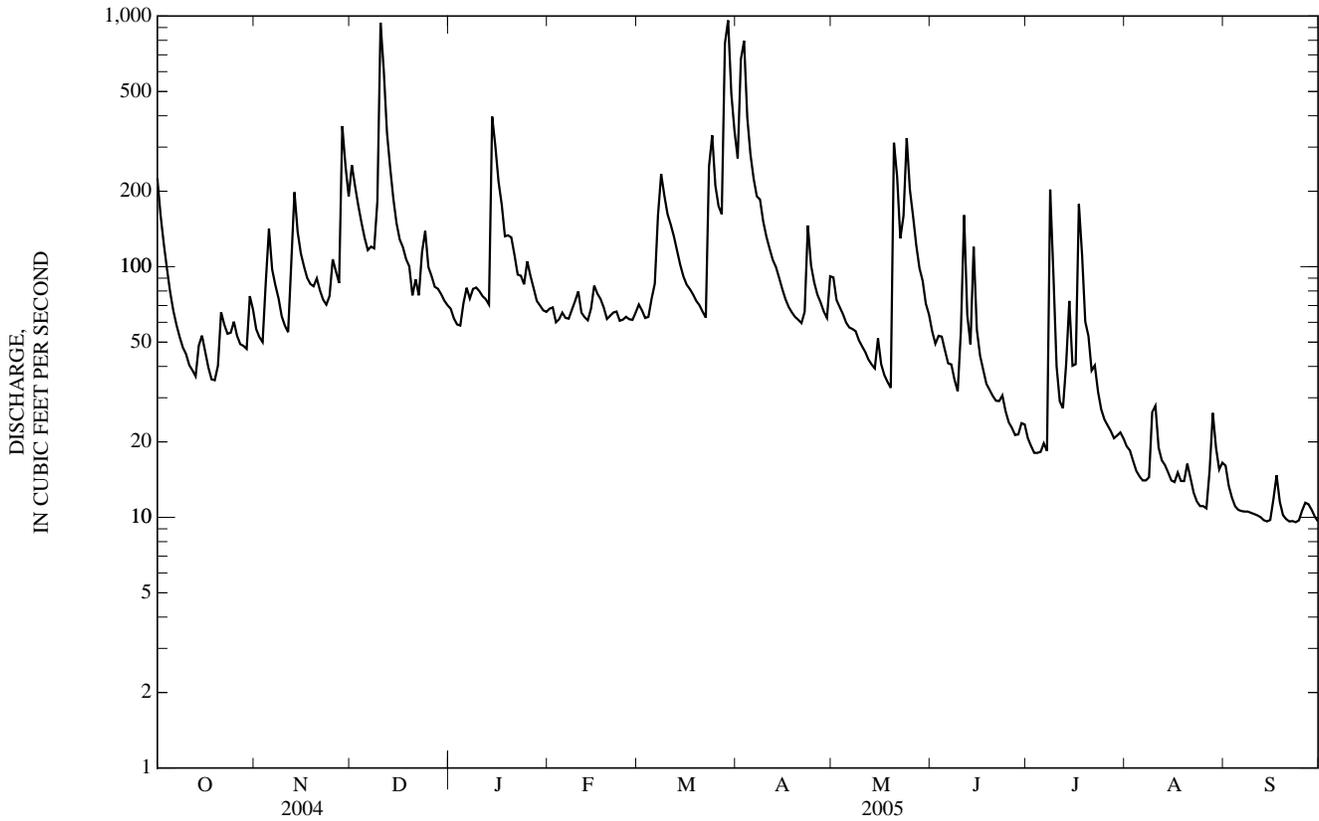
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)

MEAN	59.4	71.2	94.6	113	143	207	177	129	84.9	33.0	37.8	44.3
MAX	777	500	320	545	520	708	600	382	664	181	420	523
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1993)	(1983)	(1988)	(1972)	(1978)	(1955)	(1996)
MIN	6.01	8.64	7.95	10.2	16.4	38.2	37.0	24.5	10.5	6.06	4.52	6.95
(WY)	(1964)	(1966)	(1966)	(1966)	(2002)	(1981)	(1947)	(1969)	(1969)	(1966)	(1957)	(1986)

01634500 CEDAR CREEK NEAR WINCHESTER, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005	
ANNUAL TOTAL	47,885.3		33,391.1		99.3	
ANNUAL MEAN	131		91.5		223	
HIGHEST ANNUAL MEAN					28.3	
LOWEST ANNUAL MEAN					1969	
HIGHEST DAILY MEAN	1,850	Sep 28	961	Mar 29	e13,900	Oct 15, 1942
LOWEST DAILY MEAN	9.5	Sep 3	9.6	aSep 14	2.8	bSep 7, 1964
ANNUAL SEVEN-DAY MINIMUM	9.8	Aug 31	9.9	Sep 9	3.0	cSep 2, 1966
MAXIMUM PEAK FLOW			1,730	Mar 28	22,000	Oct 15, 1942
MAXIMUM PEAK STAGE			6.11	Mar 28	d27.00	Oct 15, 1942
INSTANTANEOUS LOW FLOW			9.0	fSep 22	g1.5	Feb 2, 1992
ANNUAL RUNOFF (CFSM)	1.27		0.888		0.964	
ANNUAL RUNOFF (INCHES)	17.29		12.06		13.10	
10 PERCENT EXCEEDS	250		186		214	
50 PERCENT EXCEEDS	76		65		43	
90 PERCENT EXCEEDS	17		14		10	

- a Also Sept. 21, 23, 30, 2005.
- a Also Sept. 3, 4, 7, 8, 1966.
- c Also Sept. 3, 1966.
- d From floodmarks.
- e Estimated.
- f Also Sept. 23, 2005.
- g Result of freezeup.



01635090 CEDAR CREEK ABOVE HIGHWAY 11 NEAR MIDDLETOWN, VA

LOCATION.--Lat 39°00'24", long 78°18'59", NAD83, Warren County, Hydrologic Unit Code 01070006, on left bank, 5 ft upstream from U.S. Highway 11, 1.5 mi north of Strasburg.

DRAINAGE AREA.--153 mi².

PERIOD OF RECORD.--November 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 600 ft NGVD of 1929, from topographic map.

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

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	243	101	254	125	99	115	303	144	98	44	35	32
2	189	94	228	118	95	113	613	124	90	40	34	28
3	160	91	199	113	100	106	797	117	92	38	32	26
4	138	103	177	113	99	108	443	112	95	38	31	24
5	123	182	161	123	103	118	337	107	86	40	29	23
6	111	141	149	138	102	126	285	103	79	43	27	23
7	101	127	148	130	102	188	250	101	77	42	27	22
8	95	119	153	131	106	257	244	100	71	203	28	21
9	90	107	161	137	112	234	213	95	65	136	38	22
10	87	100	950	134	120	206	192	92	74	75	49	22
11	82	94	709	132	111	192	180	88	165	58	38	21
12	77	117	392	128	106	178	167	84	97	51	33	22
13	75	219	303	125	107	162	159	81	82	60	30	22
14	84	176	250	386	109	149	150	80	138	91	29	22
15	93	151	213	336	126	139	141	92	93	67	28	22
16	90	138	192	250	121	134	133	84	74	62	27	24
17	80	131	183	216	119	129	130	74	66	147	29	32
18	74	126	169	169	113	125	125	70	60	132	28	26
19	72	120	161	160	104	121	121	68	57	87	28	25
20	79	128	138	169	108	118	117	270	55	73	31	26
21	100	120	135	151	108	115	114	288	54	60	29	25
22	102	112	139	126	109	112	123	176	54	57	26	24
23	96	108	151	e124	104	245	182	166	58	54	24	24
24	92	110	207	e117	104	407	156	350	51	46	23	24
25	102	137	159	e121	108	256	138	244	46	43	23	25
26	95	135	143	e129	105	220	131	201	43	40	23	27
27	90	125	140	e128	104	204	124	165	41	39	29	26
28	88	345	122	e101	108	693	118	143	49	39	41	25
29	86	277	140	e98	---	1,010	112	134	51	38	39	25
30	111	215	134	e99	---	535	131	116	50	39	31	24
31	113	---	128	e100	---	374	---	109	---	37	31	---
TOTAL	3,218	4,249	6,888	4,627	3,012	7,189	6,429	4,178	2,211	2,019	950	734
MEAN	104	142	222	149	108	232	214	135	73.7	65.1	30.6	24.5
MAX	243	345	950	386	126	1,010	797	350	165	203	49	32
MIN	72	91	122	98	95	106	112	68	41	37	23	21
CFSM	0.68	0.93	1.45	0.98	0.70	1.52	1.40	0.88	0.48	0.43	0.20	0.16
IN.	0.78	1.03	1.67	1.12	0.73	1.75	1.56	1.02	0.54	0.49	0.23	0.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

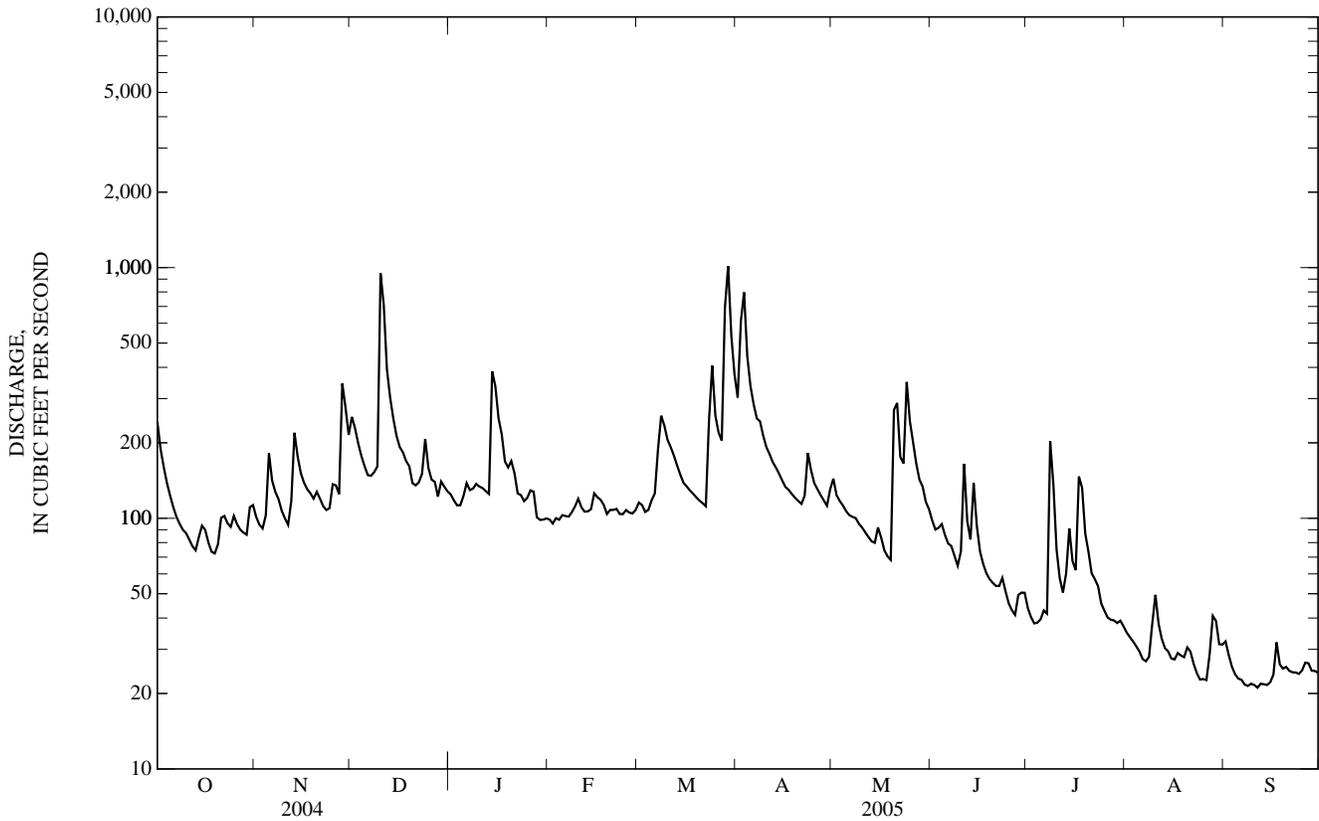
MEAN	73.6	152	206	138	180	306	324	209	168	67.5	43.2	133
MAX	104	222	474	323	382	700	544	366	486	131	70.7	311
(WY)	(2005)	(2004)	(2004)	(2003)	(2004)	(2003)	(2004)	(2003)	(2003)	(2003)	(2003)	(2004)
MIN	21.6	28.6	23.5	25.0	26.4	65.9	172	135	73.7	40.8	26.5	24.5
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2005)	(2005)	(2002)	(2002)	(2005)

01635090 CEDAR CREEK ABOVE HIGHWAY 11 NEAR MIDDLETOWN, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	71,479		45,704		178	
ANNUAL MEAN	195		125		63.5	
HIGHEST ANNUAL MEAN					302	2003
LOWEST ANNUAL MEAN					63.5	2002
HIGHEST DAILY MEAN	2,590	Apr 13	1,010	Mar 29	3,970	Dec 11, 2003
LOWEST DAILY MEAN	29	Sep 4	21	aSep 8	10	Sep 13, 2002
ANNUAL SEVEN-DAY MINIMUM	30	Aug 30	22	Sep 7	12	Sep 9, 2002
MAXIMUM PEAK FLOW			1,730	Mar 28	9,320	Jan 2, 2003
MAXIMUM PEAK STAGE			6.11	Mar 28	11.94	Jan 2, 2003
INSTANTANEOUS LOW FLOW			20	Sep 7	9.0	Sep 13, 2002
ANNUAL RUNOFF (CFSM)	1.28		0.818		1.17	
ANNUAL RUNOFF (INCHES)	17.38		11.11		15.84	
10 PERCENT EXCEEDS	371		217		377	
50 PERCENT EXCEEDS	120		108		98	
90 PERCENT EXCEEDS	36		28		24	

a Also Sept. 11, 2005.

e Estimated.



01635500 PASSAGE CREEK NEAR BUCKTON, VA

LOCATION.--Lat 38°57'29", long 78°16'00", NAD83, Warren County, Hydrologic Unit 02070006, on right bank 350 ft upstream from bridge on State Highway 55, 1.2 mi south of Buckton railroad station, 1.4 mi upstream from mouth, and 4.2 mi west of Riverton.

DRAINAGE AREA.--87.8 mi².

PERIOD OF RECORD.--October 1905 to July 1906 (gage heights only), April 1932 to current year. Prior to October 1966 published as "at Buckton."

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 525.14 ft NGVD of 1929. October 1905 to July 1906, nonrecording gage at site 1 mi downstream at different datum. Apr. 4, 1932, to Oct. 7, 1937, nonrecording gage at site 350 ft downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation during low flow caused by State Fish Hatchery 2 mi upstream from station. Maximum discharge, 23,000 ft³/s, from rating curve extended above 5,200 ft³/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 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr 3	0500	*2,080	*7.67	Jul 8	1600	1,290	6.52

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	191	17	132	51	e48	71	183	78	48	14	11	6.0
2	133	17	126	48	e45	69	494	66	42	11	10	5.8
3	102	16	106	46	e40	64	1,320	60	42	8.9	9.4	5.4
4	82	25	91	45	43	62	422	55	42	8.0	8.6	4.6
5	66	91	82	48	46	70	263	51	38	7.6	7.7	4.2
6	56	55	76	48	46	73	201	49	32	8.8	6.9	4.2
7	48	43	74	45	44	91	170	47	29	12	6.4	4.0
8	41	37	76	46	46	175	178	46	25	614	6.4	3.9
9	36	33	96	45	49	198	146	42	22	132	10	3.9
10	32	29	586	43	55	139	124	38	23	53	16	3.9
11	27	28	432	41	51	118	109	36	24	33	12	3.8
12	25	54	228	40	47	105	98	34	21	24	9.2	3.7
13	23	138	169	40	45	91	91	31	21	21	8.1	3.5
14	23	94	135	272	47	81	82	40	24	27	7.6	3.5
15	26	74	111	235	56	75	76	103	20	22	6.7	3.5
16	22	65	96	140	54	69	68	55	15	31	6.4	3.5
17	19	60	90	113	52	67	65	43	13	133	6.0	3.4
18	18	57	82	90	49	63	62	37	12	63	6.3	3.3
19	17	55	78	e90	43	60	58	33	11	42	6.9	3.5
20	17	58	71	e84	43	57	55	268	11	77	6.1	3.5
21	21	55	78	78	43	54	52	244	11	48	6.0	3.9
22	22	51	63	e70	55	50	58	116	11	51	5.7	3.4
23	19	49	68	e64	54	127	82	101	11	33	5.1	3.6
24	19	47	100	e57	51	267	71	192	10	24	4.6	3.6
25	21	60	75	e63	53	145	60	173	9.0	19	4.3	7.4
26	21	70	65	e59	55	120	55	140	8.2	16	4.2	6.4
27	19	59	e63	e55	60	107	52	103	7.5	14	5.2	4.8
28	18	183	e61	e50	64	316	49	83	8.9	12	7.2	4.2
29	17	157	e58	e46	---	715	46	72	67	11	8.5	3.9
30	e18	112	55	e43	---	367	61	61	23	13	7.5	3.8
31	e20	---	53	e53	---	236	---	56	---	13	6.6	---
TOTAL	1,219	1,889	3,676	2,248	1,384	4,302	4,851	2,553	681.6	1,596.3	232.6	126.1
MEAN	39.3	63.0	119	72.5	49.4	139	162	82.4	22.7	51.5	7.50	4.20
MAX	191	183	586	272	64	715	1,320	268	67	614	16	7.4
MIN	17	16	53	40	40	50	46	31	7.5	7.6	4.2	3.3
CFSM	0.45	0.72	1.35	0.83	0.56	1.58	1.84	0.94	0.26	0.59	0.09	0.05
IN.	0.52	0.80	1.56	0.95	0.59	1.82	2.06	1.08	0.29	0.68	0.10	0.05

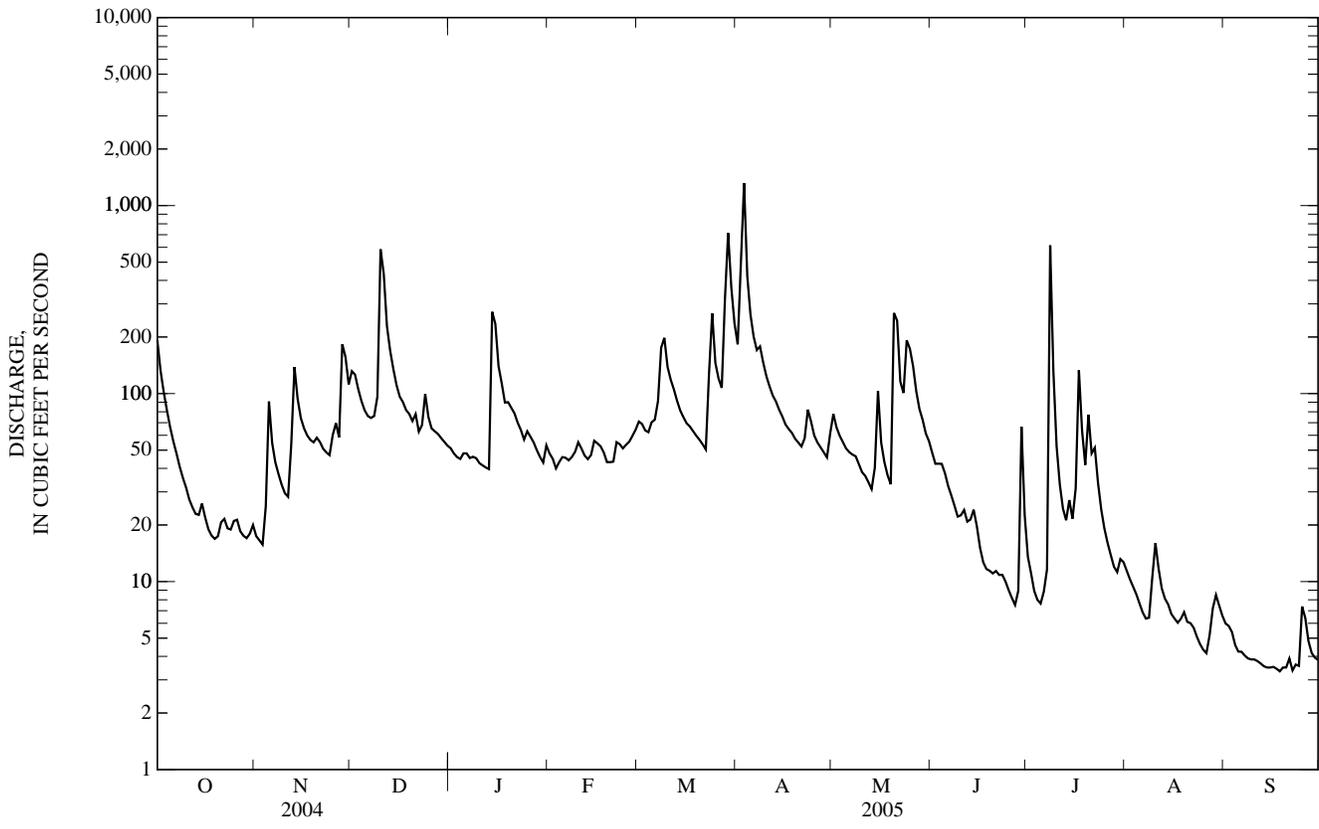
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2005, BY WATER YEAR (WY)

MEAN	38.9	44.6	69.6	96.1	117	157	137	93.9	53.0	19.1	24.3	32.3
MAX	581	276	235	431	506	573	377	339	609	87.3	437	432
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1994)	(1952)	(1989)	(1972)	(1941)	(1955)	(1996)
MIN	2.85	4.48	4.60	6.25	5.79	20.5	20.9	14.6	5.59	1.87	1.94	2.37
(WY)	(1964)	(1966)	(1966)	(1966)	(1934)	(1959)	(1981)	(1963)	(1999)	(1934)	(1963)	(1936)

01635500 PASSAGE CREEK NEAR BUCKTON, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1933 - 2005	
ANNUAL TOTAL	30,725.9		24,758.6		73.3	
ANNUAL MEAN	84.0		67.8		168	
HIGHEST ANNUAL MEAN					2003	
LOWEST ANNUAL MEAN					1934	
HIGHEST DAILY MEAN	1,740	Sep 29	1,320	Apr 3	9,290	Oct 15, 1942
LOWEST DAILY MEAN	3.2	aAug 29	3.3	Sep 18	0.40	Jul 20, 1934
ANNUAL SEVEN-DAY MINIMUM	3.6	Aug 24	3.5	bSep 13	0.50	Jul 15, 1934
MAXIMUM PEAK FLOW			2,080	Apr 3	23,000	Sep 6, 1996
MAXIMUM PEAK STAGE			7.67	Apr 3	15.89	Sep 6, 1996
INSTANTANEOUS LOW FLOW			3.3	cSep 17	d0.10	Aug 5, 1932
ANNUAL RUNOFF (CFSM)	0.956		0.773		0.835	
ANNUAL RUNOFF (INCHES)	13.02		10.49		11.35	
10 PERCENT EXCEEDS	152		134		160	
50 PERCENT EXCEEDS	49		48		27	
90 PERCENT EXCEEDS	6.6		6.1		4.4	

- a Also Sept. 5, 6, 2004.
- b Also Sept. 14, 2005.
- c Also Sept. 18, 22-25, 2005.
- d Observed.
- e Estimated.



