

RAPPAHANNOCK RIVER BASIN

01665500 RAPIDAN RIVER NEAR RUCKERSVILLE, VA

LOCATION.--Lat 38°16'48", long 78°20'27", Madison County, Hydrologic Unit 02080103, on left bank 10 ft downstream from bridge on U.S. Highway 29, 0.2 mi downstream from Elk Run, 1.7 mi upstream from White Run, 3.6 mi northeast of Ruckersville, and at mile 63.5.

DRAINAGE AREA.--114 mi².

PERIOD OF RECORD.--September 1942 to June 1995, October 1998 to current year.

REVISED RECORDS.--WSP 1171: 1944-45(M). WSP 1382: 1943(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 439.44 ft above sea level.

REMARKS.--Records good except those for period with ice effect, Jan. 6-9, and period of no gage-height record, Jul. 2-14, which are fair. Diversion 0.4 mi upstream from station since 1973 by Rapidan Service Authority for municipal water supply of Greene County and town of Stanardsville averaged about 0.76 ft³/s. Maximum discharge, 106,000 ft³/s, from rating curve extended above 8,700 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 FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 24	0945	2,530	5.74	Sep 30	0130	*24,700	*14.63
Sep 6	2200	1,610	4.89				

Minimum discharge, 0.85 ft³/s, Aug 12, gage height, 1.14 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	16	23	33	133	106	143	61	35	14	3.9	10
2	6.6	16	22	31	193	93	138	59	34	e17	3.5	8.9
3	6.6	24	22	325	168	124	125	58	32	e15	3.0	7.1
4	8.1	26	23	174	149	235	126	58	30	e26	2.6	9.0
5	8.6	23	24	108	134	170	122	57	29	e19	2.6	219
6	9.9	21	24	e89	127	162	113	57	28	e14	3.2	503
7	12	21	23	e72	124	155	107	58	27	e11	2.7	617
8	138	20	32	e64	119	141	103	106	25	e9.2	2.4	230
9	71	21	90	e75	109	146	105	80	22	e11	2.4	180
10	40	21	60	91	103	142	103	66	21	e9.0	2.1	192
11	30	34	45	84	97	137	107	61	23	e8.0	1.9	115
12	24	34	39	75	94	141	103	57	24	e7.3	1.3	92
13	21	30	56	79	91	136	93	56	24	e6.9	1.6	77
14	19	27	60	93	85	170	89	76	24	e9.6	5.2	68
15	17	27	50	187	82	462	92	74	22	13	6.6	68
16	17	24	44	154	80	294	93	61	19	10	3.5	257
17	16	23	40	120	80	248	85	58	24	8.4	2.3	187
18	16	23	37	174	178	268	82	57	28	7.7	1.5	137
19	16	22	35	172	162	264	79	56	22	20	2.0	117
20	16	23	34	137	137	237	78	53	25	17	76	103
21	15	23	34	123	122	281	78	50	31	18	18	207
22	15	23	32	114	112	299	78	56	27	32	10	228
23	15	23	32	255	105	265	79	78	22	23	6.6	172
24	17	22	36	1370	102	246	86	66	19	14	5.9	142
25	16	22	33	616	99	222	75	59	17	13	7.6	120
26	16	27	32	376	95	199	71	51	16	11	35	104
27	15	25	34	281	91	183	69	46	15	6.6	89	99
28	16	24	33	227	103	169	67	44	21	7.4	38	560
29	16	24	33	189	---	155	65	42	20	8.5	23	3020
30	16	23	33	162	---	143	63	39	15	6.4	15	7230
31	16	---	30	142	---	133	---	37	---	4.7	12	---
TOTAL	674.9	712	1145	6192	3274	6126	2817	1837	721	397.7	390.4	15079.0
MEAN	21.8	23.7	36.9	200	117	198	93.9	59.3	24.0	12.8	12.6	503
MAX	138	34	90	1370	193	462	143	106	35	32	89	7230
MIN	6.6	16	22	31	80	93	63	37	15	4.7	1.3	7.1
CFSM	.19	.21	.32	1.75	1.03	1.73	.82	.52	.21	.11	.11	4.41
IN.	.22	.23	.37	2.02	1.07	2.00	.92	.60	.24	.13	.13	4.92

01665500 RAPIDAN RIVER NEAR RUCKERSVILLE, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1995, 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	130	138	159	175	197	245	226	177	165	79.0	90.6	87.4
MAX	976	798	465	483	485	570	692	376	1675	378	760	598
(WY)	1943	1986	1951	1978	1984	1993	1983	1978	1995	1949	1955	1979
MIN	9.44	23.7	20.4	21.0	52.4	79.7	72.8	48.0	23.3	6.99	6.32	5.83
(WY)	1964	1999	1966	1981	1989	1981	1981	1977	1977	1977	1966	1954

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1943 - 1995
1999

ANNUAL TOTAL	39366.0		
ANNUAL MEAN	108		154
HIGHEST ANNUAL MEAN			337
LOWEST ANNUAL MEAN			70.6
HIGHEST DAILY MEAN	7230	Sep 30	e29400
LOWEST DAILY MEAN	1.3	Aug 12	.90
ANNUAL SEVEN-DAY MINIMUM	2.1	Aug 7	1.1
INSTANTANEOUS PEAK FLOW	24700	Sep 30	106000
INSTANTANEOUS PEAK STAGE	14.63	Sep 30	a31.30
INSTANTANEOUS LOW FLOW	.85	Aug 12	(b)
ANNUAL RUNOFF (CFSM)	.95		1.35
ANNUAL RUNOFF (INCHES)	12.85		18.34
10 PERCENT EXCEEDS	181		308
50 PERCENT EXCEEDS	44		97
90 PERCENT EXCEEDS	8.6		20

- a From floodmarks.
- b Not determined.
- c Probably occurred Sep 12, 1966.
- e Estimated.

