

03451000 SWANNANOA 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, and those above 6,500 ft³/s, which are poor. Considerable regulation from 1925-50 (reservoir silted) by Lake Craig, 3.6 mi upstream from station. City of Asheville diverted an average of 27.4 ft³/s from Burnett Lake (station 03448959) on North Fork Swannanoa River, 20 mi upstream from station. An average of 34.9 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.

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.

EXTREMES FOR CURRENT YEAR.--Peak discharges associated with the remnants of Hurricanes Frances and Ivan:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 8	0830	12,900	19.22	Sep 17	1100	9,020	16.74

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	89	125	124	74	109	148	127	124	106	89	203
2	66	85	115	119	91	111	132	148	100	147	106	579
3	60	81	109	114	148	114	128	136	101	227	106	387
4	58	76	120	114	112	112	128	125	166	163	74	252
5	55	109	129	124	108	113	124	117	109	133	60	181
6	54	228	122	122	671	156	122	111	87	117	60	153
7	54	218	111	110	609	169	121	103	80	109	50	1,550
8	53	179	105	104	376	158	122	97	98	93	46	10,200
9	106	147	103	104	278	137	120	121	85	103	44	3,400
10	125	128	228	102	229	130	114	162	83	83	42	1,040
11	100	115	252	96	198	121	123	120	73	73	45	616
12	97	106	198	95	219	115	147	108	119	103	105	863
13	87	103	177	91	192	108	418	129	251	73	76	624
14	84	91	190	88	169	105	360	130	128	65	52	365
15	90	86	171	91	167	115	268	111	351	59	51	555
16	75	86	155	83	157	134	221	101	216	53	47	518
17	72	84	208	82	144	122	192	152	201	58	56	5,760
18	69	95	174	99	139	e130	174	125	149	91	327	1,630
19	65	1,490	169	99	131	e160	159	116	120	60	76	944
20	65	769	152	93	128	147	148	109	105	53	58	660
21	62	420	138	90	128	155	141	100	96	49	58	514
22	62	300	134	88	122	146	128	103	93	60	52	424
23	60	238	132	86	119	137	122	116	91	51	58	363
24	61	205	176	81	116	129	116	104	107	48	115	316
25	60	176	167	88	113	123	110	91	140	62	77	282
26	117	157	157	90	114	119	244	85	170	52	62	256
27	210	145	147	91	118	114	181	87	120	82	70	269
28	121	156	139	90	115	110	148	79	111	58	122	1,090
29	115	146	133	83	112	106	134	92	100	48	97	483
30	104	133	135	81	---	111	127	94	119	77	101	389
31	95	---	134	77	---	174	---	179	---	109	131	---
TOTAL	2,576	6,441	4,705	2,999	5,397	3,990	4,920	3,578	3,893	2,665	2,513	34,866
MEAN	83.1	215	152	96.7	186	129	164	115	130	86.0	81.1	1,162
MAX	210	1,490	252	124	671	174	418	179	351	227	327	10,200
MIN	53	76	103	77	74	105	110	79	73	48	42	153
CFSM	0.64	1.65	1.17	0.74	1.43	0.99	1.26	0.89	1.00	0.66	0.62	8.94
IN.	0.74	1.84	1.35	0.86	1.54	1.14	1.41	1.02	1.11	0.76	0.72	9.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2004, @ BY WATER YEAR (WY)

MEAN	96.3	117	138	190	225	273	248	186	136	101	100	98.4
MAX	569	604	385	610	598	740	560	480	387	503	828	1,162
(WY)	(1965)	(1980)	(1962)	(1995)	(1990)	(1975)	(1936)	(1973)	(1949)	(1949)	(1940)	(2004)
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 SWANNANOVA RIVER AT BILTMORE, NC—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1921 - 2004 [@]	
ANNUAL TOTAL	75,250		78,543			
ANNUAL MEAN	206		215		159	
HIGHEST ANNUAL MEAN					277	1949
LOWEST ANNUAL MEAN					55.9	1988
HIGHEST DAILY MEAN	1,800	May 6	10,200	Sep 8	10,200	Sep 8, 2004
LOWEST DAILY MEAN	48	Sep 21	42	Aug 10	1.2	Oct 14, 1941
ANNUAL SEVEN-DAY MINIMUM	57	Sep 7	50	Aug 5	6.4	Sep 7, 2002
MAXIMUM PEAK FLOW			12,900	Sep 8	18,400*	Aug 13, 1940
MAXIMUM PEAK STAGE			19.22	Sep 8	19.22	Sep 8, 2004
INSTANTANEOUS LOW FLOW			40	Aug 11	1.1*	Oct 9, 1941
ANNUAL RUNOFF (CFSM)	1.59		1.65		1.22	
ANNUAL RUNOFF (INCHES)	21.53		22.48		16.57	
10 PERCENT EXCEEDS	365		272		308	
50 PERCENT EXCEEDS	157		116		104	
90 PERCENT EXCEEDS	69		62		37	

[@] See PERIOD OF RECORD.

* See REMARKS.

e Estimated.