01636242 CROOKED RUN BELOW HIGHWAY 340 AT RIVERTON, VA—Continued

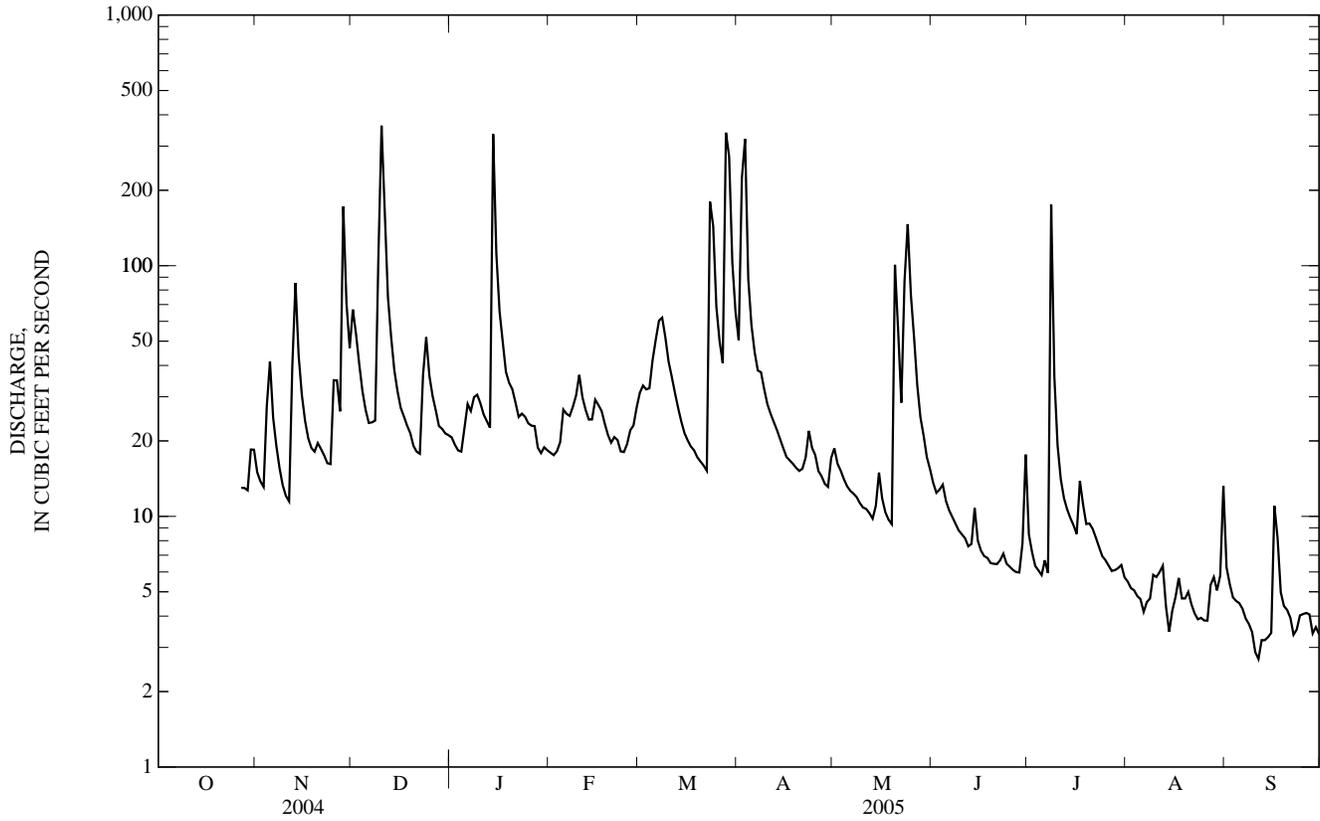
SUMMARY STATISTICS

FOR 2005 WATER YEAR

HIGHEST DAILY MEAN	362	Dec 10
LOWEST DAILY MEAN	2.7	Sep 11
ANNUAL SEVEN-DAY MINIMUM	3.2	Sep 9
MAXIMUM PEAK FLOW	943	Mar 28
MAXIMUM PEAK STAGE	6.76	Mar 28
INSTANTANEOUS LOW FLOW	2.4	aSep 16

a Also Sept. 23, 2005.

e Estimated.



0163626650 MANASSAS RUN AT ROUTE 645 NEAR FRONT ROYAL, VA

LOCATION.--Lat 38°56'03", long 78°07'41", NAD83, Warren County, Hydrologic Unit 02070005, on right bank at end of State Highway 645, 5.6 mi northeast of Front Royal, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--11.2 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 540 ft NGVD of 1929, from topographic map.

REMARKS.--Records 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	22	1.6	31	11	e10	11	46	19	35	5.0	1.7	2.8
2	13	1.5	21	10	e9.0	10	135	14	33	3.0	1.4	1.7
3	9.4	1.4	17	9.5	9.0	11	148	12	38	2.2	1.3	1.4
4	7.3	15	14	9.2	9.7	12	92	10	33	1.9	1.3	1.3
5	5.5	10	12	8.8	9.7	10	70	9.5	29	1.4	1.2	1.2
6	4.1	5.7	11	8.2	9.5	11	59	8.9	24	4.6	1.2	1.2
7	3.1	4.1	11	7.4	9.6	13	53	8.5	22	2.0	1.2	1.2
8	2.5	2.8	10	7.6	10	25	59	8.1	19	150	1.3	1.1
9	2.2	2.1	23	6.6	11	21	46	7.5	18	54	7.0	0.93
10	1.7	1.8	51	6.4	13	19	40	7.0	19	39	2.6	0.90
11	1.3	1.7	46	6.1	11	17	37	6.2	16	30	1.9	0.86
12	1.3	24	35	6.1	10	16	34	5.5	13	24	1.8	0.86
13	1.4	31	27	6.1	9.9	14	31	4.7	12	21	1.8	0.84
14	1.6	16	21	124	12	13	28	31	12	18	1.4	0.79
15	2.2	11	16	65	12	12	25	47	11	15	1.1	0.85
16	1.4	9.2	13	49	12	11	22	34	8.7	24	3.3	1.3
17	1.2	7.7	12	39	11	11	20	25	7.7	16	4.4	2.1
18	0.96	7.1	11	e28	11	11	18	20	6.3	13	1.5	0.78
19	1.0	6.7	11	e25	e10	10	16	16	5.5	10	1.9	0.92
20	1.4	6.2	e11	24	9.6	9.7	14	104	4.9	6.6	1.9	0.83
21	2.3	5.0	e10	20	10	9.1	14	81	4.0	5.1	1.4	0.81
22	1.7	4.1	10	e16	10	8.4	18	64	5.0	4.8	1.2	0.78
23	1.3	3.6	39	e16	9.4	26	30	63	4.6	3.9	1.2	1.1
24	1.7	7.0	37	e15	9.7	26	22	68	2.8	2.9	1.2	1.5
25	1.6	13	27	e15	9.8	21	18	70	2.3	3.3	1.1	1.0
26	1.3	9.0	e21	e15	9.5	18	15	62	2.2	2.9	1.1	1.1
27	1.2	8.0	e18	e14	9.4	18	14	56	2.1	2.1	1.7	1.0
28	1.2	65	e16	e13	10	94	12	53	1.8	1.8	1.7	0.81
29	1.3	38	13	e12	---	99	11	47	6.2	2.3	1.5	0.82
30	3.7	27	13	e11	---	68	21	43	25	2.3	5.3	0.87
31	2.2	---	12	e11	---	55	---	39	---	1.9	20	---
TOTAL	104.06	346.3	620	615.0	286.8	710.2	1,168	1,043.9	423.1	474.0	78.6	33.65
MEAN	3.36	11.5	20.0	19.8	10.2	22.9	38.9	33.7	14.1	15.3	2.54	1.12
MAX	22	65	51	124	13	99	148	104	38	150	20	2.8
MIN	0.96	1.4	10	6.1	9.0	8.4	11	4.7	1.8	1.4	1.1	0.78
CFSM	0.30	1.03	1.79	1.77	0.91	2.05	3.48	3.01	1.26	1.37	0.23	0.10
IN.	0.35	1.15	2.06	2.04	0.95	2.36	3.88	3.47	1.41	1.57	0.26	0.11

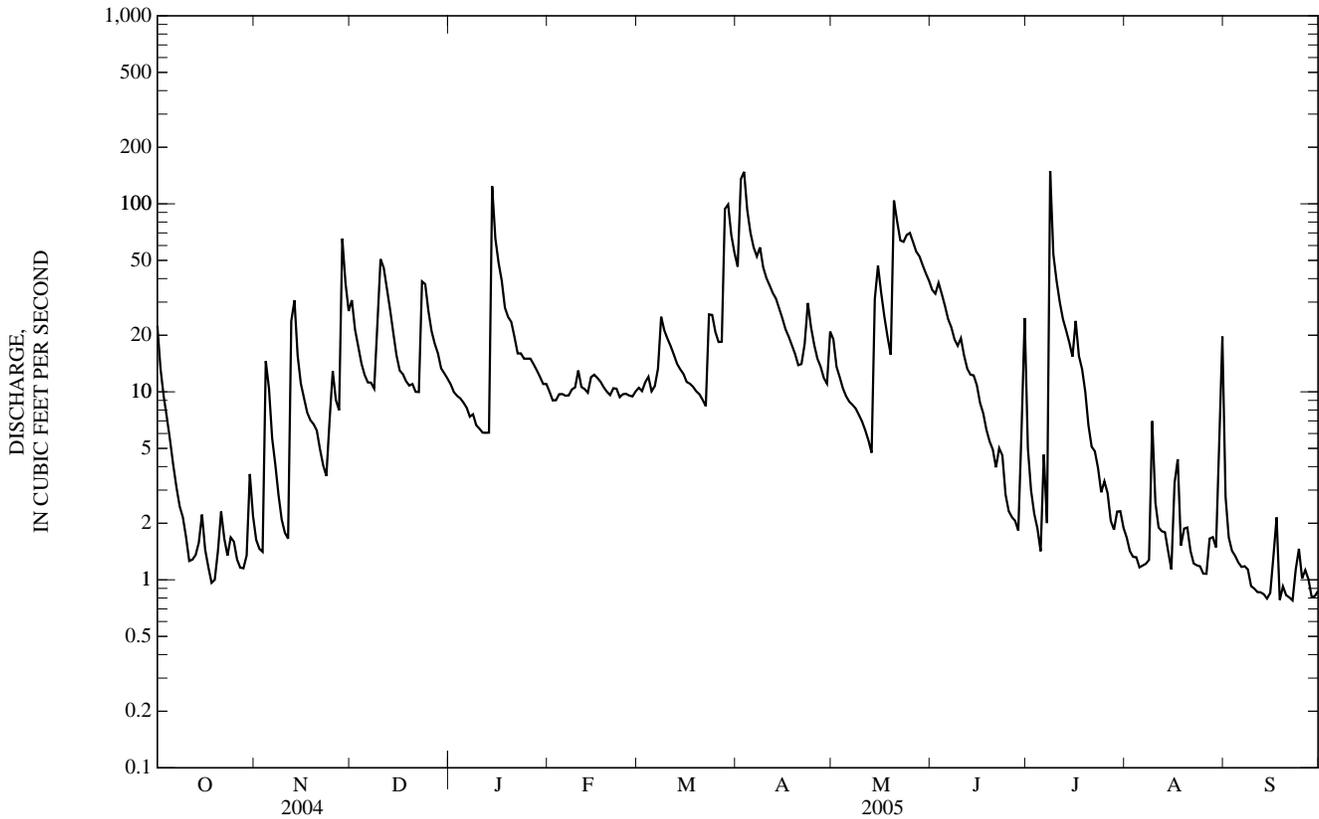
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2005, BY WATER YEAR (WY)

MEAN	6.42	16.7	31.6	20.5	17.5	31.4	39.9	23.0	22.5	10.7	4.25	16.3
MAX	8.28	25.6	60.0	21.8	24.4	56.8	42.8	33.7	51.5	16.2	10.4	43.1
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2004)	(2005)	(2003)	(2003)	(2003)	(2003)
MIN	3.36	11.5	14.7	19.7	10.2	14.6	37.9	8.19	5.62	1.48	1.63	1.12
(WY)	(2005)	(2005)	(2003)	(2003)	(2005)	(2004)	(2003)	(2002)	(2002)	(2002)	(2002)	(2005)

0163626650 MANASSAS RUN AT ROUTE 645 NEAR FRONT ROYAL, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	6,534.12		5,903.61		21.6	
ANNUAL MEAN	17.9		16.2		16.2	
HIGHEST ANNUAL MEAN					25.9	2003
LOWEST ANNUAL MEAN					16.2	2005
HIGHEST DAILY MEAN	194	Sep 28	150	Jul 8	286	Dec 11, 2003
LOWEST DAILY MEAN	0.48	aSep 1	0.78	bSep 18	0.28	cAug 2, 2002
ANNUAL SEVEN-DAY MINIMUM	0.49	Aug 28	0.86	Sep 9	0.37	Aug 20, 2002
MAXIMUM PEAK FLOW			461	Jul 8	685	Sep 23, 2003
MAXIMUM PEAK STAGE			5.70	Jul 8	6.75	Sep 23, 2003
INSTANTANEOUS LOW FLOW			0.70	bSep 18	0.22	fAug 2, 2002
ANNUAL RUNOFF (CFSM)	1.59		1.44		1.93	
ANNUAL RUNOFF (INCHES)	21.70		19.61		26.25	
10 PERCENT EXCEEDS	38		39		51	
50 PERCENT EXCEEDS	12		10		13	
90 PERCENT EXCEEDS	1.6		1.2		1.8	

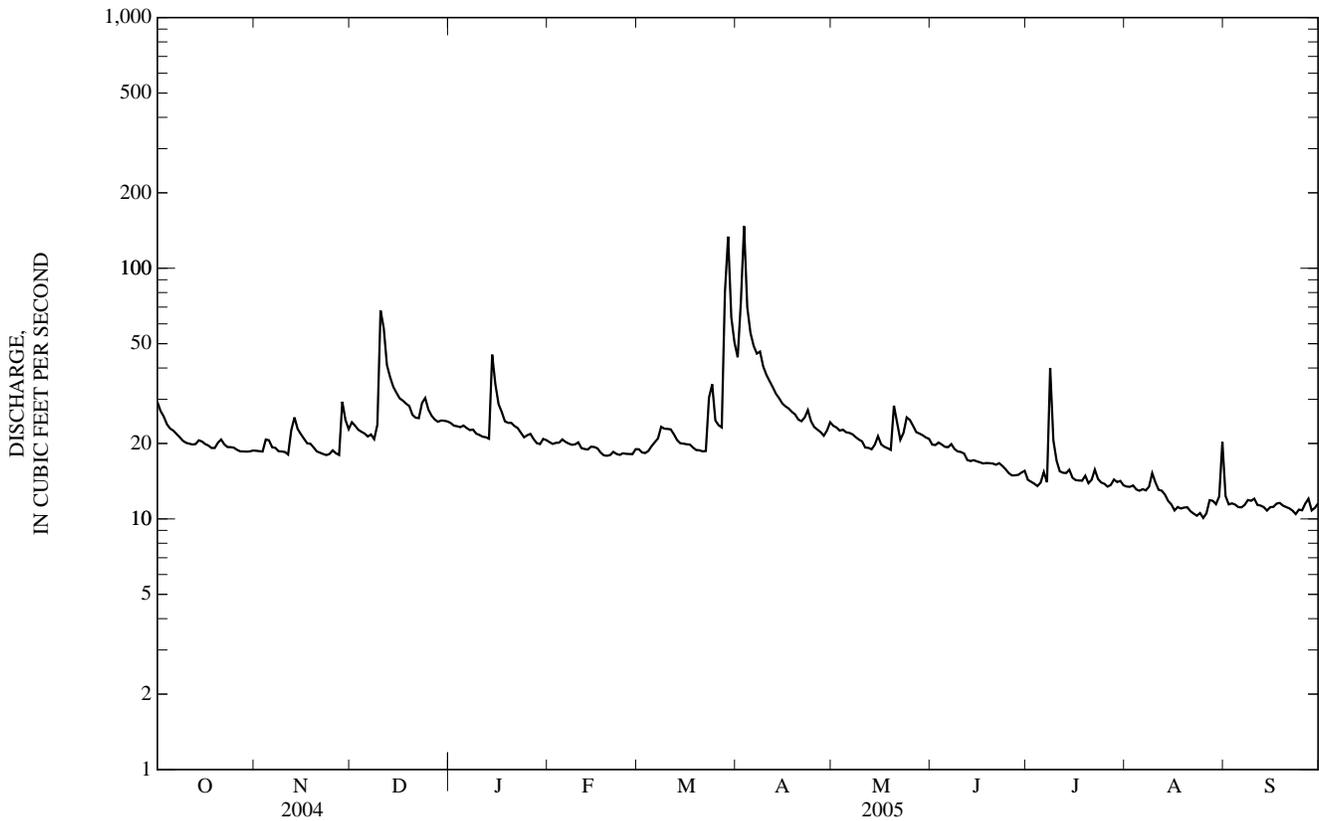
- a Also Sept. 2, 2004.
- b Also Sept. 22, 2005.
- c Also Aug. 23, 2002.
- d Also Sept. 22, 23, 2005.
- e Estimated.
- f Also Aug. 3, 23, 2002.



01636316 SPOUT RUN AT ROUTE 621 NEAR MILLWOOD, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	10,495		7,870		31.1	
ANNUAL MEAN	28.7		21.6		21.6	
HIGHEST ANNUAL MEAN					37.2	2003
LOWEST ANNUAL MEAN					21.6	2005
HIGHEST DAILY MEAN	159	Feb 7	147	Apr 3	e450	Dec 11, 2003
LOWEST DAILY MEAN	12	aAug 27	10	bAug 22	5.2	cSep 12, 2002
ANNUAL SEVEN-DAY MINIMUM	12	Aug 27	11	Aug 19	5.4	Sep 8, 2002
MAXIMUM PEAK FLOW			225	Mar 28	(d)	Dec 11, 2003
MAXIMUM PEAK STAGE			2.97	Mar 28	(f)	Dec 11, 2003
INSTANTANEOUS LOW FLOW			8.0	Aug 23	4.8	Sep 21, 2002
ANNUAL RUNOFF (CFSM)	1.35		1.01		1.46	
ANNUAL RUNOFF (INCHES)	18.33		13.74		19.87	
10 PERCENT EXCEEDS	42		29		51	
50 PERCENT EXCEEDS	26		20		25	
90 PERCENT EXCEEDS	15		12		12	

- a Also Aug. 27 to Sept. 7 and Sept. 11-14, 2004.
- b Also Aug. 23, 25 and Sept. 23, 2005.
- c Also Sept. 13, 19, 2002.
- d Not determined, between 741 ft³/s and 909 ft³/s.
- f Not determined, between 4.51 ft and 4.85 ft.



01636500 SHENANDOAH RIVER AT MILLVILLE, WV

LOCATION.--Lat 39°16'55", long 77°47'22", NAD 27, Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 4.7.

DRAINAGE AREA.--3,022 mi².

