

## YORK RIVER BASIN

01671020 NORTH ANNA RIVER AT HART CORNER, NEAR DOSWELL, VA

LOCATION.--Lat 37°51'00", long 77°25'41", Hanover County, Hydrologic Unit 02080106, on right bank at downstream side of bridge on State Highway 30, 0.3 mi west of Hart Corner, 2.1 mi east of Doswell, and 5.4 mi upstream from confluence with South Anna River.

DRAINAGE AREA.--463 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 43 ft above sea level, from topographic map.

REMARKS.--Records good except those for periods of doubtful gage-height record, Oct. 6, and Aug. 8 to Sept. 30, which are fair. Flow regulated since January 1972 by Lake Anna, capacity, 373,000 acre-ft, 27.7 mi upstream. At a point 0.8 mi upstream from station, there is diversion for municipal water supply by Hanover County Department of Public Utilities since June 1975. Maximum discharge, 12,000 ft<sup>3</sup>/s, from rating curve extended above 10,100 ft<sup>3</sup>/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 in August 1969 reached a stage of 28.02 ft, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,460 ft<sup>3</sup>/s, Mar 16, gage height, 14.70 ft; minimum, 35 ft<sup>3</sup>/s, Aug 10, 11-12.

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	44	57	91	72	82	220	282	71	51	121	75	e43
2	45	114	88	68	96	211	298	69	47	84	74	e42
3	44	122	63	136	107	158	288	67	46	49	72	e42
4	44	95	58	179	110	185	277	67	46	45	68	e45
5	45	50	57	151	100	239	281	66	45	44	45	e123
6	e45	46	57	129	88	219	272	65	45	41	39	e94
7	45	66	58	127	83	186	265	68	45	42	40	e95
8	67	117	57	103	82	166	260	64	44	47	e40	e59
9	87	112	83	80	82	163	257	63	44	68	e42	e63
10	52	109	81	78	81	168	269	63	43	47	e38	e60
11	47	113	75	77	77	168	273	58	43	43	e37	e53
12	45	114	73	75	79	181	273	57	43	43	e39	e47
13	45	110	113	74	93	187	260	57	47	45	e39	e44
14	46	110	114	76	118	179	142	64	52	46	e49	e44
15	45	111	94	92	102	1760	92	58	48	44	e88	e49
16	44	111	87	95	80	3410	88	56	52	42	e52	e1200
17	44	109	77	91	78	2340	85	56	48	42	e46	e1330
18	44	106	73	121	101	884	81	56	47	40	e40	e433
19	44	104	75	217	205	748	81	54	46	40	e40	e186
20	45	101	71	145	181	713	80	53	49	48	e53	e101
21	44	105	69	113	134	725	78	52	50	42	e63	e77
22	52	103	70	91	105	1730	79	51	63	44	e49	e77
23	87	99	68	81	94	953	82	59	75	41	e43	e67
24	83	95	77	233	87	780	106	66	68	40	e44	e60
25	79	93	83	622	85	489	94	63	49	39	e52	e57
26	78	100	68	376	91	333	93	57	43	39	e57	e55
27	82	98	72	203	89	314	92	53	43	38	e61	e60
28	120	95	81	135	97	301	76	51	44	40	e63	e91
29	66	93	102	107	---	292	75	62	56	44	e52	e182
30	44	91	101	107	---	284	72	91	96	73	e48	e371
31	43	---	84	87	---	274	---	83	---	77	e46	---
TOTAL	1745	2949	2420	4341	2807	18960	5051	1920	1518	1538	1594	5250
MEAN	56.3	98.3	78.1	140	100	612	168	61.9	50.6	49.6	51.4	175
MAX	120	122	114	622	205	3410	298	91	96	121	88	1330
MIN	43	46	57	68	77	158	72	51	43	38	37	42
(†)	184	173	174	150	134	114	105	127	133	157	149	129
MEAN†	62.2	104	83.7	145	105	615	172	66.0	55.0	54.7	56.2	179
CFSM†	.13	.22	.18	.31	.23	1.33	.37	.14	.12	.12	.12	.39
IN.†	.15	.25	.21	.36	.24	1.53	.41	.16	.13	.14	.14	.43

CAL YR 1998 TOTAL 244462 MEAN 670 MAX 9070 MIN 43 MEAN† 675 CFSM† 1.46 IN.† 19.80  
WTR YR 1999 TOTAL 50093 MEAN 137 MAX 3410 MIN 37 MEAN† 142 CFSM† .31 IN.† 4.16

† Total diversion, equivalent in cubic feet per second, per month, provided by Hanover county Department of Public Utilities.

‡ Adjusted for diversion.

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	219	339	400	570	715	857	662	449	246	167	164	152
MAX	1428	1561	1320	1389	2660	2345	1887	1217	795	591	614	1185
(WY)	1980	1986	1997	1998	1998	1994	1983	1990	1995	1984	1984	1996
MIN	43.7	46.7	75.2	71.9	100	90.5	108	61.9	50.6	49.6	51.4	46.1
(WY)	1992	1992	1981	1981	1999	1981	1981	1999	1999	1999	1999	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR
ANNUAL TOTAL	244462	50093				
ANNUAL MEAN	670	137			410	
HIGHEST ANNUAL MEAN					731	1998
LOWEST ANNUAL MEAN					85.7	1981
HIGHEST DAILY MEAN	e9070	Feb 6	3410	Mar 16	10900	Mar 30 1994
LOWEST DAILY MEAN	43	Oct 31	e37	Aug 11	36	Oct 8 1991
ANNUAL SEVEN-DAY MINIMUM	44	Sep 28	e39	Aug 6	39	aOct 4 1991
INSTANTANEOUS PEAK FLOW			3460	Mar 16	12000	Mar 29 1994
INSTANTANEOUS PEAK STAGE			14.70	Mar 16	21.80	Mar 29 1994
INSTANTANEOUS LOW FLOW			b35	cAug 10	b35	cAug 10 1999
ANNUAL RUNOFF (CFSM)	1.45		.30		.89	
ANNUAL RUNOFF (INCHES)	19.64		4.02		12.04	
10 PERCENT EXCEEDS	1670		246		872	
50 PERCENT EXCEEDS	120		75		167	
90 PERCENT EXCEEDS	45		44		57	

- a Also Aug 6, 1999.
- b May have been lower.
- c Also Aug 11-12, 1999.
- e Estimated.

