

## 03453500 FRENCH BROAD RIVER AT MARSHALL, NC

LOCATION.--Lat 35°47'10", long 82°39'38", Madison County, Hydrologic Unit 06010105, on right bank 0.7 mi upstream from Hayes Creek, 1.0 mi downstream of Ivy River, 1.5 mi southeast of Marshall, and at mile 126.7.

DRAINAGE AREA.--1,332 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1942 to current year.

REVISED RECORDS.--WSP 1436: 1954(M).

GAGE.--Water-stage recorder. Datum of gage is 1,646.79 ft above NGVD of 1929 (levels by Tennessee Valley Authority). Satellite and telephone telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Small diversions from tributaries for water supply. Slight diurnal fluctuation and occasional slight regulation at low flow caused by small reservoirs upstream from station. Prior to July 1963, some regulation by Weaver plant of Carolina Power and Light Company 15 mi upstream, after November 1986 the same power plant was operated by the Metropolitan Sewage Treatment Plant. Minimum discharge for period of record also occurred Sept. 14, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage observed since at least 1791: 22.0 ft, July 16, 1916; discharge: 115,000 ft<sup>3</sup>/s. Flood of Aug. 30, 1940, reached a stage of 16.6 ft; discharge, 70,000 ft<sup>3</sup>/s, from high water marks, flood profiles, and studies by Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,890	1,260	1,390	2,930	1,660	3,520	2,750	2,790	2,810	2,350	3,620	2,780
2	1,560	1,180	1,330	3,500	1,560	3,210	2,610	3,390	2,610	8,190	3,560	4,410
3	1,350	1,130	1,310	3,340	1,500	2,960	2,490	3,890	2,570	8,400	3,260	3,280
4	1,220	1,080	1,330	3,120	1,710	2,690	2,390	3,210	2,950	7,380	4,320	2,830
5	1,120	1,050	2,440	2,800	1,790	2,530	2,650	3,890	2,860	5,840	5,980	2,510
6	1,060	1,430	3,680	2,620	1,680	4,780	2,810	17,500	2,570	5,180	3,920	2,170
7	1,020	1,830	2,660	2,440	1,670	5,410	3,170	17,200	3,820	4,500	3,380	2,000
8	958	1,440	2,140	2,310	1,670	4,060	4,630	13,700	6,740	3,740	4,040	1,920
9	911	1,270	1,910	2,230	1,550	3,410	4,650	10,700	5,990	4,080	3,350	1,830
10	890	1,220	1,790	2,120	1,540	3,050	8,070	8,570	4,250	3,980	3,120	1,730
11	944	2,190	3,110	2,020	1,610	2,760	11,200	5,960	3,400	3,450	3,190	1,660
12	937	4,840	3,550	1,910	1,600	2,570	8,770	4,840	3,380	2,910	3,110	1,600
13	909	4,090	3,290	1,840	1,510	2,430	6,600	4,220	3,150	2,930	2,890	1,550
14	857	2,800	4,950	1,810	1,560	2,350	5,380	3,780	3,050	3,230	e2,800	1,520
15	922	2,250	3,940	1,760	3,350	2,230	4,510	3,610	3,140	3,050	e2,750	1,650
16	3,690	3,480	3,060	1,700	2,940	2,860	3,970	3,700	3,390	2,860	2,650	1,840
17	3,690	5,970	2,640	1,710	2,950	3,140	3,630	3,540	3,660	3,050	2,520	1,600
18	2,120	4,390	2,340	e1,660	2,800	2,790	5,520	3,750	3,220	3,060	2,520	1,460
19	1,580	3,120	2,170	e1,660	2,440	2,960	5,910	4,000	4,740	3,670	2,360	1,410
20	1,380	2,560	3,760	e1,670	2,270	7,180	4,740	3,600	3,540	3,270	2,140	1,360
21	1,260	2,420	4,750	e1,700	2,130	8,760	4,180	3,360	2,970	2,710	2,200	1,330
22	1,260	2,420	3,390	1,680	7,820	7,500	4,130	5,310	2,620	2,910	2,460	1,550
23	1,210	2,130	2,830	e1,740	11,900	5,260	3,740	6,570	2,410	3,000	2,280	5,870
24	1,140	1,920	5,240	e1,800	8,910	4,120	3,340	5,640	2,270	2,720	2,090	5,120
25	1,070	1,780	7,920	e1,790	6,550	3,590	3,110	5,220	2,140	2,350	1,960	3,280
26	1,050	1,710	6,460	e1,760	4,380	3,260	3,030	4,480	2,060	2,130	1,830	2,250
27	1,120	1,630	4,360	e1,670	4,090	3,030	2,920	3,800	1,990	2,010	1,740	2,050
28	1,120	1,550	3,510	e1,640	3,970	2,840	2,740	3,410	2,090	1,930	1,710	2,290
29	1,220	1,480	3,080	e1,660	---	2,730	2,580	3,270	2,110	2,010	1,830	2,010
30	1,470	1,440	2,790	e1,700	---	3,060	2,650	3,220	2,130	2,720	1,950	1,780
31	1,420	---	2,580	1,790	---	3,140	---	3,030	---	3,150	2,530	---
TOTAL	42,348	67,060	99,700	64,080	89,110	114,180	128,870	173,150	94,630	112,760	88,060	68,640
MEAN	1,366	2,235	3,216	2,067	3,182	3,683	4,296	5,585	3,154	3,637	2,841	2,288
MAX	3,690	5,970	7,920	3,500	11,900	8,760	11,200	17,500	6,740	8,400	5,980	5,870
MIN	857	1,050	1,310	1,640	1,500	2,230	2,390	2,790	1,990	1,930	1,710	1,330
CFSM	1.03	1.68	2.41	1.55	2.39	2.77	3.22	4.19	2.37	2.73	2.13	1.72
IN.	1.18	1.87	2.78	1.79	2.49	3.19	3.60	4.84	2.64	3.15	2.46	1.92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2003, BY WATER YEAR (WY)