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 293.00 ft above NGVD 29. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.--No estimated daily discharges. Records good. Some regulation by upstream hydroelectric plants, including that of Potomac Light and Power Company, 0.5 mi upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft, discharge, 151,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 30	0700	*16,300	*8.57	Apr 3	1230	15,500	8.35

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	14,900	1,660	6,040	2,930	2,290	2,240	8,760	2,810	2,030	1,140	1,130	1,160
2	9,570	1,640	5,680	2,790	2,170	2,320	8,020	2,880	1,930	990	1,200	833
3	7,030	1,590	5,960	2,690	2,120	2,410	13,600	3,080	1,870	973	1,090	819
4	5,560	1,660	5,540	2,490	2,060	2,360	13,600	3,010	1,880	1,000	1,140	850
5	4,680	1,800	4,920	2,540	2,070	2,330	10,100	2,860	1,870	1,210	1,130	871
6	3,950	2,210	4,420	2,470	2,080	2,340	7,950	2,740	1,850	1,200	998	763
7	3,410	2,670	4,000	2,500	2,070	2,530	6,640	2,590	1,900	1,080	1,060	750
8	3,020	2,660	3,730	2,450	2,060	3,070	5,980	2,470	1,670	2,570	884	734
9	2,770	2,550	3,650	2,400	1,990	4,330	5,450	2,390	1,670	4,070	1,080	577
10	2,530	2,290	5,000	2,310	2,080	6,240	5,020	2,280	1,840	4,350	1,220	531
11	2,380	2,140	10,500	2,290	2,150	5,650	4,580	2,150	1,750	3,210	1,160	629
12	2,250	2,120	11,900	2,210	2,050	4,900	4,170	2,080	1,990	2,340	1,060	649
13	2,110	2,570	9,120	2,140	2,010	4,370	3,890	2,010	1,900	1,920	1,070	640
14	2,070	3,020	7,170	3,580	1,980	3,910	3,700	1,930	1,720	1,660	1,180	623
15	2,060	3,730	5,930	5,420	1,990	3,550	3,500	2,420	1,700	1,530	1,140	618
16	2,130	3,340	5,050	8,280	2,050	3,340	3,330	2,450	1,500	1,640	1,020	631
17	2,080	3,020	4,480	7,060	2,020	3,110	3,100	2,100	1,360	2,650	1,010	643
18	1,980	2,820	4,090	5,750	2,000	2,890	2,940	2,000	1,270	2,690	1,040	662
19	1,860	2,660	3,780	4,840	1,940	2,760	2,790	1,870	1,240	2,510	1,250	617
20	1,730	2,610	3,550	4,310	1,890	2,660	2,720	1,860	1,200	2,960	1,150	651
21	1,870	2,570	3,290	3,920	1,880	2,560	2,660	4,000	1,160	2,910	1,030	642
22	1,810	2,710	3,070	3,680	1,870	2,390	2,620	3,700	1,160	2,520	975	626
23	1,690	2,630	3,010	3,420	1,900	2,620	2,730	3,760	1,180	2,140	881	603
24	1,730	2,550	3,370	3,040	2,030	3,850	2,950	3,980	1,150	1,850	852	598
25	1,750	2,550	3,750	2,920	2,170	4,180	3,270	4,190	1,120	1,600	809	617
26	1,620	2,720	4,560	3,220	2,110	4,260	3,500	3,800	1,110	1,390	635	609
27	1,820	4,020	4,060	3,120	2,110	4,170	3,330	3,430	1,020	1,290	741	594
28	1,600	4,900	3,710	2,790	2,140	4,700	3,060	2,970	990	1,250	818	590
29	1,630	6,090	3,460	2,660	---	9,050	2,850	2,660	960	1,140	803	581
30	1,630	6,890	3,220	2,550	---	15,300	2,790	2,400	1,180	1,100	1,030	577
31	1,680	---	3,060	2,470	---	11,700	---	2,210	---	1,090	975	---
TOTAL	96,900	86,390	153,070	105,240	57,280	132,090	149,600	85,080	45,170	59,973	31,561	20,288
MEAN	3,126	2,880	4,938	3,395	2,046	4,261	4,987	2,745	1,506	1,935	1,018	676
MAX	14,900	6,890	11,900	8,280	2,290	15,300	13,600	4,190	2,030	4,350	1,250	1,160
MIN	1,600	1,590	3,010	2,140	1,870	2,240	2,620	1,860	960	973	635	531
CFSM	1.03	0.95	1.63	1.12	0.68	1.41	1.65	0.91	0.50	0.64	0.34	0.22
IN.	1.19	1.06	1.88	1.30	0.71	1.63	1.84	1.05	0.56	0.74	0.39	0.25

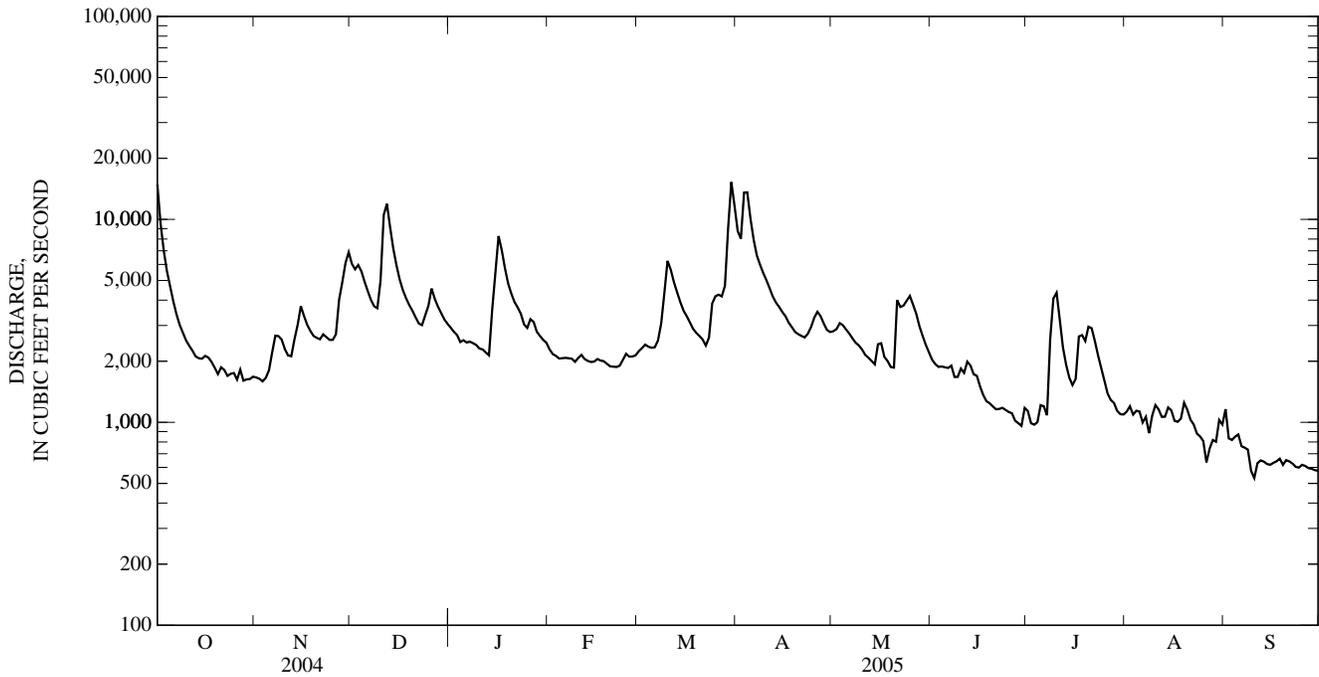
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2005, BY WATER YEAR (WY)

MEAN	1,947	1,907	2,554	3,214	3,896	5,031	4,405	3,352	2,434	1,459	1,609	1,584
MAX	16,250	13,350	8,164	13,470	18,100	17,540	12,840	8,701	10,380	4,809	10,390	14,780
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1936)	(1901)	(1901)	(1972)	(1972)	(1955)	(1996)
MIN	343	388	410	475	471	929	992	1,001	643	402	388	411
(WY)	(1931)	(1932)	(1966)	(2002)	(2002)	(1931)	(1981)	(1969)	(1999)	(1966)	(1930)	(1963)

01636500 SHENANDOAH RIVER AT MILLVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1895 - 2005	
ANNUAL TOTAL	1,288,185		1,022,642			
ANNUAL MEAN	3,520		2,802		2,776	
HIGHEST ANNUAL MEAN					5,618	1996
LOWEST ANNUAL MEAN					927	2002
HIGHEST DAILY MEAN	36,400	Sep 30	15,300	Mar 30	192,000	Oct 16, 1942
LOWEST DAILY MEAN	640	Sep 7	531	Sep 10	194	Jul 24, 1930
ANNUAL SEVEN-DAY MINIMUM	700	Sep 1	595	Sep 24	240	Sep 7, 1966
MAXIMUM PEAK FLOW			16,300	Mar 30	230,000	Oct 16, 1942
MAXIMUM PEAK STAGE			8.57	Mar 30	(a)32.40	Oct 16, 1942
INSTANTANEOUS LOW FLOW			312	Aug 23	59	Oct 4, 1930
ANNUAL RUNOFF (CFSM)	1.16		0.927		0.919	
ANNUAL RUNOFF (INCHES)	15.86		12.59		12.48	
10 PERCENT EXCEEDS	5,980		4,950		5,630	
50 PERCENT EXCEEDS	2,840		2,310		1,630	
90 PERCENT EXCEEDS	1,070		883		610	

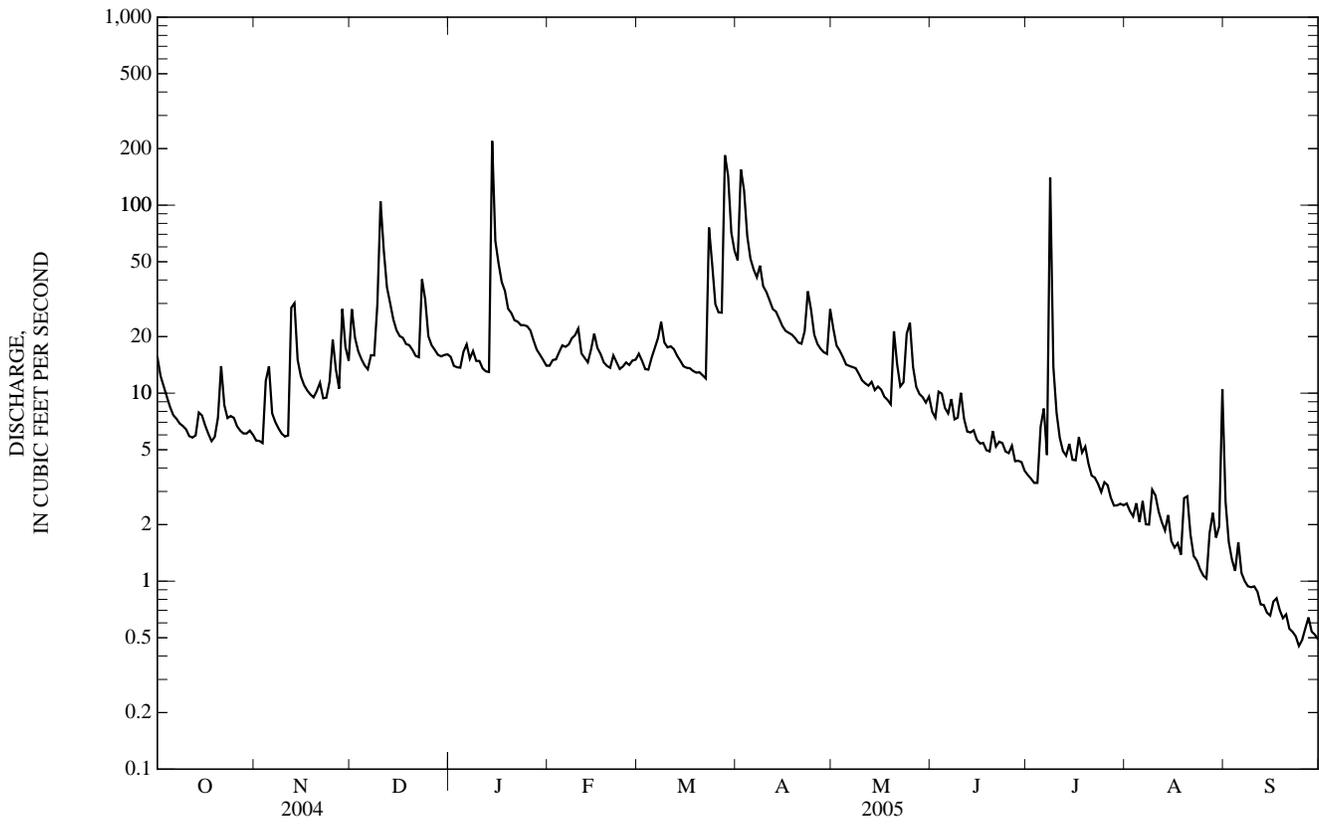
a From floodmarks.



01636690 PINEY RUN NEAR LOVETTSVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	7,351.4		5,781.63		16.9	
ANNUAL MEAN	20.1		15.8		25.6	
HIGHEST ANNUAL MEAN					2.42	
LOWEST ANNUAL MEAN					2.42	
HIGHEST DAILY MEAN	327	Jun 5	219	Jan 14	436	May 16, 2003
LOWEST DAILY MEAN	2.2	Sep 4	0.45	Sep 24	0.03	aAug 22, 2002
ANNUAL SEVEN-DAY MINIMUM	2.4	Sep 1	0.53	Sep 24	0.04	Aug 17, 2002
MAXIMUM PEAK FLOW			476	Jul 8	685	Jun 5, 2004
MAXIMUM PEAK STAGE			5.45	Jul 8	7.66	Jun 5, 2004
INSTANTANEOUS LOW FLOW			0.44	bSep 23	0.02	Aug 22, 2002
ANNUAL RUNOFF (CFSM)	1.47		1.16		1.24	
ANNUAL RUNOFF (INCHES)	19.96		15.70		16.80	
10 PERCENT EXCEEDS	32		28		35	
50 PERCENT EXCEEDS	15		12		9.4	
90 PERCENT EXCEEDS	3.7		1.6		0.93	

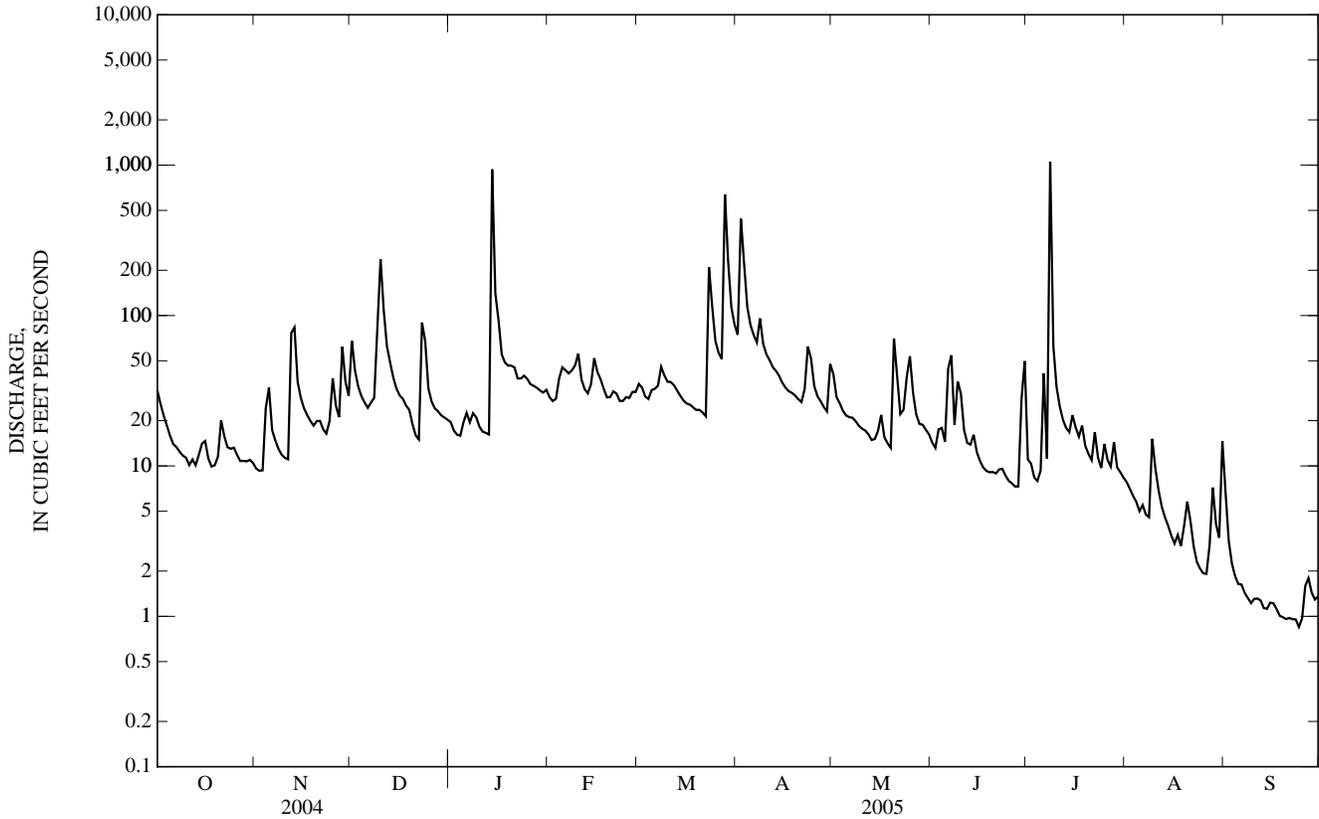
a Also Aug. 23, 2002.
 b Also Sept. 24, 2005.
 e Estimated.



01638350 SOUTH FORK CATOCTIN CREEK AT ROUTE 698 NEAR WATERFORD, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	14,902.3		12,881.15		42.8	
ANNUAL MEAN	40.7		35.3		72.9	
HIGHEST ANNUAL MEAN					10.4	2003
LOWEST ANNUAL MEAN					10.4	2002
HIGHEST DAILY MEAN	1,150	Sep 28	1,050	Jul 8	1,840	Sep 23, 2003
LOWEST DAILY MEAN	3.0	Aug 10	0.85	Sep 24	0.07	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	3.4	Aug 30	0.95	Sep 19	0.18	Sep 14, 2002
MAXIMUM PEAK FLOW			3,200	Jul 8	5,700	Sep 23, 2003
MAXIMUM PEAK STAGE			10.49	Jul 8	12.10	Sep 23, 2003
INSTANTANEOUS LOW FLOW			0.80	Sep 24	0.01	Sep 20, 2002
ANNUAL RUNOFF (CFSM)	1.29		1.12		1.35	
ANNUAL RUNOFF (INCHES)	17.54		15.16		18.41	
10 PERCENT EXCEEDS	77		55		87	
50 PERCENT EXCEEDS	24		20		20	
90 PERCENT EXCEEDS	4.8		3.1		3.3	

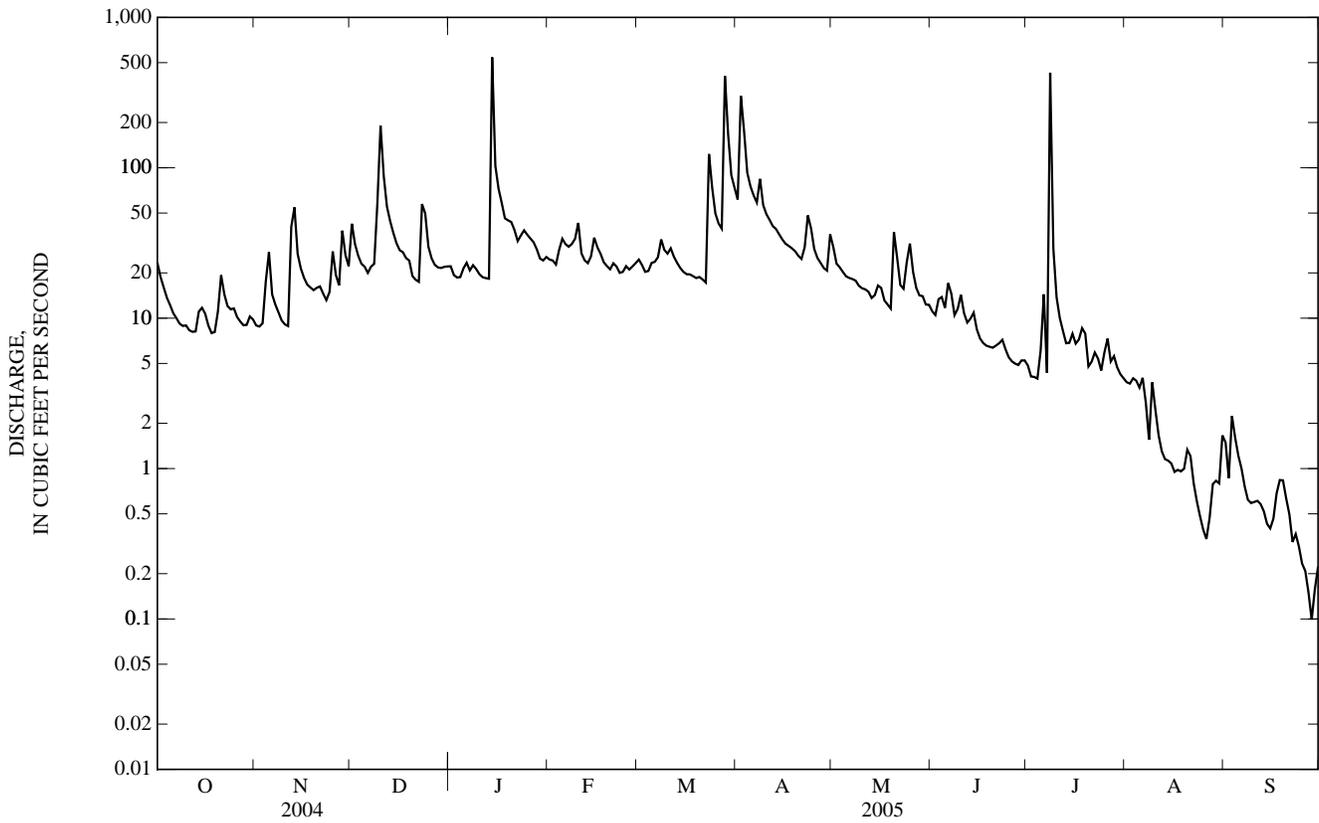
e Estimated.



