01674500 MATTAPONI RIVER NEAR BEULAHVILLE, VA

LOCATION.--Lat 37°53'16", long 77°09'47", NAD83, King William County, Hydrologic Unit 02080105, on right bank, 10 ft upstream from bridge on State Highway 628, 2.4 mi north of Beulahville, and 3.3 mi downstream from Maracossic Creek.

DRAINAGE AREA.--601 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1941 to September 1987, October 1989 to current year.

REVISED RECORDS.--WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 12.43 ft above sea level (levels by Virginia Department of Transportation). Prior to Oct. 14, 1942, nonrecording gage. Oct. 14, 1942, to Aug. 8, 1974, water-stage recorder on right bank at site 0.6 mi upstream at same datum. Aug. 8 1974, water-stage recorder on left bank 80 ft downstream from previous site, at same datum. Sept. 8, 1987, to Aug. 31, 1989, nonrecording gage on downstream side of bridge at same datum. Sept. 1, 1989, to Mar. 31, 1994, water-stage recorder on upstream side of bridge at same datum. Apr. 1, 1994, to Sept. 28, 1995, nonrecording gage on downstream side of bridge at same datum. Sept. 29, 1995, water-stage recorder at present site and datum.

REMARKS.--Records good except those for period of partial gage-height record, Dec. 23-25, which is fair, and periods with ice effect, Dec. 26-28 and Jan. 4-6, which are poor. Diurnal fluctuation at times during low flow caused by gristmill on Po River. Maximum discharge, 16,900 ft^3/s, from rating curve extended above 11,760 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	44	210	179	346	369	1500	252	647	80	279	68
2	165	41	174	172	336	337	1640	238	455	80	272	56
3	132	42	148	157	314	307	1850	224	438	74	209	49
4	110	43	130	e150	288	291	2090	213	431	69	133	43
5	95	42	120	e145	289	318	1990	199	403	66	89	39
6	86	54	115	e145	335	343	1380	181	409	72	148	36
7	76	59	112	150	365	363	744	167	516	68	100	31
8	67	56	111	153	360	358	606	161	757	66	67	27
9	60	52	109	176	338	345	550	162	995	81	52	24
10	55	59	106	194	315	339	509	154	1080	79	44	22
11	51	70	107	206	286	304	653	149	686	77	46	25
12	49	69	106	205	262	263	814	139	382	65	84	28
13	46	75	104	195	257	260	852	131	286	54	198	25
14	42	75	112	182	263	271	837	121	231	46	226	23
15	39	98	129	185	283	284	763	114	203	39	207	20
16	39	102	137	190	315	320	659	105	252	35	175	19
17	41	103	384	196	416	338	598	105	338	33	129	17
18	41	114	862	192	485	340	583	106	378	30	101	16
19	40	111	1090	223	497	320	565	112	313	31	81	16
20	39	94	1110	468	465	297	513	135	244	29	69	16
21	41	86	855	791	419	392	463	165	195	27	58	52
22	39	87	534	963	373	732	426	243	160	25	49	94
23	36	82	e379	1050	349	910	400	342	189	24	43	68
24	35	75	e300	1090	346	1040	375	457	187	23	78	53
25	39	75	e251	982	359	1160	364	533	184	22	101	42
26	38	161	e230	638	386	1280	345	581	169	20	92	46
27	39	242	e220	475	396	1290	327	741	141	23	77	41
28	42	289	e210	398	392	721	318	929	124	30	99	37
29	45	284	199	357	---	491	301	1090	110	52	107	32
30	44	251	197	330	---	841	276	1240	92	188	96	27
31	40	---	186	333	---	1260	---	1270	---	210	82	---
TOTAL	1935	3035	9037	11270	9835	16484	23291	10759	10995	1818	3591	1092
MEAN	62.4	101	292	364	351	532	776	347	366	58.6	116	36.4
MAX	224	289	1110	1090	497	1290	2090	1270	1080	210	279	94
MIN	35	41	104	145	257	260	276	105	92	20	43	16
CFSM	.10	.17	.49	.60	.58	.88	1.29	.58	.61	.10	.19	.06
IN.	.12	.19	.56	.70	.61	1.02	1.44	.67	.68	.11	.22	.07

