

JAMES RIVER BASIN

02030000 HARDWARE RIVER BELOW BRIERY CREEK, NEAR SCOTTSVILLE, VA

LOCATION.--Lat 37°48'45", long 78°27'20", Fluvanna County, Hydrologic Unit 02080203, on left bank 75 ft upstream from bridge on State Highway 637, 0.8 mi downstream from Briery Creek, 2.4 mi northeast of Scottsville, and 10.8 mi upstream from mouth.

DRAINAGE AREA.--116 mi².

PERIOD OF RECORD.--October 1938 to September 1995, October 1996 to current year. Monthly discharge only for some periods, published in WSP 1303. Published as "below Briery Run" prior to October 1990.

REVISED RECORDS.--WSP 952: 1941(M). WSP 1002: 1940, 1943. WSP 1032: 1940, 1944.

GAGE.--Water-stage recorder. Datum of gage is 294.96 ft above sea level.

REMARKS.--Records good except for periods of doubtful gage-height record, Apr. 23 to May 7, and Jul. 18-27, which are fair. Maximum discharge, 52,000 ft³/s, from rating curve extended above 18,000 ft³/s on basis of slope-area measurements at gage heights 23.8 ft and 31.0 ft. Minimum gage height, 0.81 ft, Sep. 8, 1966. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 30	1045	*5,970	*15.73	No other peak greater than base discharge.			
Minimum discharge, 1.3 ft ³ /s, Aug 19, gage height, 1.15 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	14	24	30	42	80	89	95	e43	29	17	5.2	4.0
2	13	25	29	44	214	75	122	e42	29	35	4.2	2.9
3	12	32	27	163	182	74	96	e40	32	19	3.8	4.7
4	14	50	28	180	133	140	89	e43	29	13	4.1	4.9
5	18	31	27	105	109	98	83	e40	26	11	3.0	158
6	21	27	28	98	96	88	78	e60	25	8.8	2.6	135
7	26	27	28	101	89	84	76	e50	24	8.8	2.5	138
8	62	27	29	63	83	74	73	98	22	17	2.4	66
9	89	28	81	65	75	74	74	74	20	16	2.5	49
10	36	28	75	92	72	78	73	54	18	9.4	2.4	379
11	26	34	43	79	68	78	75	48	18	8.5	2.4	97
12	23	39	33	61	69	73	84	45	20	8.6	2.4	56
13	22	31	85	53	70	68	70	54	20	12	2.3	43
14	21	30	98	57	64	131	66	161	19	15	2.2	35
15	20	30	61	128	62	932	67	106	19	12	2.2	35
16	20	29	46	123	62	456	75	70	16	10	2.2	175
17	20	28	40	90	63	229	66	60	21	8.1	2.1	147
18	21	28	35	135	125	169	63	55	25	e7.0	2.1	74
19	21	28	31	149	124	135	62	51	20	e9.0	1.7	55
20	24	29	30	103	90	118	62	47	18	e8.0	4.0	47
21	22	33	30	92	78	148	62	43	24	e17	11	46
22	20	29	29	86	71	185	62	44	25	e15	8.0	56
23	21	28	28	95	66	135	e60	144	21	e12	5.4	43
24	23	29	37	699	65	124	e63	69	16	e12	4.5	36
25	24	31	39	379	64	118	e68	55	14	e14	6.9	32
26	24	36	30	183	63	105	e56	46	14	e11	45	30
27	24	41	44	137	62	98	e63	41	13	e8.0	19	30
28	25	33	44	117	73	93	e60	37	14	5.7	11	53
29	24	31	42	101	---	87	e58	34	14	5.6	7.8	185
30	23	30	41	90	---	81	e46	33	11	6.8	6.1	e3410
31	24	---	33	82	---	78	---	31	---	7.0	5.0	---
TOTAL	777	926	1281	3992	2472	4515	2147	1818	616	367.3	186.0	5626.5
MEAN	25.1	30.9	41.3	129	88.3	146	71.6	58.6	20.5	11.8	6.00	188
MAX	89	50	98	699	214	932	122	161	32	35	45	3410
MIN	12	24	27	42	62	68	46	31	11	5.6	1.7	2.9
CFM	.22	.27	.36	1.11	.76	1.26	.62	.51	.18	.10	.05	1.62
IN.	.25	.30	.41	1.28	.79	1.45	.69	.58	.20	.12	.06	1.80

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1995, 1997 - 1999 BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	90.0	100	132	156	189	218	184	137	108	76.9	97.6	83.9
MAX	370	514	514	448	664	613	604	398	560	273	1155	750
(WY)	1977	1986	1949	1998	1998	1993	1983	1989	1972	1975	1969	1944
MIN	11.4	17.5	20.5	25.0	50.3	35.1	39.5	36.0	20.5	9.45	4.71	7.93
(WY)	1942	1942	1966	1966	1954	1981	1981	1981	1999	1966	1966	1954

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1939 - 1995 1997 - 1999

ANNUAL TOTAL	76519.0		24723.8					
ANNUAL MEAN	210		67.7				131	
HIGHEST ANNUAL MEAN							249	
LOWEST ANNUAL MEAN							39.0	
HIGHEST DAILY MEAN	3140		Jan 28		e3410		Sep 30	
LOWEST DAILY MEAN	8.0		Sep 29		1.7		Aug 19	
ANNUAL SEVEN-DAY MINIMUM	10		Sep 24		2.1		Aug 13	
INSTANTANEOUS PEAK FLOW					5970		Sep 30	
INSTANTANEOUS PEAK STAGE					15.73		Sep 30	
INSTANTANEOUS LOW FLOW					1.3		Aug 19	
ANNUAL RUNOFF (CFSM)	1.81				.58			
ANNUAL RUNOFF (INCHES)	24.54				7.93		15.30	
10 PERCENT EXCEEDS	430				122		239	
50 PERCENT EXCEEDS	98				40		82	
90 PERCENT EXCEEDS	22				8.0		26	

a From floodmarks.
 b Also Sep 6-8, 1966.
 e Estimated.