01638420 NORTH FORK CATOCTIN CREEK AT ROUTE 681 NEAR WATERFORD, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	11,122.8		9,105.88		28.6	
ANNUAL MEAN	30.4		24.9		47.5	
HIGHEST ANNUAL MEAN					3.69	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	735	Sep 28	542	Jan 14	1,060	May 16, 2003
LOWEST DAILY MEAN	1.7	Sep 4	0.10	Sep 28	0.00	aAug 9, 2002
ANNUAL SEVEN-DAY MINIMUM	1.9	Aug 31	0.20	Sep 24	0.00	Aug 9, 2002
MAXIMUM PEAK FLOW			1,120	Jan 14	2,170	Sep 28, 2004
MAXIMUM PEAK STAGE			7.59	Jan 14	10.97	Sep 28, 2004
INSTANTANEOUS LOW FLOW			0.07	bSep 27	0.00	(c)
ANNUAL RUNOFF (CFSM)	1.32		1.08		1.24	
ANNUAL RUNOFF (INCHES)	17.91		14.66		16.80	
10 PERCENT EXCEEDS	51		43		60	
50 PERCENT EXCEEDS	20		17		14	
90 PERCENT EXCEEDS	3.9		0.97		1.1	

- a Also Aug. 10-31 and Sept. 7-20, 2002.
- b Also Sept. 28, 29, 2005.
- c No flow part or all of many days in August and September 2002.
- e Estimated.



01638480 CATOCTIN CREEK AT TAYLORSTOWN, VA

LOCATION.--Lat 39°15'16", long 77°34'35", NAD83, Loudoun County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on State Highway 663 at Taylorstown and 3.2 mi downstream from Milltown Creek.

DRAINAGE AREA.--89.6 mi².

PERIOD OF RECORD.--August 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 247.37 ft NGVD of 1929. Prior to Nov. 3, 1983, at site 60 ft upstream at datum 1.78 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 23,800 ft³/s, from rating curve extended above 7,400 ft³/s on basis of contracted-opening 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 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 14	1145	3,710	10.04	Apr 2	1445	2,620	8.58
Mar 23	1945	1,310	6.42	Jul 8	0700	3,210	9.44
Mar 28	1815	*6,440	*12.81				

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	28	187	78	e67	85	307	121	46	32	23	19
2	92	27	156	70	e60	83	1,250	86	42	26	21	9.9
3	75	26	118	65	64	70	830	79	48	24	20	7.0
4	61	40	102	64	74	67	412	73	56	22	18	6.8
5	52	115	92	71	113	77	310	68	47	24	18	6.0
6	45	56	90	86	104	79	259	65	52	77	16	5.4
7	41	45	87	77	95	84	221	64	153	36	16	5.2
8	37	39	102	80	100	108	316	62	55	1,640	14	5.0
9	35	36	156	83	116	108	222	58	45	323	26	4.9
10	34	32	e800	72	140	92	180	55	100	e265	26	4.8
11	31	31	e404	69	101	92	161	55	53	e120	18	4.6
12	30	128	e227	66	81	88	143	53	45	e90	14	4.5
13	29	274	e174	65	77	78	135	51	41	e70	13	4.4
14	32	133	e138	2,130	85	71	126	50	46	e53	11	4.5
15	38	100	116	543	132	64	115	54	39	e90	10	4.5
16	40	84	104	339	109	61	105	59	35	61	8.9	3.9
17	32	73	99	254	97	60	103	50	32	54	8.5	3.6
18	28	67	92	178	82	59	97	47	30	49	8.5	3.6
19	27	62	e86	e155	70	55	92	44	29	44	8.9	3.3
20	32	63	69	e150	69	56	88	120	29	36	12	3.1
21	58	66	73	141	75	53	84	124	29	32	11	2.8
22	53	58	68	108	74	49	94	69	30	33	8.6	2.3
23	43	53	193	e102	65	465	167	60	31	32	6.7	2.1
24	38	56	262	e95	64	573	155	93	28	28	6.0	2.1
25	40	105	128	110	70	391	106	129	26	30	5.6	2.1
26	36	86	105	103	67	338	90	85	24	35	5.3	2.1
27	33	69	90	e94	74	312	81	64	24	28	6.3	2.2
28	31	152	82	e86	75	2,110	75	55	23	32	9.7	2.5
29	30	129	82	e76	---	e972	72	55	28	28	11	2.0
30	32	102	80	e70	---	464	119	52	95	26	8.8	1.8
31	32	---	79	e79	---	369	---	51	---	25	19	---
TOTAL	1,342	2,335	4,641	5,759	2,400	7,633	6,515	2,151	1,361	3,465	408.8	136.0
MEAN	43.3	77.8	150	186	85.7	246	217	69.4	45.4	112	13.2	4.53
MAX	125	274	800	2,130	140	2,110	1,250	129	153	1,640	26	19
MIN	27	26	68	64	60	49	72	44	23	22	5.3	1.8
CFSM	0.48	0.87	1.67	2.07	0.96	2.75	2.42	0.77	0.51	1.25	0.15	0.05
IN.	0.56	0.97	1.93	2.39	1.00	3.17	2.70	0.89	0.57	1.44	0.17	0.06

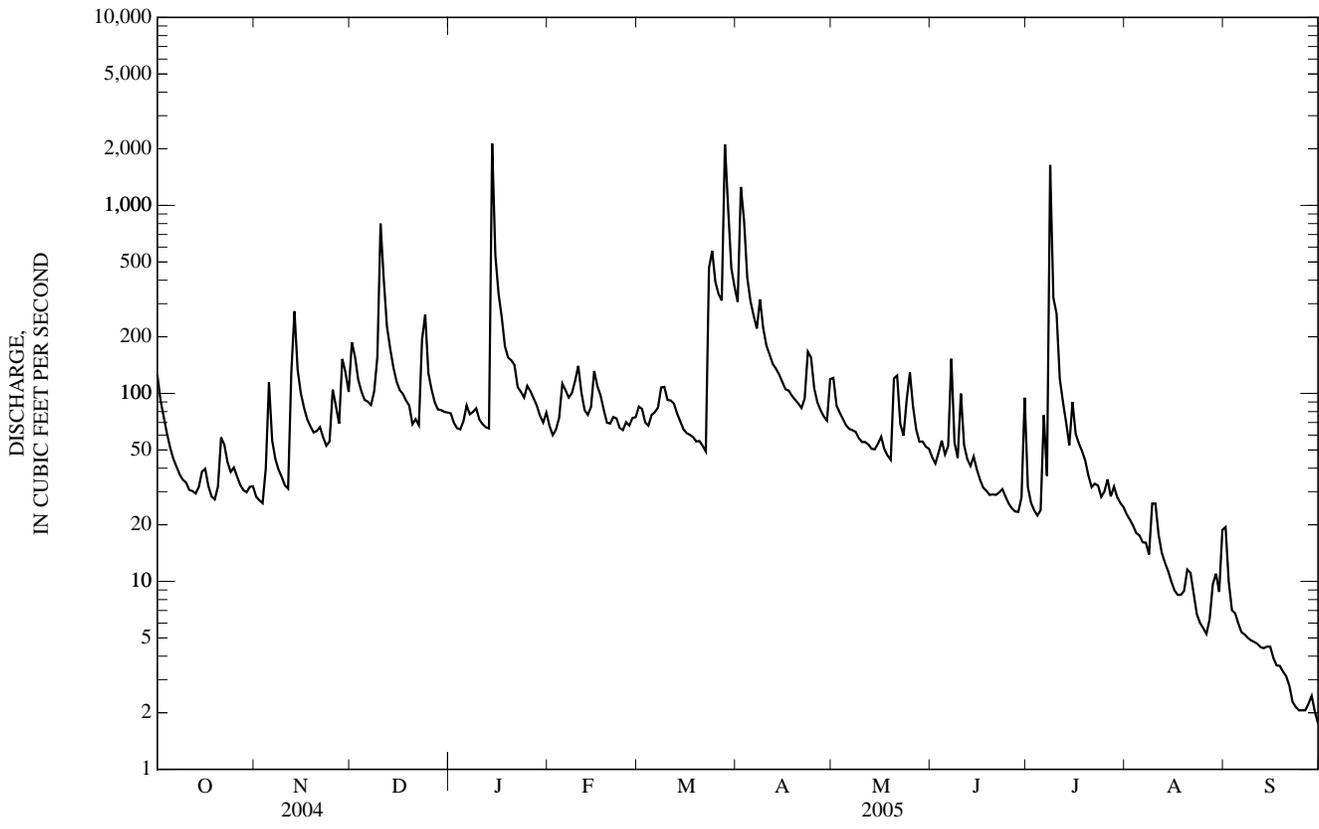
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2005, BY WATER YEAR (WY)

	MEAN	MAX	MIN	CFSM	IN.
(WY)	62.5	414	2.07	0.48	0.56
(WY)	63.9	200	5.16	0.87	0.97
(WY)	120	403	3.88	1.67	1.93
(WY)	132	488	10.2	2.07	2.39
(WY)	142	382	12.8	0.96	1.00
(WY)	190	580	43.7	2.75	3.17
(WY)	163	476	37.7	2.42	2.70
(WY)	125	452	26.6	0.77	0.89
(WY)	96.7	706	6.82	0.51	0.57
(WY)	48.0	284	1.35	1.25	1.44
(WY)	30.5	186	1.25	0.15	0.17
(WY)	56.5	331	1.05	0.05	0.06

01638480 CATOCTIN CREEK AT TAYLORSTOWN, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1971 - 2005	
ANNUAL TOTAL	46,762.4		38,146.8		102	
ANNUAL MEAN	128		105		207	
HIGHEST ANNUAL MEAN					203	
LOWEST ANNUAL MEAN					20.9	
HIGHEST DAILY MEAN	3,060	Sep 28	2,130	Jan 14	9,530	Jun 22, 1972
LOWEST DAILY MEAN	5.7	aSep 4	1.8	Sep 30	0.09	bAug 14, 1999
ANNUAL SEVEN-DAY MINIMUM	6.0	Sep 1	2.1	Sep 24	0.10	Aug 14, 1999
MAXIMUM PEAK FLOW			6,440	Mar 28	23,800	Jun 22, 1972
MAXIMUM PEAK STAGE			12.81	Mar 28	c23.83	Jun 22, 1972
INSTANTANEOUS LOW FLOW			1.2	Sep 30	0.08	Aug 14, 1999
ANNUAL RUNOFF (CFSM)	1.43		1.17		1.14	
ANNUAL RUNOFF (INCHES)	19.41		15.84		15.46	
10 PERCENT EXCEEDS	230		163		211	
50 PERCENT EXCEEDS	80		64		49	
90 PERCENT EXCEEDS	15		8.7		7.1	

a Also Sept. 5, 6, 2004.
 b Also Aug. 19, 20, 1999.
 c From floodmarks, site and datum then in use.
 e Estimated.



01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'24.9", long 77°32'35.2", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 mi².

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--Records good, except for estimated daily discharges during periods with lagging intakes (Oct. 1 - Mar. 24) and missing data (Aug. 15,16,23), which are fair. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir; since December 1950 by Savage River Reservoir (see station 01597500); and since July 1981 by Jennings Randolph Lake. Low flow affected extensively at times by run-of-the-river hydroelectric plants. National Weather Service gage-height telemeter at station. U.S. Geological Survey satellite collection platform at station. 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 June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft³/s from rating curve extended as explained in footnotes.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 12	0100	38,100	9.02	Mar 30	0945	*116,000	*19.37
Jan 15	1515	35,300	8.57	Apr 3	2230	53,300	11.36

Minimum discharge, 1,330 ft³/s, Sept. 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	41,300	e4,400	21,200	e7,600	e6,750	8,560	41,800	8,710	6,440	2,570	2,550	2,490
2	26,200	e4,700	21,900	e7,400	e6,600	8,830	37,900	8,870	5,810	2,410	2,540	2,450
3	19,600	e5,050	23,300	e7,250	e6,600	8,670	47,600	9,910	5,390	2,220	2,700	2,090
4	15,800	e5,500	21,900	7,170	6,670	8,290	48,800	9,680	5,120	2,350	2,610	2,060
5	e12,800	e6,200	18,800	7,170	6,760	7,800	36,900	8,960	4,910	2,540	2,580	2,040
6	e10,800	e6,200	16,100	8,120	6,690	7,590	29,200	8,360	4,790	2,800	2,380	1,910
7	e9,300	e6,800	14,500	15,600	6,550	8,090	24,800	7,760	5,080	2,550	2,260	1,770
8	e7,900	e8,600	13,800	18,600	6,520	10,300	22,000	7,250	4,790	7,460	2,120	1,830
9	e7,100	e8,200	13,800	18,300	6,580	15,100	19,900	6,890	4,670	7,360	2,430	1,660
10	e6,400	e7,700	16,300	19,100	6,860	20,700	18,000	6,590	4,630	8,300	2,940	1,540
11	e5,850	e7,400	30,100	16,700	7,620	19,500	16,200	6,280	4,640	8,910	3,170	1,540
12	e5,400	e8,400	36,000	14,600	8,580	16,500	14,300	5,960	4,600	6,270	2,910	1,580
13	e5,250	e9,800	29,000	18,900	8,870	14,700	13,000	5,680	4,710	4,780	3,330	1,540
14	e5,180	e9,600	23,200	27,500	8,650	13,500	12,100	5,510	4,860	3,930	3,310	1,510
15	e5,100	e10,200	19,100	33,300	8,750	11,900	11,300	5,680	4,680	3,670	e3,000	1,490
16	e5,000	e10,800	15,900	33,300	9,860	10,700	10,300	6,120	4,330	4,340	e2,800	1,550
17	e4,900	e9,800	14,000	27,300	11,400	9,480	9,510	5,620	3,700	5,370	2,580	1,500
18	e4,650	e9,300	e12,800	21,700	11,000	8,760	8,940	5,370	3,390	8,040	2,780	1,580
19	e4,500	e8,700	e11,900	18,000	10,300	8,280	8,580	4,960	3,190	7,890	2,730	1,530
20	e4,250	e8,300	e10,800	15,200	9,470	7,850	8,270	4,990	3,090	7,680	2,800	1,520
21	e4,450	e7,900	e10,000	e13,200	8,790	7,500	7,800	6,780	2,940	7,730	2,530	1,580
22	e4,750	e7,600	e9,400	e11,400	8,480	7,140	7,570	8,870	2,980	6,140	2,330	1,400
23	e5,200	e8,100	e9,700	e10,000	8,470	8,750	7,880	13,000	2,840	5,430	e2,250	1,430
24	e5,100	e9,000	e11,800	e9,300	8,410	19,100	8,490	11,500	2,850	4,750	2,130	1,440
25	e5,050	e8,200	e11,500	e8,750	8,560	29,800	10,200	11,300	2,780	4,090	1,950	1,420
26	e5,030	17,900	e11,200	e8,300	8,630	26,500	10,500	12,500	2,730	3,910	1,850	1,430
27	e4,980	17,900	e9,800	e8,000	8,460	22,300	9,780	12,100	2,530	3,990	1,790	1,400
28	e4,800	17,500	e9,800	e7,600	8,330	26,500	9,070	10,500	2,410	3,150	1,930	1,390
29	e4,700	23,000	e9,100	e7,300	---	66,400	8,720	8,960	2,370	2,860	2,020	1,370
30	e4,580	23,900	e8,500	e7,000	---	109,000	8,710	7,730	2,490	2,710	2,100	1,360
31	e4,440	---	e8,200	e6,800	---	64,300	---	7,040	---	2,490	2,870	---
TOTAL	260,360	296,650	493,400	440,460	229,210	612,390	528,120	249,430	119,740	148,690	78,270	49,400
MEAN	8,399	9,888	15,920	14,210	8,186	19,750	17,600	8,046	3,991	4,796	2,525	1,647
MAX	41,300	23,900	36,000	33,300	11,400	109,000	48,800	13,000	6,440	8,910	3,330	2,490
MIN	4,250	4,400	8,200	6,800	6,520	7,140	7,570	4,960	2,370	2,220	1,790	1,360
CFSM	0.87	1.02	1.65	1.47	0.85	2.05	1.82	0.83	0.41	0.50	0.26	0.17
IN.	1.00	1.14	1.90	1.70	0.88	2.36	2.04	0.96	0.46	0.57	0.30	0.19

e Estimated

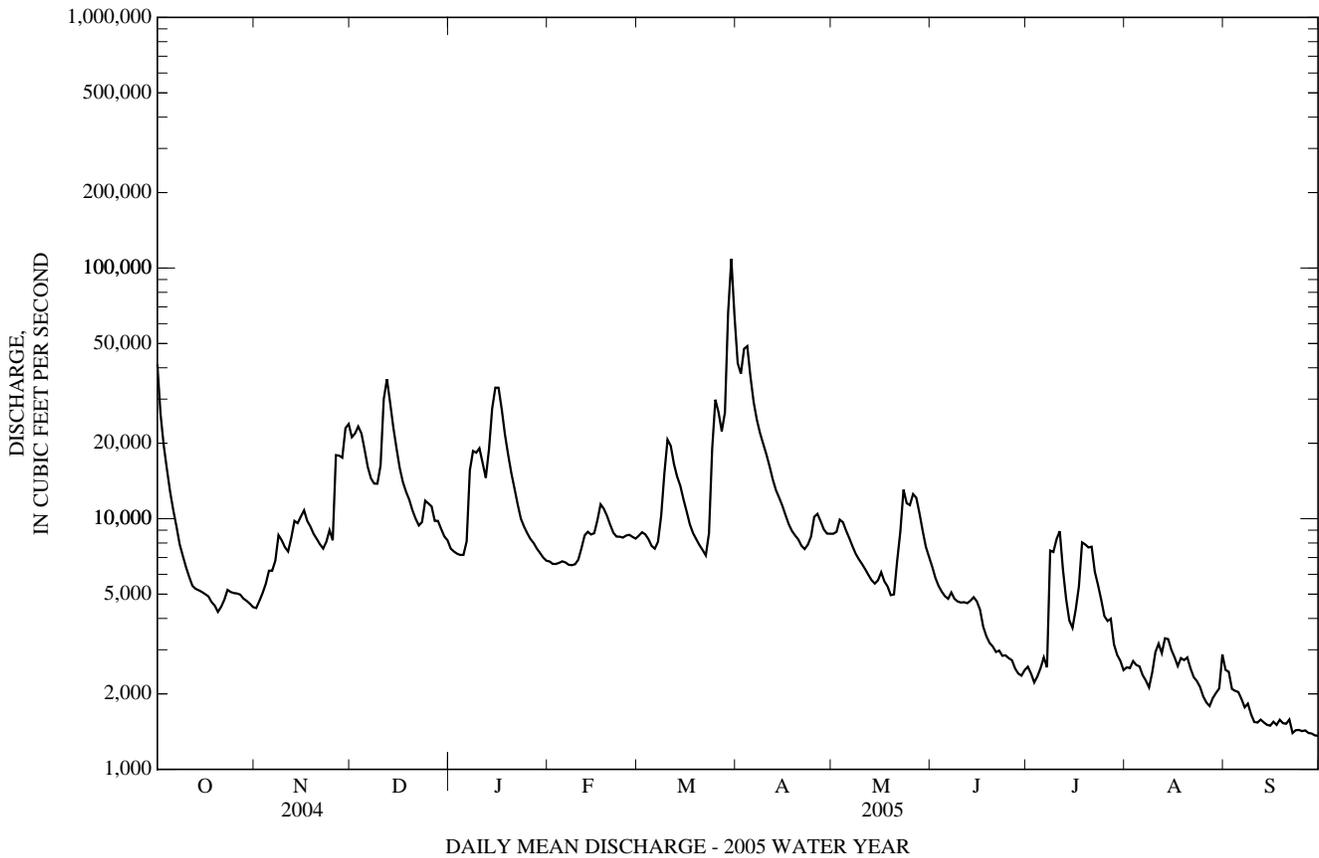
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2005, BY WATER YEAR (WY)

MEAN	5,056	5,808	8,749	11,430	14,300	19,750	16,580	12,340	8,112	4,506	4,260	4,048
MAX	37,030	39,000	32,610	42,160	47,870	68,360	43,840	41,970	40,400	16,000	23,580	38,300
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1936)	(1993)	(1924)	(1972)	(1949)	(1955)	(1996)
MIN	706	840	1,253	1,703	1,982	5,400	4,368	3,276	1,932	1,056	771	834
(WY)	(1931)	(1931)	(1966)	(1981)	(2002)	(1931)	(1915)	(1930)	(1969)	(1966)	(1930)	(1930)

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1895 - 2005	
ANNUAL TOTAL	4,753,200		3,506,120		9,563	
ANNUAL MEAN	12,990		9,606		4,015	
HIGHEST ANNUAL MEAN					18,750	1996
LOWEST ANNUAL MEAN					4,015	2002
HIGHEST DAILY MEAN	85,600	Sep 30	109,000	Mar 30	434,000	Mar 19, 1936
LOWEST DAILY MEAN	2,000	Sep 7	1,360	Sep 30	540	Sep 10, 1914
ANNUAL SEVEN-DAY MINIMUM	2,140	Sep 2	1,400	Sep 24	593	Sep 6, 1966
MAXIMUM PEAK FLOW			116,000	Mar 30	(a) 480,000	Mar 19, 1936
MAXIMUM PEAK STAGE			19.37	Mar 30	41.03	Mar 19, 1936
INSTANTANEOUS LOW FLOW			1,330	Sep 22	530	(b)
ANNUAL RUNOFF (CFSM)	1.35		0.995		0.991	
ANNUAL RUNOFF (INCHES)	18.32		13.51		13.46	
10 PERCENT EXCEEDS	23,900		19,300		21,000	
50 PERCENT EXCEEDS	10,300		7,590		5,450	
90 PERCENT EXCEEDS	3,600		2,180		1,690	

