

03451000 SWANNANOVA RIVER AT BILTMORE, NC

LOCATION.--Lat 35°34'06", long 82°32'41", Buncombe County, Hydrologic Unit 06010105, on left bank at Biltmore, 100 ft downstream of Biltmore Avenue Bridge, 200 ft upstream from Southern Railway bridge, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--130 mi².

PERIOD OF RECORD.--October 1920 to September 1926, May 1934 to current year. Monthly discharge only for some periods, published in WSP 1306.

REVISED RECORDS.--WSP 803: 1921(M), 1923(M), 1925(M). WSP 823: Drainage area. WSP 1306: 1921(M), 1924(M), 1926(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,976.58 ft above NGVD of 1929 (levels by Tennessee Valley Authority). Dec. 1, 1920, to Sept. 30, 1926, nonrecording gage at site 100 ft upstream at same datum. Satellite and telephone telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Considerable regulation from 1925-50 (reservoir silted) by Lake Craig, 3.6 mi upstream from station. City of Asheville diverted an average of 28.6 ft³/s from Burnett Lake (station 03448959) on North Fork Swannanoa River, 20 mi upstream from station. An average of 35.3 ft³/s was discharged downstream of station into the French Broad River as treated sewage effluent. Maximum discharge for period of record, from rating curve extended above 9,100 ft³/s on basis of computation of peak flow over dam 3.6 mi upstream from station. Minimum discharge for period of record occurred several days in Oct. 1941. Minimum discharge for current water year also occurred Oct. 14, 15.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage observed: 26 ft; discharge: 40,000 ft³/s in April 1791, from studies by Tennessee Valley Authority. Flood of July 1916 reached a stage of 20.7 ft; discharge, 23,000 ft³/s, from flood profile by Tennessee Valley Authority. Flood of Aug. 16, 1928 reached a stage of 18.74 ft, from floodmarks; discharge, 17,800 ft³/s. High stages are subject to backwater from French Broad River.

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	31	36	49	187	69	252	142	171	225	192	202	79
2	29	34	48	174	66	230	139	214	207	700	141	67
3	26	33	47	234	65	208	134	178	224	409	221	69
4	24	31	57	202	88	188	129	147	254	302	344	84
5	25	41	175	181	73	175	191	368	228	376	268	73
6	23	51	118	168	69	446	145	1,800	204	327	179	63
7	21	40	100	150	80	329	177	1,590	536	288	282	61
8	21	37	91	137	72	273	162	914	717	244	237	63
9	21	36	85	125	67	237	256	614	586	214	214	58
10	21	37	89	118	74	209	764	475	409	213	228	55
11	26	186	183	107	75	188	853	397	336	191	226	54
12	24	168	121	98	71	172	635	345	343	183	193	55
13	22	110	202	94	67	159	552	301	283	242	166	52
14	21	85	180	90	86	150	458	272	250	208	149	66
15	90	74	171	86	150	141	369	270	302	182	176	107
16	267	248	160	81	164	234	306	295	325	163	177	67
17	77	232	143	83	202	180	267	258	281	152	131	56
18	54	136	131	e80	191	185	909	280	262	161	119	52
19	45	106	128	e78	168	237	693	242	281	200	107	50
20	41	91	253	e76	150	568	502	225	237	146	99	49
21	41	101	202	76	141	487	440	226	207	137	121	48
22	40	89	172	73	876	363	358	486	190	163	134	152
23	37	76	149	e74	835	286	296	398	177	198	124	242
24	35	72	491	e74	498	240	256	379	165	166	99	82
25	35	66	337	74	362	208	235	340	152	142	90	71
26	38	63	252	e72	309	187	221	341	140	127	84	66
27	35	59	206	e72	311	170	196	287	134	117	79	91
28	36	55	180	e72	283	156	182	259	132	109	74	127
29	45	54	160	e74	---	148	168	262	131	129	71	92
30	41	54	144	84	---	203	155	265	129	118	74	81
31	39	---	134	71	---	160	---	248	---	226	82	---
TOTAL	1,331	2,501	4,958	3,365	5,662	7,369	10,290	12,847	8,047	6,725	4,891	2,332
MEAN	42.9	83.4	160	109	202	238	343	414	268	217	158	77.7
MAX	267	248	491	234	876	568	909	1,800	717	700	344	242
MIN	21	31	47	71	65	141	129	147	129	109	71	48
CFSM	0.33	0.64	1.23	0.83	1.56	1.83	2.64	3.19	2.06	1.67	1.21	0.60
IN.	0.38	0.72	1.42	0.96	1.62	2.11	2.94	3.68	2.30	1.92	1.40	0.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003,[@] BY WATER YEAR (WY)

	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
MEAN	96.5	115	138	191	226	274	249	187	136	101	100	84.4
MAX	569	604	385	610	598	740	560	480	387	503	828	421
(WY)	(1965)	(1980)	(1962)	(1995)	(1990)	(1975)	(1936)	(1973)	(1949)	(1949)	(1940)	(1979)
MIN	13.7	27.0	35.3	32.3	65.7	45.7	55.6	45.5	17.7	18.2	13.3	13.8
(WY)	(1955)	(1982)	(1989)	(1956)	(1988)	(1988)	(1986)	(1988)	(1988)	(1986)	(2002)	(1954)

03451000 SWANNANOA RIVER AT BILTMORE, NC—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1921 - 2003 [®]	
ANNUAL TOTAL	27,781.0		70,318		158	
ANNUAL MEAN	76.1		193		277	
HIGHEST ANNUAL MEAN					277	1949
LOWEST ANNUAL MEAN					55.9	1988
HIGHEST DAILY MEAN	491	Dec 24	1,800	May 6	7,560	Aug 13, 1940
LOWEST DAILY MEAN	4.9	Sep 13	21	Oct 7	1.2	Oct 14, 1941
ANNUAL SEVEN-DAY MINIMUM	6.4	Sep 7	22	Oct 4	6.4	Sep 7, 2002
MAXIMUM PEAK FLOW			2,460	May 6	18,400*	Aug 13, 1940
MAXIMUM PEAK STAGE			7.16	May 6	19.00	Aug 13, 1940
INSTANTANEOUS LOW FLOW			19*	Oct 8	1.1*	Oct 9, 1941
ANNUAL RUNOFF (CFSM)	0.59		1.48		1.21	
ANNUAL RUNOFF (INCHES)	7.95		20.12		16.49	
10 PERCENT EXCEEDS	173		360		308	
50 PERCENT EXCEEDS	54		152		104	
90 PERCENT EXCEEDS	13		46		36	

e Estimated.
[®] See PERIOD OF RECORD.
 * See REMARKS.