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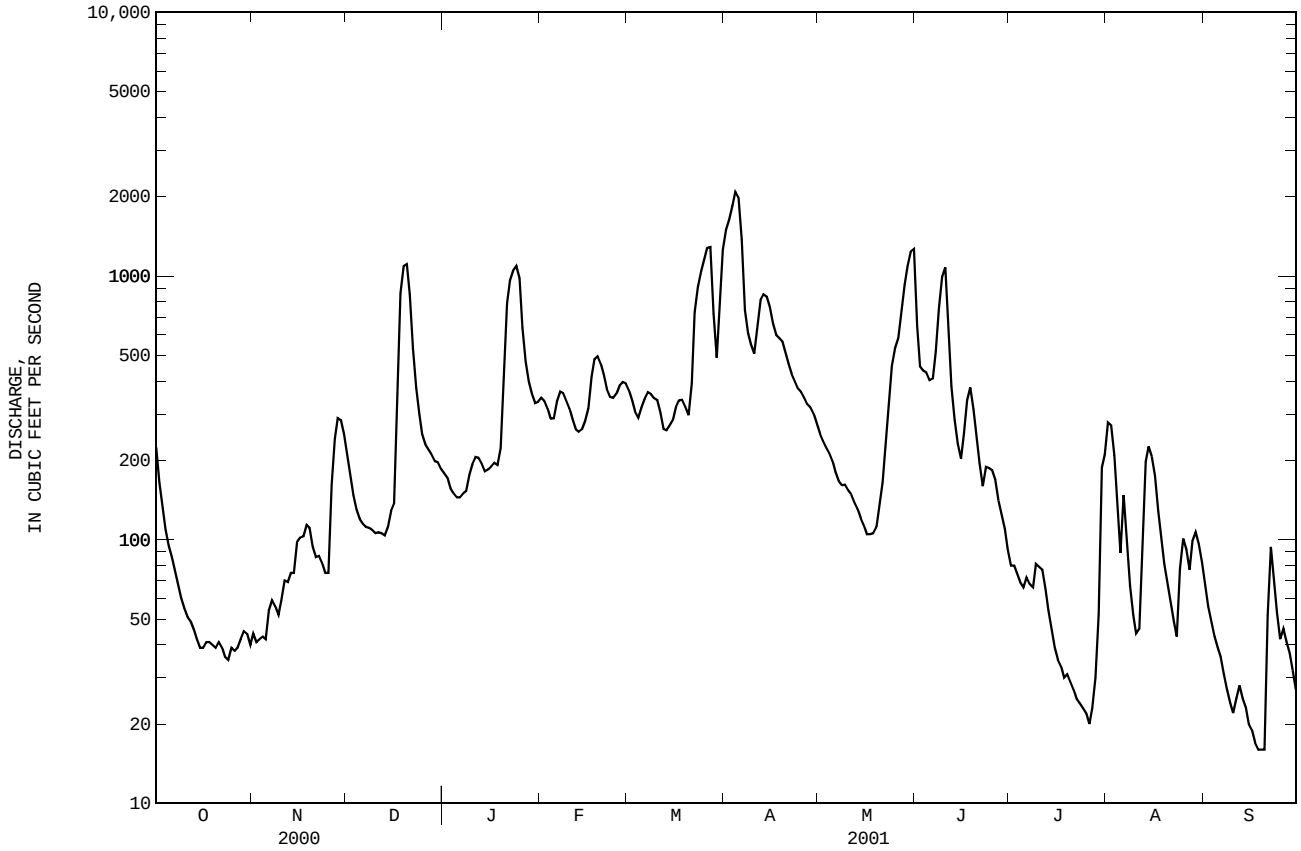
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1987, 1989 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	311	416	615	793	916	1072	954	640	401	285	320	230
MAX	1801	1461	2115	2418	3100	2483	3291	1912	3217	2119	2409	1287
(WY)	1980	1973	1949	1978	1998	1979	1984	1978	1972	1945	1969	1975
MIN	26.1	49.9	96.8	131	277	229	288	88.5	22.1	34.2	20.3	17.4
(WY)	1942	1992	1966	1981	1999	1981	1995	1999	1999	1999	1977	1980

SUMMARY STATISTICS	**FOR 2000 CALENDAR YEAR**		**FOR 2001 WATER YEAR**		**WATER YEARS 1942 - 1987 1989 - 2001**	
ANNUAL TOTAL	123278		103142			
ANNUAL MEAN	337		283		577	
HIGHEST ANNUAL MEAN					1210	1972
LOWEST ANNUAL MEAN					185	1981
HIGHEST DAILY MEAN	1660	May 1	2090	Apr 4	16200	Jun 25 1972
LOWEST DAILY MEAN	35	Oct 24	16	Sep 18	.78	Aug 13 1999
ANNUAL SEVEN-DAY MINIMUM	38	Oct 20	18	Sep 14	1.4	Aug 7 1999
MAXIMUM PEAK FLOW			2140	Apr 4	16900	Jun 25 1972
MAXIMUM PEAK STAGE			12.40	Apr 4	24.09	Aug 23 1969
INSTANTANEOUS LOW FLOW			15	aSep 18	.70	Aug 13 1999
ANNUAL RUNOFF (CFSM)	.56		.47		.96	
ANNUAL RUNOFF (INCHES)	7.63		6.38		13.05	
10 PERCENT EXCEEDS	715		725		1310	
50 PERCENT EXCEEDS	260		175		362	
90 PERCENT EXCEEDS	61		39		61	

a Also Sept. 19, 20, 2001.
e Estimated.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968, 1969, 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1991 to September 1994.
WATER TEMPERATURE: October 1991 to September 1994.