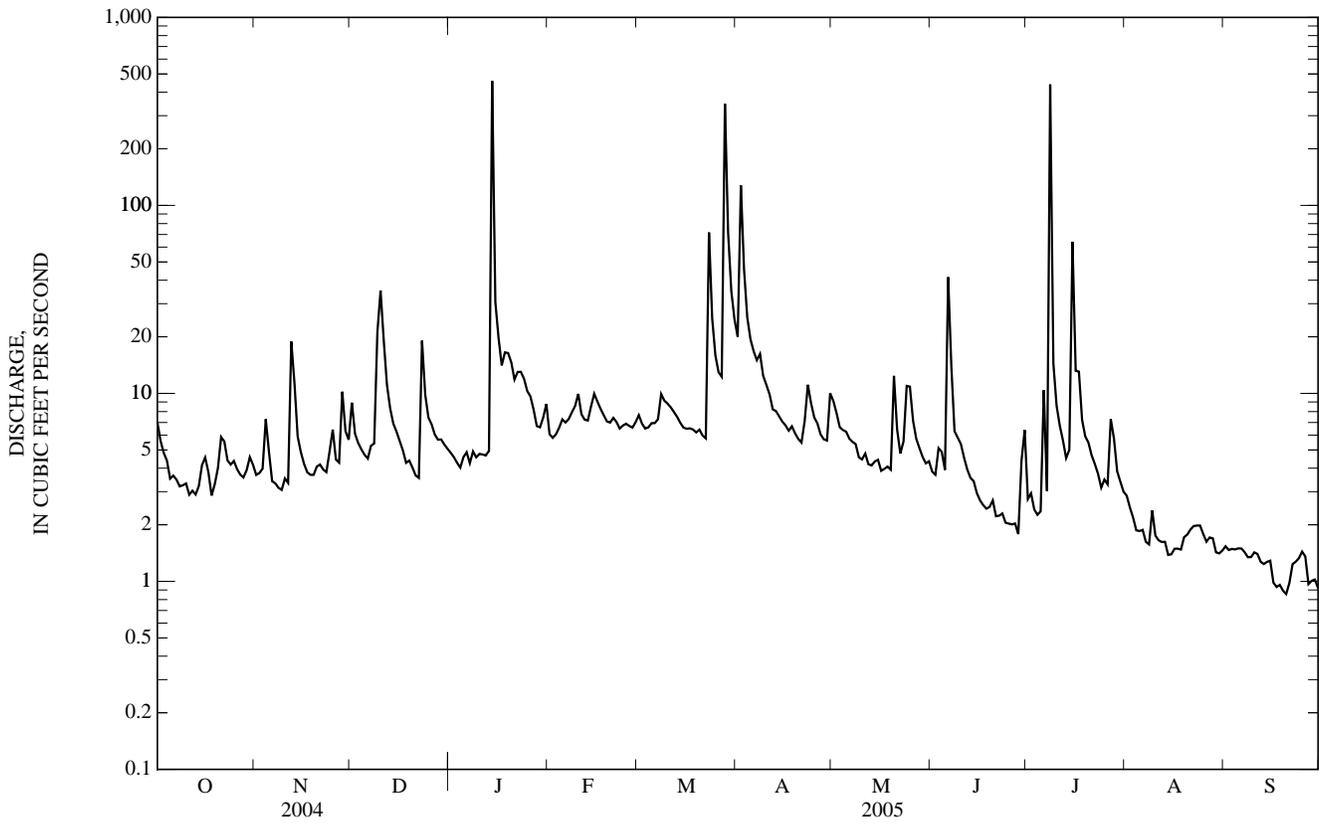
a From rating curve extended above 300,000 ft³/s, on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow.
 b Sept. 11, 12, 1966.



01643590 LIMESTONE BRANCH NEAR LEESBURG, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	3,430.7		3,805.09		11.5	
ANNUAL MEAN	9.37		10.4		2.48	
HIGHEST ANNUAL MEAN					19.2	2003
LOWEST ANNUAL MEAN					2.48	2002
HIGHEST DAILY MEAN	300	Sep 28	459	Jan 14	976	Sep 23, 2003
LOWEST DAILY MEAN	1.8	aSep 23	0.86	Sep 20	0.68	Aug 21, 2002
ANNUAL SEVEN-DAY MINIMUM	2.0	Aug 4	0.97	Sep 16	0.72	Aug 17, 2002
MAXIMUM PEAK FLOW			2,900	Jan 14	8,950	Sep 23, 2003
MAXIMUM PEAK STAGE			7.71	Jan 14	b11.19	Sep 23, 2003
INSTANTANEOUS LOW FLOW			0.75	Sep 19	0.60	cAug 13, 2002
ANNUAL RUNOFF (CFSM)	1.19		1.33		1.46	
ANNUAL RUNOFF (INCHES)	16.24		18.01		19.80	
10 PERCENT EXCEEDS	16		13		19	
50 PERCENT EXCEEDS	5.6		4.9		5.2	
90 PERCENT EXCEEDS	2.5		1.5		1.4	

- a Also Sept. 24, 2005.
- b From floodmarks.
- c Also Aug. 14, 19-22, 2002.
- e Estimated.



01643700 GOOSE CREEK NEAR MIDDLEBURG, VA

LOCATION.--Lat 38°59'11", long 77°47'48", NAD83, Loudoun County, Hydrologic Unit 02070008, on right bank 250 ft upstream from bridge on State Highway 611, 2.0 mi downstream from Panther Skin Creek, and 3.4 mi northwest of Middleburg.

DRAINAGE AREA.--123 mi².

PERIOD OF RECORD.--October 1965 to September 1967, July 1969 to September 1996, June 2001 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 329.80 ft NGVD of 1929. October 1965 to September 1967, at site 300 ft downstream at datum 0.73 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair, and period July 8-15, which is poor. Maximum discharge, 23,000 ft³/s, from rating curve extended above 3,000 ft³/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 1,350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 14	0915	4,730	10.75	May 20	1615	1,990	7.23
Mar 28	1715	3,400	9.19	Jul 8	1145	*5,300	*11.36
Apr 3	0615	4,700	10.71				

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	240	51	230	121	e116	123	345	185	129	50	33	47
2	184	49	195	112	e114	120	e1,760	153	120	36	29	27
3	153	48	174	106	114	108	e2,400	145	144	29	25	20
4	127	87	157	104	124	107	892	139	135	26	20	16
5	106	137	147	117	136	114	569	131	115	25	18	13
6	94	85	137	125	127	110	441	127	106	47	38	11
7	86	74	141	112	124	112	372	124	100	32	29	10
8	78	67	141	117	127	162	384	120	89	e1,800	24	9.5
9	74	60	180	109	132	158	303	110	82	e540	167	8.4
10	70	57	534	106	154	154	267	106	89	e230	68	7.5
11	64	56	425	102	124	154	244	102	81	e178	43	6.8
12	62	198	308	102	119	148	223	97	72	e120	33	6.1
13	60	304	255	100	115	136	215	94	74	e100	27	5.3
14	66	189	210	2,410	123	126	197	106	98	e110	23	5.3
15	71	152	179	838	143	117	183	249	72	e93	19	5.0
16	70	130	162	518	131	114	172	138	60	91	18	5.3
17	57	114	156	383	127	111	165	117	54	74	38	9.5
18	51	108	141	e275	117	107	159	107	50	92	26	12
19	50	102	136	e260	110	103	153	99	47	115	27	6.8
20	59	105	e120	235	109	100	149	784	45	78	35	4.7
21	83	97	e116	215	114	97	144	452	45	72	27	3.7
22	76	90	114	e180	114	93	170	278	42	76	20	3.0
23	69	85	289	e178	104	290	255	281	43	57	15	2.4
24	64	103	287	e176	106	298	226	414	37	47	12	2.2
25	69	193	198	e180	111	226	183	412	33	47	10	2.0
26	61	154	172	e164	108	204	166	325	30	41	9.2	3.1
27	56	138	155	e150	112	187	155	253	28	36	16	7.2
28	54	285	e140	e135	115	e1,200	146	214	26	41	32	6.8
29	53	223	137	e130	---	e1,060	141	190	34	38	23	4.2
30	59	195	135	e126	---	574	194	161	142	41	20	2.6
31	58	---	128	e124	---	422	---	148	---	37	172	---
TOTAL	2,524	3,736	5,999	8,110	3,370	7,135	11,373	6,361	2,222	4,399	1,096.2	273.4
MEAN	81.4	125	194	262	120	230	379	205	74.1	142	35.4	9.11
MAX	240	304	534	2,410	154	1,200	2,400	784	144	1,800	172	47
MIN	50	48	114	100	104	93	141	94	26	25	9.2	2.0
CFSM	0.66	1.01	1.57	2.13	0.98	1.87	3.08	1.67	0.60	1.15	0.29	0.07
IN.	0.76	1.13	1.81	2.45	1.02	2.16	3.44	1.92	0.67	1.33	0.33	0.08

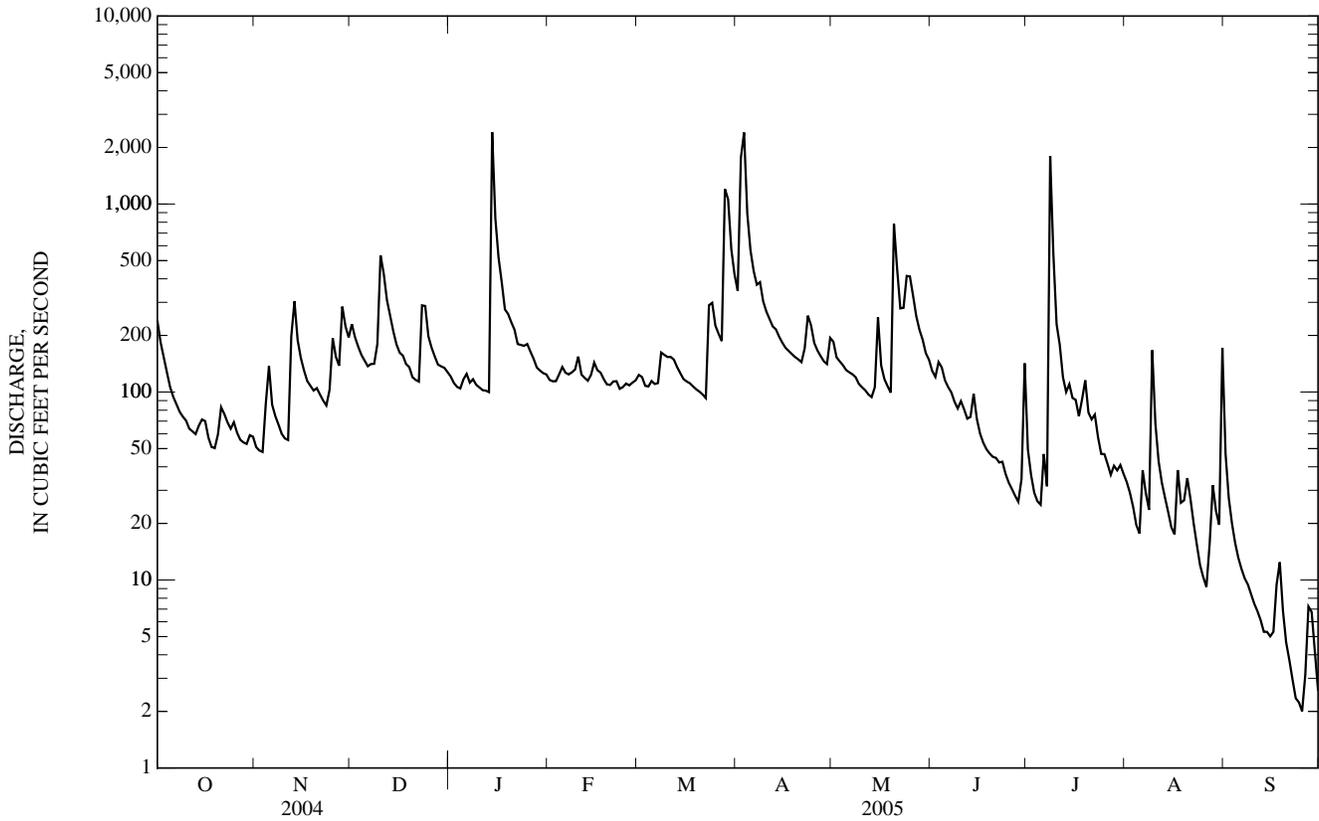
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1967, 1969 - 1996, 2001 - 2005, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)												
	84.4	602	0.00	(1980)	95.7	247	3.41	(2004)	155	477	4.17	(2004)	166	520	7.65	(1996)
									199	609	10.4	(1984)	240	722	33.3	(1993)
									228	688	43.5	(1983)	170	463	26.1	(1989)
									129	645	15.2	(1972)	58.7	217	2.81	(1972)
									129	645	15.2	(1972)	50.8	206	0.41	(1967)
									129	645	15.2	(1972)	81.3	890	0.00	(2003)
									129	645	15.2	(1972)				(1991)
									129	645	15.2	(1972)				(1991)

01643700 GOOSE CREEK NEAR MIDDLEBURG, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS	
					1966 - 1697	1969 - 1996
ANNUAL TOTAL	57,563.6		56,598.6		137	
ANNUAL MEAN	157		155		301	
HIGHEST ANNUAL MEAN					2003	
LOWEST ANNUAL MEAN					20.8	
HIGHEST DAILY MEAN	3,010	Sep 29	2,410	Jan 14	e14,000	Sep 23, 2003
LOWEST DAILY MEAN	5.7	Sep 3	2.0	Sep 25	0.00	(a)
ANNUAL SEVEN-DAY MINIMUM	6.5	Aug 31	3.0	Sep 20	0.00	(a)
MAXIMUM PEAK FLOW			5,300	Jul 8	23,000	Sep 23, 2003
MAXIMUM PEAK STAGE			11.36	Jul 8	27.46	Jun 22, 1972
INSTANTANEOUS LOW FLOW			1.8	bSep 24	0.00	(c)
ANNUAL RUNOFF (CFSM)	1.28		1.26		1.11	
ANNUAL RUNOFF (INCHES)	17.41		17.12		15.13	
10 PERCENT EXCEEDS	288		270		307	
50 PERCENT EXCEEDS	109		112		73	
90 PERCENT EXCEEDS	28		20		6.2	

- a No flow many days in September 1985, September and October 1986, and September to November 1991.
- b Also Sept. 25, 30, 2005.
- c No flow part or all of many days in September 1985, September and October 1986, and September to November 1991.
- e Estimated.



01643805 NORTH FORK GOOSE CREEK AT ROUTE 729 NEAR LINCOLN, VA

LOCATION.--Lat 39°04'20", long 77°41'02", NAD83, Loudoun County, Hydrologic Unit Code 02070008, on left bank, 5 ft downstream from bridge on State Highway 729, 5 mi south of Lincoln.

DRAINAGE AREA.--38.2 mi².

PERIOD OF RECORD.--July 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 300 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	58	26	82	25	e15	37	64	51	27	38	11	14
2	42	26	65	22	e15	34	835	39	23	24	10	7.3
3	33	27	52	21	e16	26	478	35	27	16	9.6	4.1
4	27	44	43	20	31	24	222	31	24	14	8.3	2.7
5	23	47	38	24	39	29	170	28	20	25	6.4	2.1
6	19	33	34	27	37	28	146	26	41	86	8.3	1.9
7	16	29	36	23	34	30	123	25	51	29	6.4	1.5
8	14	25	35	28	35	51	131	24	23	2,220	6.4	1.3
9	13	21	156	26	39	48	107	22	21	178	16	1.4
10	12	21	470	24	55	41	90	22	21	73	12	1.5
11	9.3	19	252	22	38	41	81	22	17	50	9.0	1.5
12	8.4	107	137	21	30	39	71	24	15	38	7.6	1.3
13	8.0	131	97	21	29	34	60	21	16	33	6.0	1.2
14	12	67	73	1,830	35	30	52	21	17	28	4.9	1.3
15	14	50	57	343	52	26	48	21	13	30	4.2	1.4
16	17	39	49	174	45	22	44	24	12	27	5.0	1.4
17	12	33	45	118	39	20	43	20	10	29	7.1	1.6
18	9.0	29	39	81	30	18	41	18	9.6	30	4.6	1.3
19	10	26	36	62	25	16	39	17	10	24	7.7	1.1
20	15	28	e34	60	22	16	38	101	11	21	7.7	1.6
21	29	28	e21	53	27	14	36	63	11	22	6.0	1.2
22	23	24	22	e42	24	11	43	33	11	72	4.4	1.2
23	19	20	124	e40	19	391	78	31	10	29	3.5	1.4
24	19	25	116	e38	21	206	65	44	10	19	3.0	1.4
25	18	46	58	e34	26	98	45	56	9.4	24	2.6	1.6
26	17	37	41	e30	22	73	39	38	9.7	19	2.5	2.1
27	17	32	e32	e28	23	63	35	28	9.6	16	5.8	2.3
28	14	81	e28	e26	27	1,110	31	25	12	18	8.5	1.4
29	15	59	25	e19	---	376	30	23	123	14	6.4	1.4
30	20	45	28	e18	---	128	54	22	117	14	5.5	1.5
31	24	---	27	e17	---	85	---	22	---	13	32	---
TOTAL	586.7	1,225	2,352	3,317	850	3,165	3,339	977	731.3	3,273	238.4	67.0
MEAN	18.9	40.8	75.9	107	30.4	102	111	31.5	24.4	106	7.69	2.23
MAX	58	131	470	1,830	55	1,110	835	101	123	2,220	32	14
MIN	8.0	19	21	17	15	11	30	17	9.4	13	2.5	1.1
CFSM	0.50	1.07	1.99	2.80	0.79	2.67	2.91	0.83	0.64	2.76	0.20	0.06
IN.	0.57	1.19	2.29	3.23	0.83	3.08	3.25	0.95	0.71	3.19	0.23	0.07

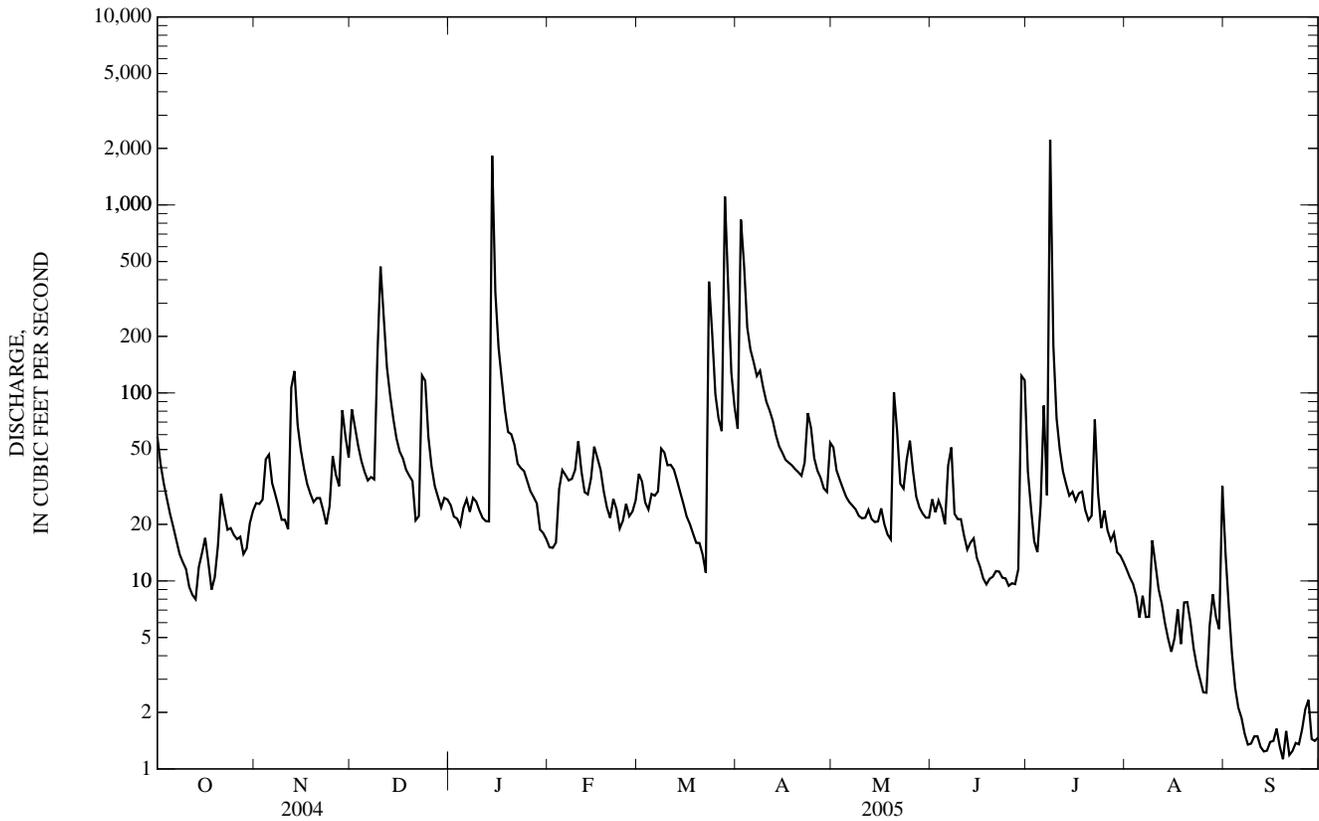
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

MEAN	25.2	56.2	81.5	65.4	73.7	89.6	86.9	98.2	84.4	50.0	12.9	67.7
MAX	50.9	124	168	113	162	180	130	237	197	106	27.6	181
(WY)	(2004)	(2004)	(2004)	(2003)	(2004)	(2003)	(2004)	(2003)	(2003)	(2005)	(2003)	(2003)
MIN	6.10	7.22	9.04	8.79	8.33	25.8	23.5	31.5	24.4	10.9	3.13	2.23
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2005)	(2005)	(2002)	(2002)	(2005)

01643805 NORTH FORK GOOSE CREEK AT ROUTE 729 NEAR LINCOLN, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	24,988.1		20,121.4		66.7	
ANNUAL MEAN	68.3		55.1		111	
HIGHEST ANNUAL MEAN					15.1	
LOWEST ANNUAL MEAN					3,040	
HIGHEST DAILY MEAN	2,430	Sep 28	2,220	Jul 8	Sep 23, 2003	
LOWEST DAILY MEAN	4.5	Sep 5	1.1	Sep 19	1.1	
ANNUAL SEVEN-DAY MINIMUM	5.1	Aug 31	1.3	Sep 18	1.3	
MAXIMUM PEAK FLOW			7,440	Jul 8	13,500	
MAXIMUM PEAK STAGE			11.62	Jul 8	a13.45	
INSTANTANEOUS LOW FLOW			0.80	Sep 19	0.80	
ANNUAL RUNOFF (CFSM)	1.79		1.44		1.75	
ANNUAL RUNOFF (INCHES)	24.33		19.59		23.71	
10 PERCENT EXCEEDS	128		81		129	
50 PERCENT EXCEEDS	30		25		26	
90 PERCENT EXCEEDS	7.0		5.0		5.5	

a From Floodmarks.
 e Estimated.



