

Water-Data Report 2008

02074000 SMITH RIVER AT EDEN, NC

Roanoke Basin
Upper Dan Subbasin

LOCATION.--Lat 36°31'32", long 79°45'56" referenced to North American Datum of 1983, Rockingham County, NC, Hydrologic Unit 03010103, on right bank at Eden, 0.3 mi downstream of bridge on North Carolina Highway 14, 0.8 mi upstream from bridge on Secondary Road 1714, 1.2 mi south of Virginia-North Carolina State line, 1.3 mi downstream of Stuart Creek, and 3.9 mi upstream from mouth.

DRAINAGE AREA.--538 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1939 to current year. Prior to October 1970, published as "Smith River at Spray".

REVISED RECORDS.--WSP 1433: 1946 (daily discharges).

GAGE.--Water-stage recorder. Datum of gage is 539.56 ft above NGVD of 1929. Satellite telemetry at station.

REMARKS.—No estimated daily discharges. Records good. Flow regulated since August 1950 by Philpott Lake, 40 mi upstream (usable capacity, 6,325,000,000 ft³). Additional regulation by hydroelectric plant at Martinsville, Virginia, 18 mi upstream. Maximum discharge prior to regulation: 45,600 ft³/s, August 15, 1940, from rating curve extended above 12,000 ft³/s on the basis of computation of peak flow over dam 1.5 mi downstream; gage height: 19.28 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	174	472	364	672	752	330	445	572	189	555	568	249
2	216	436	200	512	842	222	435	563	216	545	529	318
3	375	409	126	427	490	204	437	483	557	509	309	661
4	389	215	275	381	525	273	800	364	563	351	120	726
5	457	161	366	378	566	907	756	343	552	465	255	544
6	322	382	543	219	470	475	1,950	495	522	184	444	745
7	169	374	283	202	553	520	1,290	504	468	211	551	408
8	150	319	278	339	403	852	727	486	327	517	476	246
9	564	421	124	340	341	705	577	7,860	243	565	393	401
10	458	268	121	332	281	465	639	1,690	464	594	136	567
11	219	199	270	212	307	425	516	897	537	520	118	503
12	253	175	438	382	342	485	392	856	529	370	210	467
13	282	389	319	201	504	437	355	808	482	180	383	279
14	183	271	454	185	520	426	321	921	272	159	357	293
15	155	294	275	396	347	419	498	867	229	392	375	293
16	364	439	274	412	391	368	396	855	184	378	441	429
17	350	494	283	371	255	298	385	762	529	306	201	556
18	345	152	456	428	273	325	410	302	399	642	115	306
19	488	144	465	412	525	363	298	303	423	422	353	436
20	472	501	369	306	332	555	350	511	435	160	538	301
21	193	423	308	179	365	382	778	624	389	73	519	202
22	135	306	283	333	370	409	856	462	249	405	560	172
23	292	265	173	350	363	333	772	477	518	458	443	119
24	479	277	361	375	267	269	604	555	563	509	358	371
25	2,140	154	394	196	232	347	405	364	288	499	114	382
26	3,170	138	353	261	327	364	472	336	465	334	358	541
27	2,050	309	339	165	390	371	627	598	514	140	1,430	656
28	707	380	330	221	349	376	1,020	490	358	115	1,900	623
29	544	389	615	315	233	377	1,280	324	194	330	771	325
30	594	365	568	273	---	305	761	428	272	509	516	220
31	461	---	1,080	353	---	258	---	779	---	485	419	---
Total	17,150	9,521	11,087	10,128	11,915	12,845	19,552	25,879	11,930	11,882	14,260	12,339
Mean	553	317	358	327	411	414	652	835	398	383	460	411
Max	3,170	501	1,080	672	842	907	1,950	7,860	563	642	1,900	745
Min	135	138	121	165	232	204	298	302	184	73	114	119
Cfs/m	1.03	0.59	0.66	0.61	0.76	0.77	1.21	1.55	0.74	0.71	0.86	0.76
In.	1.19	0.66	0.77	0.70	0.82	0.89	1.35	1.79	0.82	0.82	0.99	0.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2008^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	511	514	595	695	722	882	875	697	650	516	497	540
Max	1,572	1,530	1,376	1,453	1,633	2,519	3,016	1,567	2,026	1,374	1,454	2,030
(WY)	(1990)	(1986)	(1997)	(1979)	(1998)	(1993)	(1987)	(1978)	(1972)	(1989)	(1985)	(1996)
Min	201	211	267	291	249	331	248	266	146	151	126	165
(WY)	(1952)	(1982)	(2001)	(1989)	(2002)	(1967)	(2002)	(1964)	(2002)	(2002)	(2002)	(2002)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1951 - 2008 ^a	
Annual total	231,002		168,488			
Annual mean	633		460		641	
Highest annual mean					1,010	1987
Lowest annual mean					254	2002
Highest daily mean	6,510	Jan 1	7,860	May 9	16,700	Jun 21, 1972
Lowest daily mean	58	Aug 20	73	Jul 21	46	Aug 14, 1967
Annual seven-day minimum	214	Aug 17	255	Jan 25	100	Aug 10, 2002
Maximum peak flow			14,700	May 9	24,800	Jun 21, 1972
Maximum peak stage			11.30	May 9	16.24	Jun 21, 1972
Instantaneous low flow			45	Jul 21	38	Aug 7, 1967
Annual runoff (cfs)	1.18		0.856		1.19	
Annual runoff (inches)	15.97		11.65		16.18	
10 percent exceeds	1,250		682		1,170	
50 percent exceeds	460		382		456	
90 percent exceeds	200		194		222	

^aRegulated period only (1951-2008). See Remarks.

