

POTOMAC RIVER BASIN

01646000 DIFFICULT RUN NEAR GREAT FALLS, VA

LOCATION.--Lat 38°58'33", long 77°14'46", 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 above sea level.

REMARKS.--Records good except for period with backwater from beaver dam, Oct. 11 to Nov. 25, which is poor, and those for periods with ice effect, Dec. 26-29, and Dec. 31 to Jan. 2, and periods of doubtful gage-height record, Jan. 5-23, 25, 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. Minimum gage height, 1.65 ft, Sep. 9, 10, 1966. 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 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)
Sep 10	0130	1,380	7.84	Sep 21	1930	1,030	7.07
Sep 16	1800	*1,680	*8.42	Sep 30	0730	1,160	7.37

Minimum discharge, 0.60 ft³/s, Aug 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	e12	11	e13	27	95	49	33	16	27	3.6	6.0
2	4.7	e11	11	e12	100	46	53	31	16	38	2.9	5.9
3	4.1	e17	12	342	51	44	41	31	15	17	3.0	5.6
4	5.0	e15	12	87	37	174	49	32	14	12	2.3	100
5	5.8	e9.5	12	e44	36	57	94	28	12	10	2.1	245
6	6.5	e9.9	12	e27	33	51	49	28	12	7.8	1.9	56
7	7.9	e10	12	e22	32	63	42	36	12	11	1.3	100
8	111	e11	19	e19	30	40	38	216	12	6.2	1.3	49
9	51	e12	67	e50	29	43	44	64	10	5.5	1.5	222
10	16	e13	26	e61	29	53	78	46	9.7	5.0	1.8	342
11	e10	e45	17	e40	27	54	97	27	11	6.0	1.4	36
12	e7.0	e19	15	e26	51	58	70	25	11	4.7	1.2	17
13	e7.2	e12	41	e41	92	65	47	24	17	8.6	.93	13
14	e7.8	e10	33	e45	38	93	42	23	54	5.8	29	11
15	e9.0	e9.4	19	e150	33	432	39	22	61	4.9	33	29
16	e8.0	e9.0	16	e90	31	226	50	22	18	4.4	7.2	1060
17	e8.2	e9.2	16	e52	36	157	39	22	15	4.0	4.6	175
18	e7.6	e11	15	e189	241	112	36	22	17	3.9	3.6	40
19	e8.0	e10	18	e88	85	67	35	22	13	3.4	2.8	25
20	e8.5	e9.8	14	e70	49	54	35	20	69	3.3	8.8	21
21	e9.4	e14	16	e105	40	97	41	19	41	3.3	6.5	392
22	e8.6	e11	17	e108	35	161	49	19	22	3.3	12	204
23	e9.6	e10	17	e65	32	67	58	54	17	3.3	4.8	49
24	e10	e9.5	17	513	32	56	92	110	14	3.0	21	30
25	e9.4	e17	18	e138	32	51	44	48	11	6.8	138	24
26	e9.0	69	e15	62	32	45	39	25	12	45	129	21
27	e9.2	26	e13	48	30	43	36	21	10	7.2	131	20
28	e10	14	e16	43	98	42	35	19	18	4.5	43	38
29	e12	12	e17	39	---	40	35	19	51	3.9	16	27
30	e14	11	22	36	---	38	33	18	29	3.7	8.9	594
31	e13	---	e16	28	---	37	---	17	---	5.1	6.3	---
TOTAL	413.7	458.3	582	2653	1418	2661	1489	1143	639.7	277.6	630.73	3957.5
MEAN	13.3	15.3	18.8	85.6	50.6	85.8	49.6	36.9	21.3	8.95	20.3	132
MAX	111	69	67	513	241	432	97	216	69	45	138	1060
MIN	4.1	9.0	11	12	27	37	33	17	9.7	3.0	.93	5.6
CFSM	.23	.26	.32	1.48	.87	1.48	.86	.64	.37	.15	.35	2.28
IN.	.27	.29	.37	1.70	.91	1.71	.96	.73	.41	.18	.41	2.54

01646000 DIFFICULT RUN NEAR GREAT FALLS, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	39.9	50.6	60.4	75.5	82.6	90.6	82.0	71.5	67.2	40.8	38.0	37.9
MAX	317	116	165	194	228	227	224	203	1210	115	143	245
(WY)	1980	1973	1997	1996	1998	1993	1973	1989	1972	1975	1955	1975
MIN	4.69	7.75	11.4	16.5	32.4	33.2	31.5	21.8	10.0	4.52	1.88	5.57
(WY)	1942	1942	1966	1966	1942	1981	1985	1955	1986	1955	1966	1986

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1935 - 1999

ANNUAL TOTAL	29899.9		16323.53									
ANNUAL MEAN	81.9		44.7						61.3			
HIGHEST ANNUAL MEAN									184		1972	
LOWEST ANNUAL MEAN									28.4		1966	
HIGHEST DAILY MEAN	1510		Mar 21		1060		Sep 16		e25000		Jun 22 1972	
LOWEST DAILY MEAN	4.1		Oct 3		.93		Aug 13		.10		aSep 7 1966	
ANNUAL SEVEN-DAY MINIMUM	5.6		Sep 10		1.3		Aug 7		.16		Sep 3 1966	
INSTANTANEOUS PEAK FLOW					1680		Sep 16		32200		Jun 22 1972	
INSTANTANEOUS PEAK STAGE					8.42		Sep 16		b21.40		Jun 22 1972	
INSTANTANEOUS LOW FLOW					.60		Aug 13		.05		cSep 9 1966	
ANNUAL RUNOFF (CFSM)	1.41				.77				1.06			
ANNUAL RUNOFF (INCHES)	19.21				10.49				14.37			
10 PERCENT EXCEEDS	171				93				105			
50 PERCENT EXCEEDS	41				22				38			
90 PERCENT EXCEEDS	8.0				5.3				13			

- a Also Sep 8, 9, 1966.
- b From floodmarks.
- c Also Sep 10, 1966.
- e Estimated.