COOPERATION.--Water samples, as noted, were collected by the U.S. Geological Survey and analyzed by the Virginia Division of Consolidated Laboratory Services (VDCLS), 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 2000 TO SEPTEMBER 2001

DATE	TIME	SAMPLE TYPE	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	TUR-BID-ITY (NTU) (00076)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)
OCT												
23...	1015	ENVIRONMENTAL	12.7	7.5	773	USGS	VDCLS	36	2.09	4.2	56	8.9
NOV												
28...	0915	ENVIRONMENTAL	5.8	3.5	759	USGS	VDCLS	287	4.76	7.8	63	13.2
30...	1015	ENVIRONMENTAL	4.9	5.5	759	USGS	VDCLS	254	4.50	5.1	67	11.9
DEC												
18...	0900	ENVIRONMENTAL	6.0	1.0	760	USGS	VDCLS	813	7.92	65	50	11.7
27...	1015	ENVIRONMENTAL	.1	-1.0	763	USGS	VDCLS	302	4.87	9.3	65	16.3
27...	1030	REPLICATE	.1	-1.0	763	USGS	VDCLS	302	4.87	11	65	16.3
JAN												
22...	0845	ENVIRONMENTAL	1.7	-2.5	760	USGS	VDCLS	952	8.52	24	56	7.1
22...	0900	REPLICATE	1.7	-2.5	760	USGS	VDCLS	952	8.52	20	56	7.1
29...	0930	ENVIRONMENTAL	2.0	0.0	763	USGS	VDCLS	360	5.13	11	62	13.1
FEB												
20...	1000	ENVIRONMENTAL	5.7	11.0	764	USGS	VDCLS	468	5.83	8.5	61	12.6
MAR												
07...	1100	ENVIRONMENTAL	6.1	4.5	750	USGS	VDCLS	363	5.14	6.2	63	14.3
07...	1105	REPLICATE	6.1	4.5	750	USGS	USGS	364	5.14	--	63	14.3
23...	0945	ENVIRONMENTAL	9.2	12.5	755	USGS	VDCLS	897	8.20	15	61	9.6
26...	0945	ENVIRONMENTAL	9.2	6.0	759	USGS	VDCLS	1270	9.72	22	58	9.2

DATE	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	RESIDUE FIXED NON FILTER-ABLE (MG/L) (00540)	NITROGN TOTAL SEDIMNT SUSP TOTAL AS N (MG/L) (00601)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
OCT													
23...	6.3	<3	<3	<3	.01	.27	.004	M	.020	--	--	.020	--
NOV													
28...	7.2	8	3	5	.08	.39	<.004	<.002	.069	--	--	.069	--
30...	6.7	4	3	<3	.05	.50	.005	<.002	.052	--	--	.052	--
DEC													
18...	6.9	54	10	44	.29	.59	.010	<.002	.163	--	--	.163	--
27...	6.9	<3	<3	<3	M	.43	.022	<.002	.178	--	--	.178	--
27...	6.9	4	3	<3	.04	.44	.022	<.002	.175	--	--	.175	--
JAN													
22...	6.6	22	4	18	.15	.51	.049	.002	.187	--	--	.189	--
22...	6.6	23	4	19	.14	.51	.042	<.002	.185	--	--	.186	--
29...	7.1	6	<3	4	.06	.52	.025	<.002	.212	--	--	.212	--
FEB													
20...	7.0	6	<3	4	.06	.32	.016	<.002	.104	--	--	.104	--
MAR													
07...	7.1	6	<3	4	.08	.40	.009	<.002	.081	--	--	.081	--
07...	7.1	<10	--	--	--	.38	.010	--	--	.30	.50	.082	.060
23...	6.5	26	5	21	.15	.42	.008	<.002	.087	--	--	.087	--
26...	6.3	14	3	11	.16	.57	.015	<.002	.082	--	--	.082	--

01674500 MATTAPONI RIVER NEAR BEULAHVILLE, VA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS TOTAL SEDIMNT SUSP TOTAL AS P (MG/L) (00667)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	DATA BASE NUMBER
OCT							
23...	.034	.011	.015	.1	5.8	3	01
NOV							
28...	.024	.024	.006	.8	7.5	10	01
30...	.024	.021	.007	.5	8.8	6	01
DEC							
18...	.039	.093	.010	3.0	6.3	66	01
27...	.017	.001	.005	.1	9.1	6	01
27...	.019	.019	.005	.4	9.2	6	02
JAN							
22...	.039	.042	.008	1.5	7.1	33	01
22...	.030	.038	.007	1.3	7.1	33	02
29...	.021	.018	.006	.6	8.9	9	01
FEB							
20...	.022	.024	.009	.5	7.4	10	01
MAR							
07...	.067	.019	.009	.6	13.9	6	01
07...	E.035	--	<.007	--	4.9	--	02
23...	.026	.040	.009	1.3	4.2	32	01
26...	.029	.052	.008	1.2	7.9	34	01

Remark codes used in this report:
< -- Less than
E -- Estimated value

Null value remark codes used in this report:
M -- Presence verified, not quantified