01643880 BEAVERDAM CREEK AT ROUTE 734 NEAR MOUNTVILLE, VA

LOCATION.--Lat 39°02'16", long 77°43'20", NAD83, Loudoun County, Hydrologic Unit 02070008, on left bank 250 ft downstream from State Highway 743 and 2.0 mi northwest of Mountville.

DRAINAGE AREA.--47.2 mi².

PERIOD OF RECORD.--July 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 307.03 ft NAVD of 1988.

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	54	13	96	42	e44	51	127	58	22	18	12	15
2	43	13	72	37	e43	51	705	41	20	11	10	6.6
3	36	12	59	35	42	43	557	37	26	8.1	8.3	3.9
4	30	26	51	34	48	42	211	34	27	7.2	7.0	2.6
5	25	43	46	42	60	48	166	30	21	48	5.7	1.6
6	23	24	43	48	57	46	134	29	18	107	4.9	1.2
7	21	20	47	42	55	46	117	28	36	29	5.5	0.94
8	19	17	49	47	58	70	130	26	19	1,710	5.1	0.78
9	19	16	93	42	62	61	99	24	15	204	24	1.4
10	18	14	306	38	81	55	84	23	15	121	18	1.4
11	16	14	175	36	54	56	74	22	14	89	9.8	1.5
12	15	82	114	35	49	63	67	21	11	73	6.8	0.94
13	17	128	91	35	46	50	64	17	27	62	5.2	0.69
14	20	63	72	1,030	50	45	58	18	43	57	4.2	0.56
15	19	49	61	257	70	41	55	23	18	51	3.3	1.8
16	20	42	56	179	58	39	49	22	13	55	2.8	1.4
17	17	37	54	138	53	38	47	17	9.8	46	4.6	1.6
18	15	37	49	e98	46	36	45	15	8.3	41	3.4	0.97
19	14	34	48	e92	43	35	43	14	7.8	41	4.5	0.57
20	17	37	e42	88	40	34	44	136	7.7	34	7.2	0.32
21	28	36	e38	e81	46	32	39	79	7.5	28	5.4	0.19
22	24	31	37	e69	43	30	47	43	6.9	42	3.6	0.22
23	21	29	118	e67	39	204	99	39	6.4	27	1.9	0.17
24	20	35	112	e64	39	165	83	60	5.3	21	1.2	0.11
25	19	73	65	64	42	107	53	81	4.6	22	0.82	0.12
26	17	48	e53	62	42	90	44	54	4.0	19	0.66	0.13
27	16	40	e48	e59	46	80	39	40	3.5	16	2.1	0.12
28	15	108	e44	e52	47	602	34	34	3.1	19	6.0	0.03
29	15	70	43	51	---	305	33	33	62	16	4.9	0.00
30	15	58	44	e48	---	180	64	27	95	15	4.2	0.00
31	14	---	44	e45	---	141	---	26	---	13	61	---
TOTAL	662	1,249	2,270	3,057	1,403	2,886	3,411	1,151	576.9	3,050.3	244.08	46.86
MEAN	21.4	41.6	73.2	98.6	50.1	93.1	114	37.1	19.2	98.4	7.87	1.56
MAX	54	128	306	1,030	81	602	705	136	95	1,710	61	15
MIN	14	12	37	34	39	30	33	14	3.1	7.2	0.66	0.00
CFSM	0.45	0.88	1.55	2.09	1.06	1.97	2.41	0.79	0.41	2.08	0.17	0.03
IN.	0.52	0.98	1.79	2.41	1.11	2.27	2.69	0.91	0.45	2.40	0.19	0.04

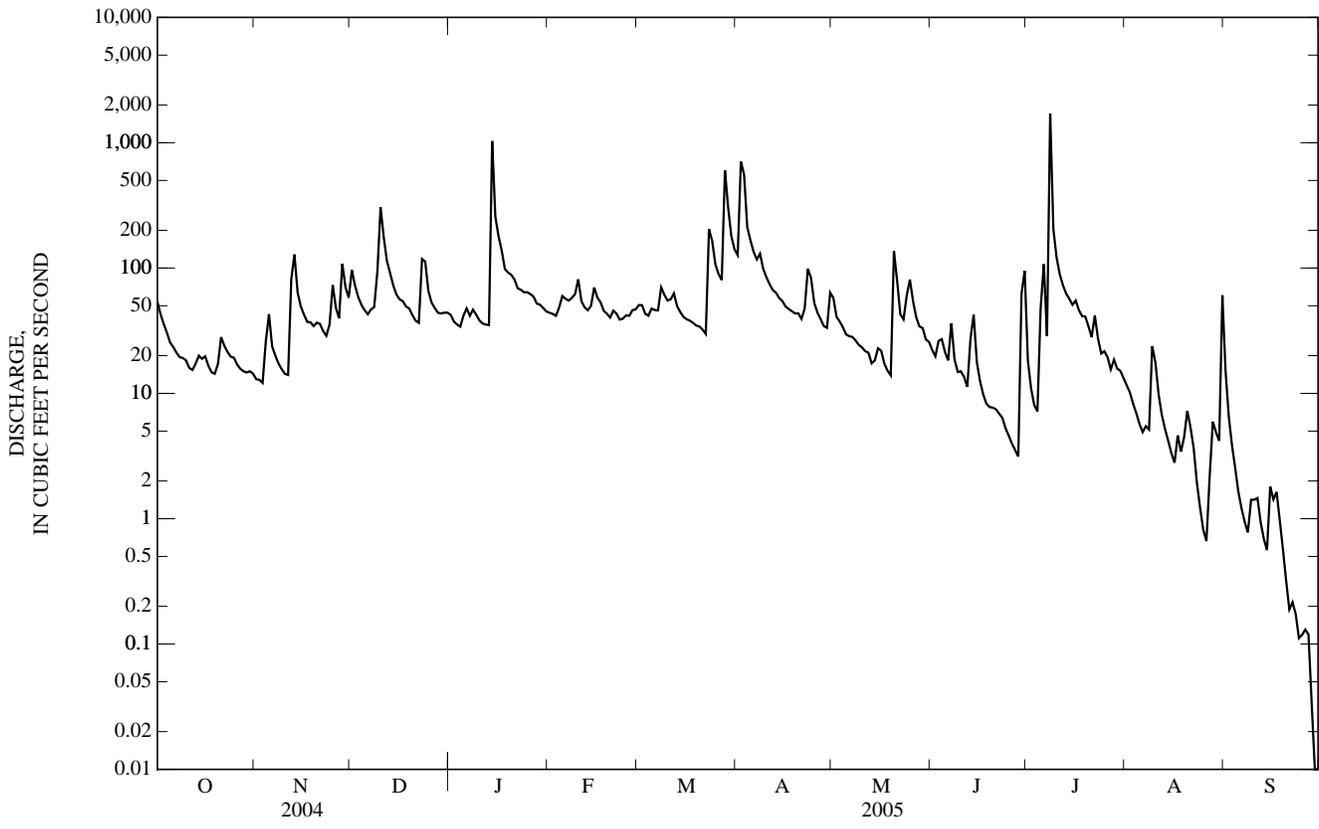
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

MEAN	24.1	56.3	85.9	64.7	69.3	93.4	87.4	94.3	73.9	45.7	11.1	73.6
MAX	48.9	114	187	115	127	210	114	242	203	98.4	34.2	312
(WY)	(2004)	(2004)	(2004)	(2003)	(2004)	(2003)	(2005)	(2003)	(2003)	(2005)	(2003)	(2003)
MIN	1.02	3.30	4.95	5.38	3.34	21.9	23.3	30.6	19.2	5.37	0.64	1.56
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2005)	(2002)	(2002)	(2005)

01643880 BEAVERDAM CREEK AT ROUTE 734 NEAR MOUNTVILLE, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	19,336.05		20,007.14		66.3	
ANNUAL MEAN	52.8		54.8		129	
HIGHEST ANNUAL MEAN					10.2	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	873	Feb 6	1,710	Jul 8	5,000	Sep 23, 2003
LOWEST DAILY MEAN	0.95	Aug 9	0.00	aSep 29	0.00	aSep 29, 2005
ANNUAL SEVEN-DAY MINIMUM	1.6	Aug 4	0.07	Sep 24	0.03	Aug 21, 2002
MAXIMUM PEAK FLOW			5,300	Jul 8	22,000	Sep 23, 2003
MAXIMUM PEAK STAGE			11.77	Jul 8	b17.00	Sep 23, 2003
INSTANTANEOUS LOW FLOW			0.00	cSep 28	0.00	cSep 28, 2005
ANNUAL RUNOFF (CFSM)	1.12		1.16		1.40	
ANNUAL RUNOFF (INCHES)	15.24		15.77		19.08	
10 PERCENT EXCEEDS	105		94		136	
50 PERCENT EXCEEDS	35		37		34	
90 PERCENT EXCEEDS	3.9		3.5		1.8	

a Also Sept. 30, 2005.
 b From floodmarks.
 c Also Sept. 29, 30, 2005.
 e Estimated.



01644000 GOOSE CREEK NEAR LEESBURG, VA

LOCATION.--Lat 39°01'10", long 77°34'39", NAD83, Loudoun County, Hydrologic Unit 02070008, on left bank 400 ft upstream from bridge on State Highway 621 at Evergreen Mills, 1.4 mi downstream from Little River, 6.7 mi south of Leesburg, and 10.9 mi upstream from mouth.

DRAINAGE AREA.--332 mi².

PERIOD OF RECORD.--July 1909 to April 1911, September 1911 to December 1912, January 1930 to current year.

REVISED RECORDS.--WSP 851: 1935-37. WSP 951: 1933(M), 1937. WSP 1302: 1934-35(M). WSP 2103: Drainage area. WDR VA-72-1: 1937(M), 1943(M), 1951(M), 1956(M). WDR VA-79-1: 1978.

GAGE.--Water-stage recorder. Datum of gage is 248.93 ft NGVD of 1929. July 12, 1909, to Dec. 31, 1912, nonrecording gage at site 1,000 ft downstream at different datum. Jan. 21, 1930, to Nov. 28, 1938, non-recording gage at site 400 ft downstream at datum 4.20 ft lower than present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. National Weather Service gage-height telemeter at station. Maximum discharge, 78,100 ft³/s, from rating curve extended above 11,000 ft³/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 May or June 1889 reached a stage of about 29 ft, discharge, about 45,000 ft³/s, site and datum in use 1930-38, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 14	1615	9,110	12.92	Apr 2	2245	6,970	10.60
Mar 28	2215	6,800	10.38	Jul 8	1815	*10,800	*14.34

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	564	120	547	327	e245	338	875	482	370	243	99	143
2	419	113	514	299	e235	337	3,520	362	334	158	91	76
3	344	112	429	282	281	296	4,790	329	366	130	82	55
4	285	145	383	278	302	284	2,050	309	405	114	74	46
5	242	365	349	299	385	305	1,340	287	340	150	67	40
6	210	222	326	348	358	307	1,050	273	349	436	71	36
7	192	181	331	321	338	306	857	267	454	210	72	33
8	176	162	370	313	344	403	885	258	309	6,640	70	32
9	164	146	395	322	366	487	734	241	272	1,690	185	29
10	158	136	1,640	290	438	422	626	227	320	665	206	28
11	144	129	1,310	281	372	412	558	216	273	444	117	26
12	135	511	834	277	319	403	503	209	244	347	94	26
13	133	1,080	672	271	307	364	480	199	227	290	79	25
14	142	554	548	6,140	311	331	447	202	422	363	71	23
15	151	419	469	2,430	403	302	413	529	278	288	63	35
16	167	360	423	1,370	369	287	382	310	226	286	57	24
17	144	313	403	995	348	278	365	252	196	295	68	23
18	125	288	374	713	313	270	354	219	179	225	80	21
19	118	271	356	e680	273	257	338	202	170	259	66	26
20	132	278	293	591	276	252	331	1,290	165	208	79	23
21	192	272	293	539	284	245	315	1,340	163	169	76	20
22	199	249	292	462	294	227	349	703	159	238	61	18
23	174	231	543	e430	272	988	606	558	157	177	53	17
24	155	246	1,100	e415	264	1,300	595	977	145	137	46	16
25	156	446	569	e450	289	716	428	1,180	133	135	41	16
26	147	404	466	421	277	601	373	849	124	137	38	19
27	133	331	417	397	290	520	342	654	119	125	42	21
28	127	649	e390	289	293	2,880	313	545	113	122	65	22
29	123	577	363	e285	---	3,250	294	500	115	111	71	24
30	123	464	349	e265	---	1,490	408	432	654	109	57	23
31	127	---	342	e290	---	1,070	---	407	---	106	207	---
TOTAL	5,801	9,774	16,090	21,070	8,846	19,928	24,921	14,808	7,781	15,007	2,548	966
MEAN	187	326	519	680	316	643	831	478	259	484	82.2	32.2
MAX	564	1,080	1,640	6,140	438	3,250	4,790	1,340	654	6,640	207	143
MIN	118	112	292	265	235	227	294	199	113	106	38	16
CFSM	0.56	0.98	1.56	2.05	0.95	1.94	2.50	1.44	0.78	1.46	0.25	0.10
IN.	0.65	1.10	1.80	2.36	0.99	2.23	2.79	1.66	0.87	1.68	0.29	0.11

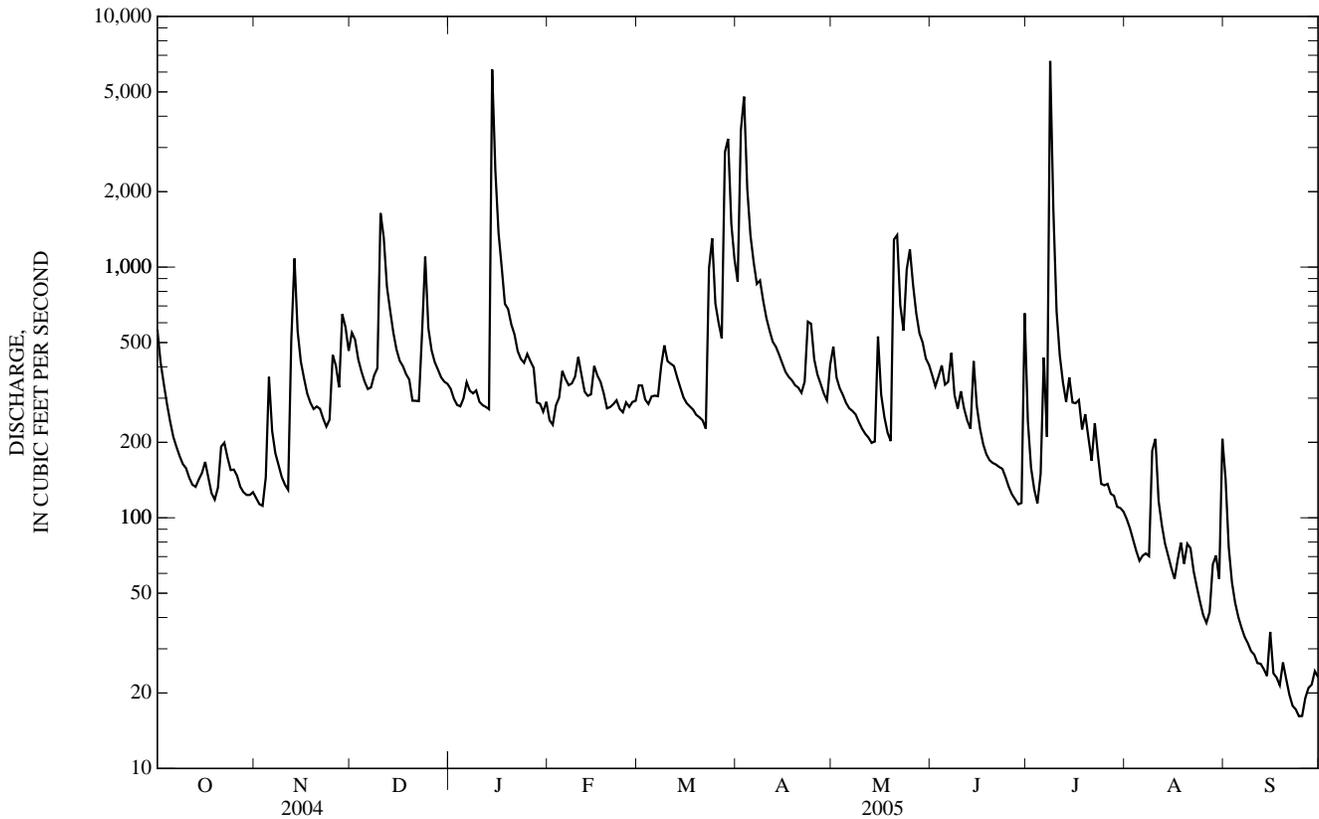
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1912, 1930 - 2005, BY WATER YEAR (WY)

	194	226	342	412	507	598	523	378	273	145	152	156
MEAN	194	226	342	412	507	598	523	378	273	145	152	156
MAX	2,265	1,155	1,316	1,499	1,621	1,892	1,766	1,324	2,887	1,207	1,188	1,715
(WY)	(1943)	(1933)	(1993)	(1996)	(1998)	(1993)	(1983)	(2003)	(1972)	(1956)	(1937)	(2003)
MIN	2.12	3.83	14.8	25.8	26.3	83.6	141	85.5	24.8	6.46	1.86	1.38
(WY)	(1931)	(1931)	(1966)	(1966)	(1931)	(1931)	(1981)	(1969)	(1999)	(1999)	(1930)	(1985)

01644000 GOOSE CREEK NEAR LEESBURG, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS	
					1909 - 1912	1930 - 2005
ANNUAL TOTAL	146,951		147,540			
ANNUAL MEAN	402		404		328	
HIGHEST ANNUAL MEAN					811	2003
LOWEST ANNUAL MEAN					55.2	1931
HIGHEST DAILY MEAN	5,100	Sep 29	6,640	Jul 8	e53,600	Jun 22, 1972
LOWEST DAILY MEAN	19	aSep 5	16	bSep 24	0.40	cSep 27, 1941
ANNUAL SEVEN-DAY MINIMUM	20	Sep 1	18	Sep 21	0.45	Sep 19, 1985
MAXIMUM PEAK FLOW			10,800	Jul 8	d78,100	Jun 22, 1972
MAXIMUM PEAK STAGE			14.34	Jul 8	30.59	Jun 22, 1972
INSTANTANEOUS LOW FLOW			16	bSep 24	(f)	(g)
ANNUAL RUNOFF (CFSM)	1.21		1.22		0.987	
ANNUAL RUNOFF (INCHES)	16.47		16.53		13.41	
10 PERCENT EXCEEDS	774		668		714	
50 PERCENT EXCEEDS	290		288		164	
90 PERCENT EXCEEDS	70		62		18	

- a Also Sept. 6, 2004.
- b Also Sept. 25, 2005.
- c Also Sept. 28-30, 1941.
- d From high-water mark in gage house.
- e Estimated.
- f Not determined.
- g Probably occurred Sept. 27-30, 1941.



01644280 BROAD RUN NEAR LEESBURG, VA

LOCATION.--Lat 39°02'47", long 77°25'57", NAD83, Loudoun County, Hydrologic Unit 02070008, on right bank 15 ft upstream from State Highway 7 and 8 mi southeast of Leesburg.

DRAINAGE AREA.--76.1 mi².

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 193.65 ft NAVD of 1988.

REMARKS.--Records good.