MEAN	1,743	1,991	2,400	2,888	3,309	3,731	3,395	2,685	2,169	1,761	1,754	1,533
MAX	8,172	5,640	5,465	6,279	7,373	7,170	6,149	5,585	4,191	5,071	4,905	3,857
(WY)	(1965)	(1980)	(1962)	(1998)	(1998)	(1975)	(1983)	(2003)	(1989)	(1949)	(1994)	(1950)
MIN	450	651	778	715	1,547	1,235	1,191	1,066	700	708	577	384
(WY)	(1955)	(1955)	(1956)	(1956)	(2002)	(1988)	(1986)	(1988)	(1988)	(1986)	(2002)	(1954)

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1943 - 2003	
ANNUAL TOTAL	613,006		1,142,588		2,442	
ANNUAL MEAN	1,679		3,130		3,573	
HIGHEST ANNUAL MEAN					1,229	1949
LOWEST ANNUAL MEAN					1,229	1988
HIGHEST DAILY MEAN	7,920	Dec 25	17,500	May 6	30,800	Oct 5, 1964
LOWEST DAILY MEAN	356	Sep 13	857	Oct 14	292	Sep 27, 1954
ANNUAL SEVEN-DAY MINIMUM	384	Sep 8	910	Oct 9	313	Sep 24, 1954
MAXIMUM PEAK FLOW			23,700	May 6	54,000	Nov 6, 1977
MAXIMUM PEAK STAGE			8.58	May 6	13.64	Nov 6, 1977
INSTANTANEOUS LOW FLOW			685	Nov 5	193*	Sep 13, 1954
ANNUAL RUNOFF (CFSM)	1.26		2.35		1.83	
ANNUAL RUNOFF (INCHES)	17.12		31.91		24.91	
10 PERCENT EXCEEDS	3,110		5,250		4,370	
50 PERCENT EXCEEDS	1,390		2,750		1,950	
90 PERCENT EXCEEDS	616		1,400		889	

e Estimated.  
 \* See REMARKS.