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	74	11	201	38	39	103	112	137	32	32	18	7.1
2	51	12	131	33	38	125	2,530	72	28	19	16	5.8
3	46	11	77	32	39	86	2,120	51	54	14	14	5.0
4	34	119	58	30	49	68	432	40	63	12	12	4.5
5	28	242	48	47	81	64	169	34	38	31	10	4.2
6	23	70	40	60	80	59	114	30	79	446	8.2	3.9
7	21	43	58	55	75	56	89	28	207	98	7.9	3.9
8	19	32	97	61	78	209	92	26	63	3,300	8.1	4.1
9	18	25	175	66	80	179	76	23	38	773	124	4.1
10	16	22	797	52	120	99	61	22	50	135	60	4.4
11	14	19	321	46	82	81	53	21	33	74	30	3.9
12	13	775	146	41	60	69	46	20	25	51	21	3.6
13	13	916	94	39	50	56	40	19	27	46	17	3.4
14	13	189	68	2,810	63	48	38	21	42	59	13	3.4
15	14	97	54	761	156	42	33	329	34	39	11	4.0
16	15	69	46	191	95	38	30	72	24	70	9.8	3.6
17	15	53	41	113	74	36	28	44	17	283	26	3.7
18	13	45	37	74	59	34	27	33	14	81	15	3.7
19	11	42	35	59	48	32	26	26	12	47	12	3.4
20	12	50	30	55	41	37	26	1,290	12	34	17	3.2
21	51	57	27	49	42	43	24	756	11	28	13	3.2
22	39	45	26	42	42	35	36	147	12	25	9.6	3.3
23	27	38	465	39	38	1,550	142	97	12	20	8.2	3.2
24	22	40	686	34	37	938	103	533	11	16	7.2	3.0
25	21	100	139	34	54	225	58	951	10	26	6.3	3.1
26	19	78	81	36	58	131	43	230	8.9	27	5.6	3.1
27	16	51	59	37	70	99	39	107	9.5	40	11	3.3
28	16	166	46	30	66	2,160	38	66	10	87	37	3.6
29	15	104	42	27	---	1,860	32	52	28	40	28	4.4
30	15	65	39	31	---	325	97	40	88	49	18	4.5
31	13	---	39	37	---	155	---	37	---	24	10	---
TOTAL	717	3,586	4,203	5,059	1,814	9,042	6,754	5,354	1,092.4	6,026	603.9	117.6
MEAN	23.1	120	136	163	64.8	292	225	173	36.4	194	19.5	3.92
MAX	74	916	797	2,810	156	2,160	2,530	1,290	207	3,300	124	7.1
MIN	11	11	26	27	37	32	24	19	8.9	12	5.6	3.0
CFSM	0.30	1.57	1.78	2.14	0.85	3.83	2.96	2.27	0.48	2.55	0.26	0.05
IN.	0.35	1.75	2.05	2.47	0.89	4.42	3.30	2.62	0.53	2.95	0.30	0.06

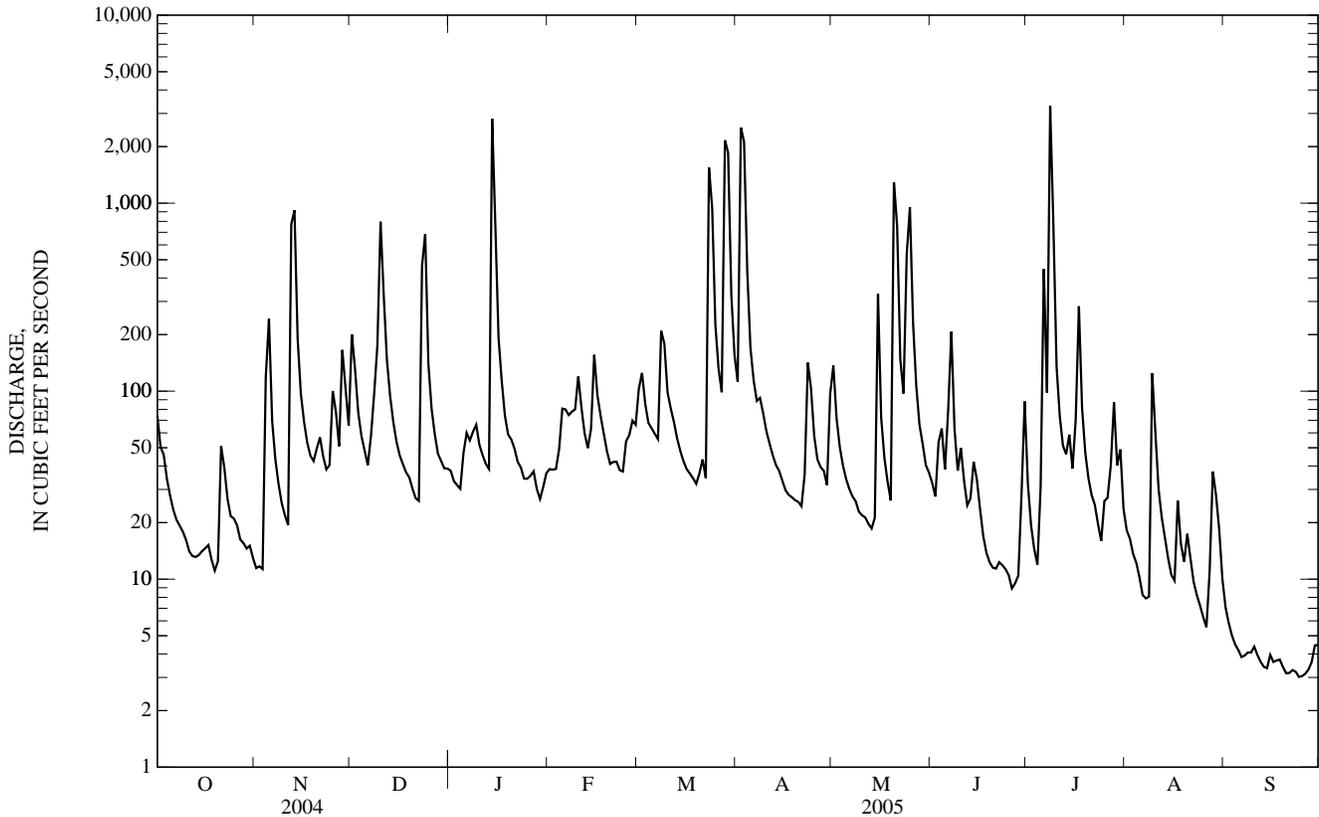
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2005, BY WATER YEAR (WY)

MEAN	70.7	137	154	109	121	199	180	183	95.8	94.8	36.2	103
MAX	158	220	256	216	244	351	309	407	228	194	59.5	254
(WY)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2004)	(2003)	(2003)	(2005)	(2003)	(2003)
MIN	16.7	11.6	20.4	22.0	11.8	73.8	84.4	51.5	36.4	21.2	17.2	3.92
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2004)	(2002)	(2004)	(2005)	(2002)	(2002)	(2005)

01644280 BROAD RUN NEAR LEESBURG, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	37,166.3		44,368.9		124	
ANNUAL MEAN	102		122		204	
HIGHEST ANNUAL MEAN					204 2003	
LOWEST ANNUAL MEAN					37.9 2002	
HIGHEST DAILY MEAN	2,460	Apr 13	3,300	Jul 8	5,200	May 16, 2003
LOWEST DAILY MEAN	4.7	Sep 7	3.0	Sep 24	1.3	aAug 21, 2002
ANNUAL SEVEN-DAY MINIMUM	5.4	Sep 1	3.2	Sep 20	1.6	Aug 17, 2002
MAXIMUM PEAK FLOW			5,620	Mar 28	6,890	May 16, 2003
MAXIMUM PEAK STAGE			9.81	Mar 28	10.43	May 16, 2003
INSTANTANEOUS LOW FLOW			2.6	bSep 24	1.3	cAug 20, 2002
ANNUAL RUNOFF (CFSM)	1.33		1.60		1.63	
ANNUAL RUNOFF (INCHES)	18.17		21.69		22.09	
10 PERCENT EXCEEDS	213		167		246	
50 PERCENT EXCEEDS	40		39		36	
90 PERCENT EXCEEDS	13		8.2		6.3	

a Also Aug. 22, 2002.
 b Also Sept. 25, 2005.
 c Also Aug. 21, 22, 2002.



01646000 DIFFICULT RUN NEAR GREAT FALLS, VA

LOCATION.--Lat 38°58'33", long 77°14'45", NAD83, Fairfax County, Hydrologic Unit 02070008, on right bank 250 ft downstream from bridge on State Highway 193, 300 ft downstream from Rocky Run, 0.7 mi upstream from mouth, and 1.5 mi southeast of Great Falls.

DRAINAGE AREA.--57.9 mi².

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only October to December 1934, published in WSP 1302.

REVISED RECORDS.--WSP 951: 1936(M), 1937-38, 1939-40(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 151.30 ft NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum discharge, 32,200 ft³/s, from rating curve extended above 1,600 ft³/s on basis of contracted-opening measurement at gage height 13.18 ft and slope-area measurement at gage height 21.40 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 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov 12	2030	1,040	7.11	Apr 2	1800	2,030	9.04
Dec 23	2045	1,400	7.88	May 20	1900	1,830	8.69
Jan 14	1300	2,110	9.17	Jul 8	1200	2,180	9.28
Mar 23	1830	1,370	7.82	Jul 15	2330	1,190	7.45
Mar 28	2115	*3,170	*10.66				

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	39	23	111	43	e43	85	68	200	47	43	27	15
2	38	24	62	41	42	73	1,040	70	44	34	25	13
3	32	25	46	41	43	53	730	54	91	29	24	12
4	28	231	41	42	49	48	139	49	66	27	22	11
5	26	134	39	52	58	50	93	46	51	52	21	9.9
6	24	46	38	48	55	49	78	45	54	323	22	17
7	24	35	66	44	52	49	71	44	166	75	20	23
8	23	31	90	62	52	e267	115	42	59	1,200	62	12
9	23	29	116	51	52	101	76	40	46	120	221	9.7
10	23	28	270	45	e66	66	63	39	45	57	66	9.1
11	21	28	114	44	49	58	59	39	43	42	34	8.5
12	21	466	66	44	44	53	56	37	40	38	26	7.8
13	21	325	52	43	42	48	55	36	38	37	22	7.6
14	22	77	45	1,080	62	46	53	83	45	41	20	8.0
15	23	53	41	178	89	44	50	198	39	380	19	9.8
16	37	44	40	90	55	43	49	56	35	289	18	9.1
17	24	41	39	67	49	43	48	43	33	129	40	7.9
18	21	39	39	53	44	42	48	39	31	54	22	7.6
19	21	38	39	51	40	41	48	37	31	44	45	6.7
20	27	40	e36	e50	40	49	48	950	31	39	32	6.2
21	56	45	e34	e47	43	49	48	256	31	36	23	6.1
22	33	38	36	e45	55	41	77	91	33	34	18	6.0
23	27	37	454	e42	43	770	102	e72	44	31	16	5.8
24	26	41	304	e40	48	255	83	185	30	29	15	5.8
25	27	69	80	e43	62	94	53	216	28	39	14	6.1
26	26	45	58	46	55	72	48	89	27	31	14	6.2
27	24	37	50	e44	56	62	46	66	27	29	23	9.7
28	24	97	45	e41	54	e950	44	58	28	59	34	6.5
29	24	51	46	e38	---	545	42	55	77	35	21	5.6
30	27	41	46	e46	---	109	143	51	183	37	17	5.4
31	25	---	45	e44	---	78	---	51	---	28	16	---
TOTAL	837	2,258	2,588	2,645	1,442	4,333	3,673	3,337	1,543	3,441	999	274.1
MEAN	27.0	75.3	83.5	85.3	51.5	140	122	108	51.4	111	32.2	9.14
MAX	56	466	454	1,080	89	950	1,040	950	183	1,200	221	23
MIN	21	23	34	38	40	41	42	36	27	27	14	5.4
CFSM	0.47	1.30	1.44	1.47	0.89	2.41	2.11	1.86	0.89	1.92	0.56	0.16
IN.	0.54	1.45	1.66	1.70	0.93	2.78	2.36	2.14	0.99	2.21	0.64	0.18

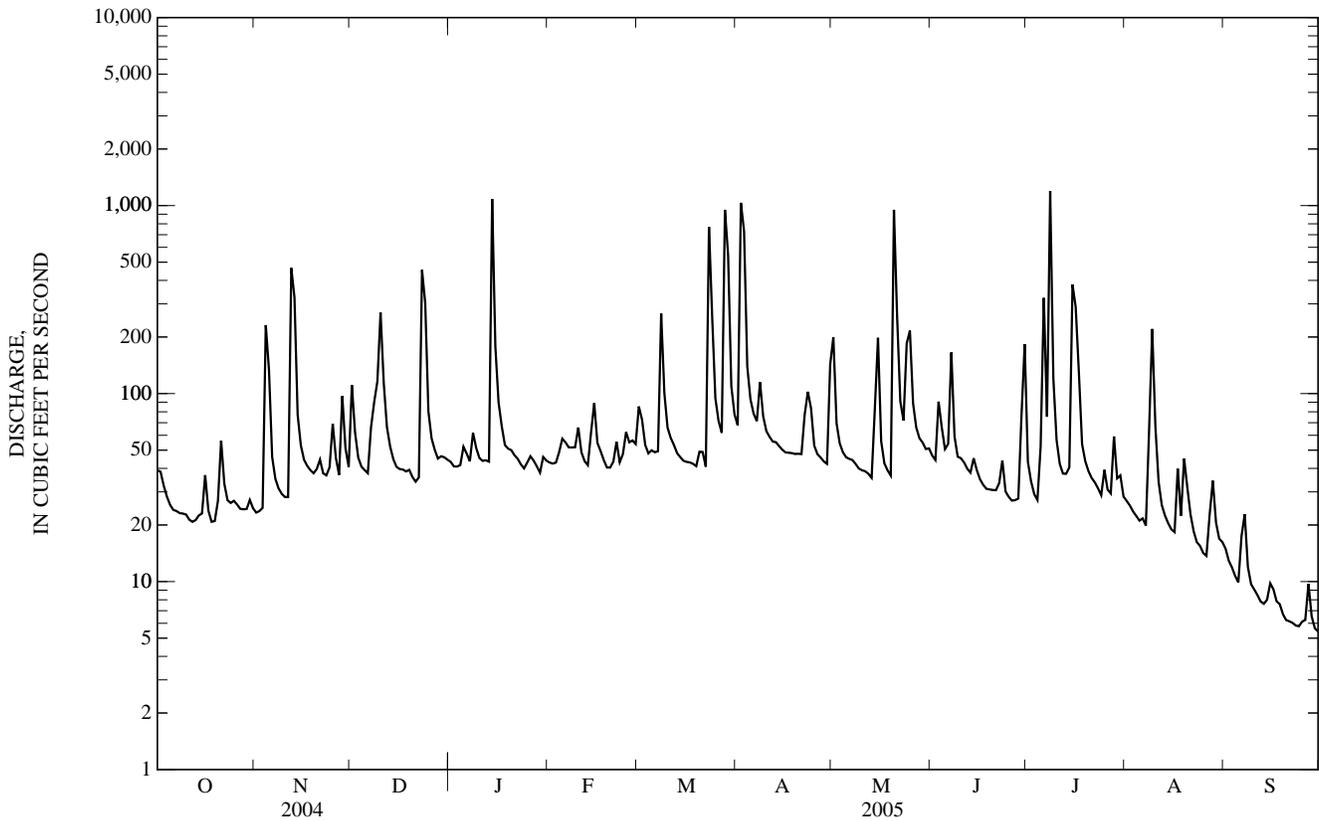
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2005, BY WATER YEAR (WY)

MEAN	40.0	52.0	62.1	73.7	81.7	91.2	83.1	72.6	69.5	43.1	39.6	39.7
MAX	317	150	202	194	228	227	224	203	1,210	116	143	245
(WY)	(1980)	(2004)	(2004)	(1996)	(1998)	(1993)	(1973)	(1989)	(1972)	(2003)	(1955)	(1975)
MIN	4.69	7.75	11.4	16.5	17.5	33.2	31.5	21.8	10.0	4.52	1.88	5.57
(WY)	(1942)	(1942)	(1966)	(1966)	(2002)	(1981)	(1985)	(1955)	(1986)	(1955)	(1966)	(1986)

01646000 DIFFICULT RUN NEAR GREAT FALLS, VA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1935 - 2005	
ANNUAL TOTAL	27,577		27,370.1		62.2	
ANNUAL MEAN	75.3		75.0		28.4	
HIGHEST ANNUAL MEAN					184	1972
LOWEST ANNUAL MEAN					28.4	1966
HIGHEST DAILY MEAN	657	Jun 5	1,200	Jul 8	e25,000	Jun 22, 1972
LOWEST DAILY MEAN	16	aSep 5	5.4	Sep 30	0.10	bSep 7, 1966
ANNUAL SEVEN-DAY MINIMUM	17	Sep 1	6.0	Sep 20	0.16	Sep 3, 1966
MAXIMUM PEAK FLOW			3,170	Mar 28	32,200	Jun 22, 1972
MAXIMUM PEAK STAGE			10.66	Mar 28	c21.40	Jun 22, 1972
INSTANTANEOUS LOW FLOW			5.3	Sep 30	0.05	dSep 9, 1966
ANNUAL RUNOFF (CFSM)	1.30		1.30		1.07	
ANNUAL RUNOFF (INCHES)	17.72		17.58		14.60	
10 PERCENT EXCEEDS	126		112		107	
50 PERCENT EXCEEDS	53		43		38	
90 PERCENT EXCEEDS	24		18		13	

- a Also Sept. 6, 2004.
- b Also Sept. 8, 9, 1966.
- c From floodmarks.
- d Also Sept. 10, 1966
- e Estimated.



01646500 POTOMAC RIVER NEAR WASHINGTON, DC

LOCATION.--Lat 38°56'59.2", long 77°07'39.5", Montgomery County, Hydrologic Unit 02070008, on left bank just upstream from Little Falls Dam, 1 mi upstream from District of Columbia boundary line, 1.2 mi upstream from Chain Bridge, 1.8 mi east of Langley, Fairfax County, and at mile 117.4.

DRAINAGE AREA.--11,560 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WDR MD-DE-75-1: 1973-74(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft above National Geodetic Vertical Datum of 1929. Prior to June 7, 1930, nonrecording gage, and June 7, 1930, to Jan. 22, 1965, water-stage recorder at site 1 mi upstream on right bank at same datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges (ice effect), which are fair. Diversions at Great Falls through aqueducts, and since June 1959, from gage pool at Little Falls Dam, for municipal supply of Washington, D.C.; since October 1958, at Rockville Filtration Plant, for municipal supply of city of Rockville; since April 1961, at Potomac Filtration Plant for water supply of Washington Suburban Sanitary District; since October 1961, at Fairfax Water Treatment Plant for water supply of city of Fairfax (from Goose Creek); since April 1964, at Violets Lock to Chesapeake and Ohio Canal; and since October 1985, at Fairfax County Water Authority Treatment Plant for water supply of the county. Low flow affected slightly prior to July 1981 by Stony River Reservoir, since December 1950, by Savage River Reservoir (see station 01597500), and since July 1981, by Jennings Randolph Lake. National Weather Service gage-height telemeter at station. U.S. Geological Survey satellite collection platform at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, was of approximately the same magnitude as that of March 19, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 45,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 30	1230	119,000	9.53	Mar 30	1700	*140,000	*10.28
Dec 12	0700	50,800	6.74	Apr 3	2215	84,700	8.27
Jan 14	1645	69,300	7.62				

Minimum discharge, 784 ft³/s, Sept. 29.

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	63,400	5,230	26,100	9,550	8,240	10,200	56,700	12,000	7,570	3,600	2,710	2,780
2	33,800	5,570	26,600	9,220	8,020	10,300	56,700	11,300	6,900	3,390	2,660	2,590
3	23,400	6,010	27,300	8,810	7,650	10,300	81,700	11,300	6,670	2,740	2,520	2,490
4	18,000	6,430	26,200	8,510	7,550	9,760	71,900	12,100	6,360	2,390	2,580	1,960
5	14,700	7,080	23,000	8,290	7,620	9,230	52,300	11,200	5,870	2,340	2,480	1,910
6	12,200	7,070	19,400	8,710	7,890	8,910	40,000	10,500	5,950	4,120	2,420	1,780
7	10,500	8,150	17,100	13,400	7,660	8,990	32,900	9,830	7,280	3,760	2,240	1,710
8	9,110	10,500	15,900	24,000	7,840	11,100	29,100	9,130	5,950	21,900	2,220	1,580
9	8,190	10,200	15,700	22,300	8,110	15,400	26,200	8,480	5,400	26,300	2,890	1,570
10	7,460	9,060	21,400	24,700	8,780	22,500	23,200	8,090	5,460	11,800	3,250	1,410
11	6,760	8,210	39,700	21,300	9,730	24,500	20,900	7,760	5,300	11,000	3,290	1,280
12	6,300	9,620	48,900	17,900	9,990	20,400	18,600	7,300	5,010	9,180	3,320	1,160
13	6,200	13,000	39,700	17,800	10,200	17,600	16,700	6,870	4,900	6,780	3,000	1,180
14	6,110	11,600	30,900	50,200	10,200	15,600	15,300	6,780	5,480	5,470	3,210	1,230
15	5,890	13,000	25,000	60,000	10,800	13,800	14,100	7,280	5,280	6,870	3,110	1,280
16	5,910	13,300	20,800	46,500	12,600	12,400	13,000	7,370	4,810	8,070	2,810	1,140
17	5,760	11,800	17,900	37,500	13,600	11,200	12,100	7,060	4,370	9,860	2,640	1,160
18	5,630	10,700	15,500	e29,300	13,300	10,100	11,100	6,450	3,800	11,100	2,550	1,120
19	5,220	9,920	14,000	23,000	12,200	9,530	10,600	6,110	3,530	10,500	2,810	1,080
20	5,130	9,400	12,700	19,600	11,200	9,100	10,200	9,140	3,220	9,050	2,950	1,080
21	5,410	8,770	11,300	17,300	10,400	8,760	9,820	10,300	3,120	8,970	2,830	1,080
22	5,910	8,330	10,500	15,500	10,000	8,340	9,550	10,200	2,990	8,110	2,450	1,130
23	6,250	9,040	11,500	e12,900	9,930	12,500	10,400	12,900	3,230	6,640	2,230	1,020
24	6,080	8,750	16,200	e10,100	9,950	30,400	11,400	15,300	2,940	5,840	2,020	949
25	6,020	9,070	15,200	e10,400	9,960	39,800	12,100	15,900	2,850	5,090	1,850	1,020
26	5,780	16,700	13,500	e10,600	10,000	35,100	12,700	14,500	2,740	4,480	1,770	1,010
27	5,650	21,500	13,000	e11,400	9,970	29,400	12,200	14,600	2,680	4,450	1,750	1,260
28	5,650	20,100	11,700	e10,700	9,910	34,800	11,300	13,000	2,510	4,720	1,960	1,130
29	5,420	23,200	10,700	e9,430	---	83,300	10,600	11,200	2,820	3,660	1,990	930
30	5,290	29,000	10,200	9,000	---	132,000	11,200	9,550	4,820	3,320	2,010	986
31	5,200	---	9,880	8,640	---	97,800	---	8,440	---	2,950	2,020	---
TOTAL	322,330	340,310	617,480	586,560	273,300	773,120	724,570	311,940	139,810	228,450	78,540	42,005
MEAN	10,400	11,340	19,920	18,920	9,761	24,940	24,150	10,060	4,660	7,369	2,534	1,400
MAX	63,400	29,000	48,900	60,000	13,600	132,000	81,700	15,900	7,570	26,300	3,320	2,780
MIN	5,130	5,230	9,880	8,290	7,550	8,340	9,550	6,110	2,510	2,340	1,750	930
(†)	619	574	576	580	568	545	577	594	681	683	701	728
MEAN‡	11,020	11,920	20,500	19,510	10,330	25,490	24,740	10,660	5,341	8,050	3,235	2,128
CFSM‡	0.95	1.03	1.77	1.69	0.89	2.20	2.14	0.92	0.46	0.70	0.28	0.18
IN.‡	1.10	1.15	2.04	1.95	0.93	2.54	2.39	1.06	0.52	0.80	0.32	0.21

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)

	6,090	7,477	11,110	13,780	17,030	23,560	20,270	14,650	9,087	4,920	4,746	5,081
MEAN	6,090	7,477	11,110	13,780	17,030	23,560	20,270	14,650	9,087	4,920	4,746	5,081
MAX	44,100	42,030	37,630	52,890	61,040	76,510	57,850	40,410	46,630	21,040	28,210	44,620
(WY)	(1943)	(1986)	(1997)	(1996)	(1998)	(1936)	(1993)	(1989)	(1972)	(1949)	(1955)	(1996)
MIN	583	700	1,038	1,682	1,882	6,225	5,810	3,921	1,536	599	538	679
(WY)	(1931)	(1931)	(1966)	(1981)	(2002)	(2002)	(1995)	(1969)	(1999)	(1999)	(1966)	(1930)

01646500 POTOMAC RIVER NEAR WASHINGTON, DC—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005	
ANNUAL TOTAL	5,662,770		4,438,415			
ANNUAL MEAN	15,470		12,160		11,510	
ANNUAL MEAN [‡]	16,110		12,780		11,958	
HIGHEST ANNUAL MEAN					23,760 1996	
HIGHEST ANNUAL MEAN [‡]					24,370 1996	
LOWEST ANNUAL MEAN					4,017 2002	
LOWEST ANNUAL MEAN [‡]					4,664 2002	
HIGHEST DAILY MEAN	108,000	Sep 30	132,000	Mar 30	426,000	Mar 19, 1936
LOWEST DAILY MEAN	1,850	Sep 6	930	Sep 29	(a)121	Sep 9, 1966
LOWEST DAILY MEAN [‡]	2,530	Sep 6	1,620	Sep 29	(b)601	Sep 10, 1966
ANNUAL SEVEN-DAY MINIMUM	2,050	Sep 1	1,040	Sep 24	181	Sep 7, 1966
MAXIMUM PEAK FLOW			140,000	Mar 30	484,000	Mar 19, 1936
MAXIMUM PEAK STAGE			10.28	Mar 30	(c)28.10	Mar 19, 1936
INSTANTANEOUS LOW FLOW			784	Sep 29	66	Sep 9, 1966
ANNUAL RUNOFF (CFSM)	1.34		1.05		0.996	
ANNUAL RUNOFF (CFSM) [‡]	1.39		1.11		1.03	
ANNUAL RUNOFF (INCHES)	18.22		14.28		13.53	
ANNUAL RUNOFF (INCHES) [‡]	18.92		15.07		14.05	
10 PERCENT EXCEEDS	29,400		24,600		25,800	
50 PERCENT EXCEEDS	12,000		9,070		6,570	
90 PERCENT EXCEEDS	4,160		2,230		1,670	

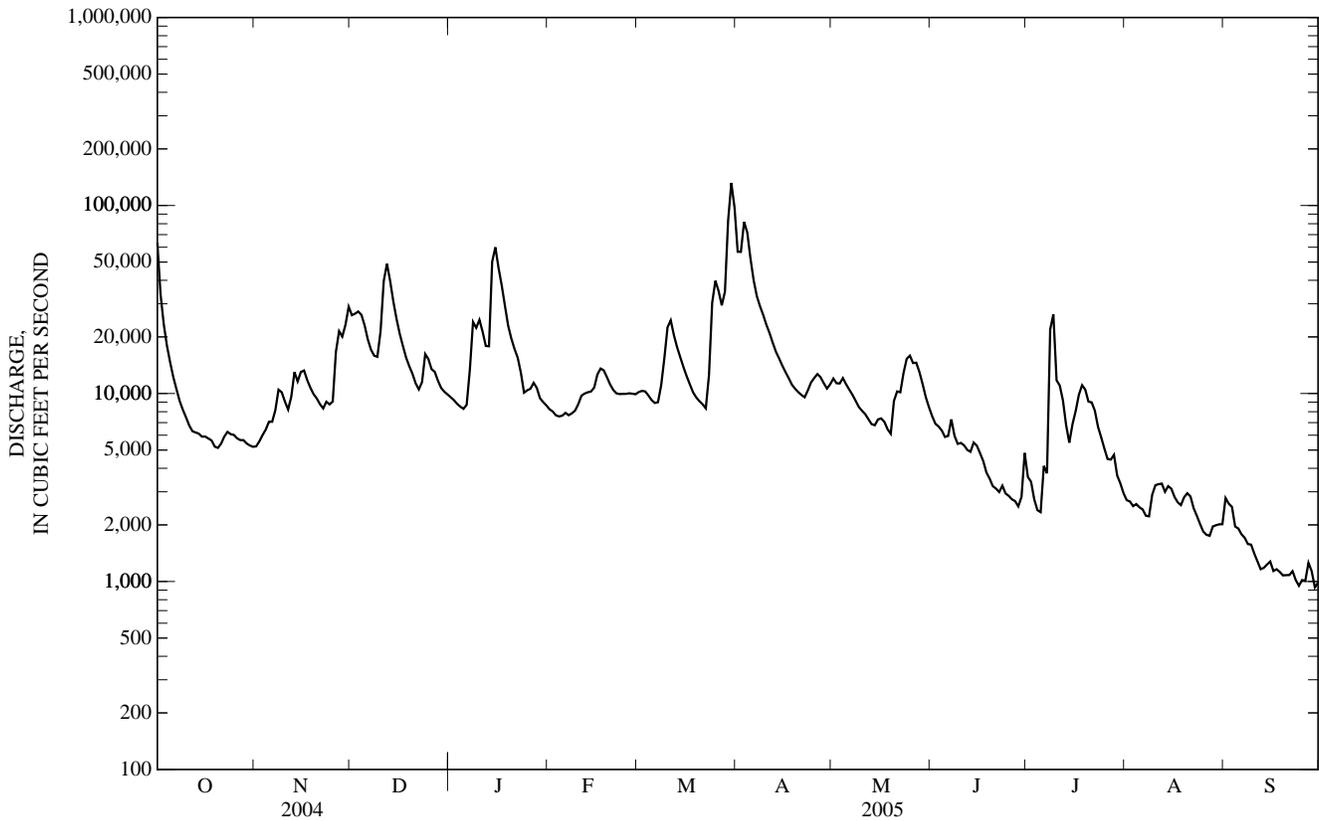
[†] Diversions, in cubic feet per second, for municipal supply of Washington, D.C., Washington Suburban Sanitary District, city of Rockville, city of Fairfax (from Goose Creek), Fairfax County, and the Chesapeake and Ohio Canal (insignificant diversion to canal during current water year). Records provided by U.S. Army Corps of Engineers, Washington Suburban Sanitary Commission, city of Rockville, city of Fairfax, and Fairfax County Water Authority.

[‡] Adjusted for diversion.

a Minimum daily discharge observed at gaging station, does not include diversion of 489 ft³/s.

b Includes diversion of 449 ft³/s for municipal use.

c At previous site, 1 mi upstream at same datum.



DAILY MEAN DISCHARGE - 2005 WATER YEAR

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC

LOCATION.--Lat 38°55'46", long 77°07'02", Arlington County, Va., Hydrologic Unit 02070010, under right downstream side of bridge on Virginia State Highway 123, and at river mile 115.9.

DRAINAGE AREA.--11,570 mi².

PERIOD OF RECORD.--Water years 1973 to current year. Prior to October 1977, published as "at Great Falls."

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to September 1981.

pH: June 1978 to September 1981.

WATER TEMPERATURE: June 1978 to September 1981.

DISSOLVED OXYGEN: June 1978 to September 1981.

SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981.

INSTRUMENTATION.--Water-quality monitor June 1978 to September 1981.

REMARKS--Extreme high flows are sampled from the George Mason Memorial Bridge (14th Street) located 6 mi downstream from Chain Bridge. Discharges are measured upstream at the Potomac River near Washington, DC Little Falls Pumping Station gage (01646500).

EXTREMES FOR PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE (water years 1979, 1981): Maximum, 598 microsiemens/cm, Sept. 12, 1981; minimum, 116 microsiemens/cm, Jan. 25, 1979.

pH (water years 1979, 1981): Maximum, 9.3 units, Mar. 29, 1981; minimum, 6.7 units, June 2, 1981.

WATER TEMPERATURE (water years 1979, 1981): Maximum, 31.0°C, July 23, 24, 1978; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN (water years 1979, 1981): Maximum, 16.4 mg/L, on many days in 1979; minimum, 5.6 mg/L, June 2, 1981.

SEDIMENT CONCENTRATION: Maximum daily mean, 812 mg/L, Sept. 6, 1979; minimum daily mean, 1 mg/L on many days during winter periods.

SEDIMENT LOAD: Maximum daily, 281,000 tons, Feb. 27, 1979; minimum daily, 3.2 tons, Jan. 5, 1981.

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

Date	Time	Sample type	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	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)
OCT											
05...	0815	Environmental	1028	80020	15,000	40	--	768	9.7	103	8.1
NOV											
03...	0845	Environmental	1028	80020	6,000	40	--	769	10.5	106	8.3
10...	1030	Environmental	1028	80020	9,050	40	--	775	11.7	102	8.4
DEC											
08...	0945	Environmental	1028	80020	16,300	40	--	760	13.1	109	8.0
13...	1045	Environmental	1028	80020	40,000	40	--	751	12.9	111	8.0
JAN											
05...	1015	Environmental	1028	80020	8,230	40	--	761	13.8	114	7.8
06...	0945	Environmental	1028	80020	8,590	40	--	755	12.9	108	7.7
FEB											
22...	1045	Environmental	1028	80020	10,000	40	--	763	13.6	107	8.4
MAR											
07...	0930	Environmental	1028	80020	8,960	40	--	755	11.0	88	8.1
10...	1030	Environmental	1028	80020	22,100	40	--	755	14.3	110	7.8
17...	1030	Environmental	1028	80020	11,400	40	--	763	12.7	104	7.0
24...	1100	Environmental	1028	80020	31,200	40	--	764	12.3	105	7.9
30...	1015	Environmental	1028	80020	133,000	40	--	762	13.1	112	6.8
30...	1020	Replicate	1028	80020	--	40	--	--	--	--	--
APR											
18...	1015	Environmental	1028	80020	11,100	40	--	764	10.4	106	8.2
MAY											
02...	0845	Environmental	1028	80020	11,500	40	--	762	10.6	106	8.2
09...	1045	Environmental	1028	80020	8,500	40	--	760	10.0	104	8.8
09...	1100	Replicate	1028	80020	--	10	--	--	--	--	--
JUN											
09...	1030	Environmental	1028	80020	5,500	40	--	760	7.8	101	8.3
JUL											
06...	0845	Environmental	1028	80020	4,170	40	--	761	8.2	105	8.2
19...	0945	Environmental	1028	80020	10,700	40	--	759	--	--	8.0
AUG											
09...	1345	Environmental	1028	80020	2,800	40	7.6	765	7.6	98	8.2
SEP											
07...	0845	Environmental	1028	80020	1,810	40	--	773	11.3	134	8.4
13...	0915	Environmental	1028	80020	1,300	40	--	763	8.3	100	7.8

Agency collecting sample: 1028 - U.S. Geological Survey

Agency analyzing sample: 80020 - USGS-National Water Quality Lab, Denver, CO

Sampling method: 40 - Multiple verticals

10 - Equal width increments (EWI)

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC—Continued

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

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	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)	Particulate nitrogen, susp, water, mg/L (49570)	Total nitrogen, wat flt by analysis, mg/L (62854)
OCT 05...	E.1	8.88	16.5	142	--	21	<10	<.04	1.51	1.51	.005	.09	1.64
NOV 03...	--	--	30.7	--	--	--	--	<.04	--	1.29	E.005	--	--
10...	--	3.3	--	--	--	<10	<10	<.04	.94	.94	.003	.04	1.20
DEC 08...	--	7.3	--	--	--	<10	<10	E.02	1.46	1.47	.005	.06	1.62
13...	--	7.8	--	--	--	58	<10	<.04	1.38	1.39	.007	.32	1.62
JAN 05...	--	--	25.3	--	--	--	--	<.04	1.73	1.73	.008	--	--
06...	.1	6.26	26.9	168	--	<10	<10	<.04	1.83	1.84	.006	.03	2.05
FEB 22...	--	4.3	--	--	--	<10	<10	<.04	1.54	1.55	.008	.04	1.75
MAR 07...	--	--	30.4	--	--	--	--	<.04	--	1.27	E.005	--	--
10...	--	2.1	--	--	1	13	12	<.04	1.25	1.26	.008	.14	1.45
17...	--	--	--	--	--	--	--	<.04	1.15	1.16	.008	.08	1.33
24...	--	2.3	--	--	147	169	22	E.03	1.02	1.03	.013	.66	1.49
30...	--	5.8	--	--	480	542	62	.06	1.20	1.22	.011	1.70	1.53
30...	--	5.8	--	--	500	560	60	.06	1.19	1.21	.012	1.77	1.52
APR 18...	E.1	5.93	22.0	158	--	<10	<10	<.04	1.66	1.66	.007	.06	1.81
MAY 02...	--	--	24.3	--	--	--	--	<.04	--	1.24	E.004	--	--
09...	--	.4	--	--	--	<10	<10	<.04	.99	.99	.005	.04	1.16
09...	--	.4	--	--	--	<10	<10	<.04	.98	.98	.005	.06	1.10
JUN 09...	--	6.1	--	--	--	<10	<10	<.04	1.10	1.11	.011	.07	1.34
JUL 06...	--	--	32.2	--	--	--	--	E.03	.68	.69	.009	--	--
19...	.1	8.29	18.9	164	32	45	13	.04	1.31	1.33	.018	.15	1.87
AUG 09...	--	6.0	--	--	--	12	<10	.04	.57	.58	.009	E.10	.89
SEP 07...	--	--	33.0	--	--	--	--	E.02	--	.71	E.006	--	--
13...	--	5.1	--	--	--	<10	<10	E.02	.54	.54	.006	E.11	.90

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC—Continued

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

Date	Total nitrogen, wat unfiltered by analysis, mg/L (62855)	Ortho-phosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, filtered, mg/L (00666)	Phosphorus, water, unfiltered, mg/L (00665)	Total carbon, suspended sediment total, mg/L (00694)	Inorganic carbon, suspended sediment total, mg/L (00688)	Organic carbon, suspended sediment total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)	Iron, water, filtered, ug/L (01046)	Manganese, water, filtered, ug/L (01056)	1-Naphthol, water, filtered, 0.7u GF ug/L (49295)	2,6-Diethyl-aniline water filtered, 0.7u GF ug/L (82660)	2Chloro-2',6'-diethyl acetanilide water filtered, ug/L (61618)
OCT 05...	--	.040	.048	.074	1.0	<.1	.9	2.7	15	1.6	--	--	--
NOV 03...	1.46	E.004	--	.021	--	--	--	--	--	--	<.09	<.006	<.005
10...	--	.006	.016	.021	.3	<.1	.3	2.4	--	--	--	--	--
DEC 08...	--	.022	.029	.038	.4	<.1	.4	1.9	--	--	--	--	--
13...	--	.034	.045	.125	2.7	<.1	2.7	2.5	--	--	--	--	--
JAN 05...	1.96	.010	--	.007	--	--	--	--	--	--	<.09	<.006	<.005
06...	--	.012	.016	.024	.3	<.1	.3	1.6	25	7.7	--	--	--
FEB 22...	--	E.003	.009	.015	.3	<.1	.3	1.8	--	--	--	--	--
MAR 07...	1.50	<.006	--	.026	--	--	--	--	--	--	<.09	<.006	<.005
10...	--	<.006	.005	.052	1.3	<.1	1.3	1.8	--	--	--	--	--
17...	--	<.006	.005	.014	.4	<.1	.4	1.7	--	--	--	--	--
24...	--	E.003	.011	.16	5.3	<.1	5.2	3.3	--	--	--	--	--
30...	--	.018	.024	.47	18.1	.5	17.6	3.2	--	--	--	--	--
30...	--	.013	.025	.43	18.5	.6	17.9	3.2	--	--	--	--	--
APR 18...	--	.017	.022	.036	.5	<.1	.5	1.7	21	8.3	--	--	--
MAY 02...	1.47	<.006	--	.025	--	--	--	--	--	--	<.09	<.006	<.005
09...	--	<.006	.009	.018	.4	<.1	.3	1.8	--	--	--	--	--
09...	--	<.006	.008	.018	.3	<.1	.3	1.8	--	--	--	--	--
JUN 09...	--	.025	.034	.050	.5	<.1	.5	2.4	--	--	--	--	--
JUL 06...	1.00	.025	--	.063	--	--	--	--	--	--	<.09	<.006	<.005
06...	--	--	--	--	--	--	--	--	--	--	E.01	.100	.130
19...	--	.081	.107	.21	1.7	<.1	1.7	5.3	16	17.3	--	--	--
AUG 09...	--	.021	.034	.056	.9	<.1	.9	2.9	--	--	--	--	--
SEP 07...	1.09	.021	--	.046	--	--	--	--	--	--	<.09	<.006	<.005
13...	--	.013	.027	.036	.6	<.1	.6	7.5	--	--	--	--	--

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC—Continued

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

Date	trans-Propi-conazole, water, fltrd, ug/L (79847)	Tribu-phos, water, fltrd, ug/L (61610)	Tri-flur-alin, water, fltrd, 0.7u GF ug/L (82661)	Di-chlor-vo-s, water fltrd, ug/L (38775)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)	Sampler type, code (84164)
OCT 05...	--	--	--	--	--	24	972	3060
NOV 03...	--	--	<.009	<.01	--	3	49	3060
10...	--	--	--	--	--	3	73	3060
DEC 08...	--	--	--	--	--	6	264	3060
13...	--	--	--	--	--	64	6,910	3060
JAN 05...	--	--	<.009	<.01	--	28	622	3060
06...	--	--	--	--	--	3	70	3060
FEB 22...	--	--	--	--	--	3	81	3060
MAR 07...	--	--	<.009	<.01	--	4	97	3060
10...	--	--	--	--	--	17	1,010	3060
17...	--	--	--	--	--	2	62	3060
24...	--	--	--	--	91	189	15,900	3060
30...	--	--	--	--	79	788	283,000	3060
30...	--	--	--	--	79	763	--	3060
APR 18...	--	--	--	--	--	6	180	3060
MAY 02...	--	--	E.005	E.01	--	8	248	3060
09...	--	--	--	--	--	6	138	3060
09...	--	--	--	--	--	4	--	3055
JUN 09...	--	--	--	--	--	8	119	3060
JUL 06...	E.01	E.013	<.009	<.01	--	9	101	3060
06...	E.11	E.110	.109	E.04	--	--	--	3060
19...	--	--	--	--	--	52	1,500	3060
AUG 09...	--	--	--	--	--	10	76	3060
SEP 07...	<.01	<.004	<.009	<.01	--	4	20	3060
13...	--	--	--	--	--	3	11	3060

Remark codes used in this table:

< -- Less than.

E -- Estimated.

M-- Presence verified but not quantified.

Sampler type: 3060 - Weighted-bottle sampler
3055 - US D-96 Bag sampler



Photo by U.S. Geological Survey personnel