

Water-Data Report 2010

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 National Geodetic Vertical Datum of 1929. Satellite telemetry at streamgage.

REMARKS.--No estimated daily discharges. Records fair. 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 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	418	1,560	837	1,630	1,260	1,050	1,920	628	567	316	175	439
2	411	808	1,020	1,440	1,250	1,040	1,870	383	944	392	189	420
3	409	541	2,600	470	1,530	1,070	1,410	535	667	389	446	348
4	147	444	1,300	572	1,500	1,040	372	678	703	166	515	340
5	130	413	976	875	1,630	1,020	488	635	651	152	586	109
6	321	383	747	1,170	2,970	882	995	609	457	368	604	94
7	339	252	849	1,230	1,930	457	944	539	389	564	417	254
8	328	179	1,220	1,070	1,610	574	934	527	436	560	114	468
9	321	282	3,430	955	1,350	973	1,730	313	386	505	97	485
10	341	343	2,100	742	1,470	972	1,230	311	390	739	373	412
11	144	2,730	1,520	810	1,360	1,010	480	450	426	176	457	400
12	123	8,710	1,350	905	1,310	1,460	556	484	482	71	532	122
13	309	2,580	1,330	890	1,080	1,940	1,240	768	314	462	532	105
14	322	1,320	1,710	775	845	1,420	1,470	719	302	679	390	516
15	386	1,050	1,550	889	892	1,260	1,460	741	577	425	138	522
16	345	910	1,490	864	1,000	1,390	1,430	341	566	497	180	389
17	339	1,170	1,370	1,600	949	1,290	1,260	1,130	515	365	485	244
18	143	934	1,490	1,530	899	1,210	916	1,010	480	562	952	221
19	233	1,180	1,030	1,270	955	1,260	797	899	484	282	934	66
20	303	1,080	627	1,340	770	1,090	524	779	280	581	704	61
21	213	814	699	1,360	551	499	521	992	235	493	494	287
22	297	319	1,250	1,810	749	838	510	1,120	471	521	192	432
23	306	609	1,280	1,430	843	1,230	355	281	478	558	163	447
24	324	826	1,120	973	915	1,170	448	365	520	487	494	456
25	207	643	1,780	11,000	945	1,210	460	811	512	372	585	228
26	134	669	3,430	2,980	762	1,210	591	704	456	297	562	382
27	306	602	1,960	4,460	745	1,030	1,200	895	382	375	746	538
28	812	501	2,270	4,280	946	945	1,220	970	378	387	468	871
29	489	371	1,770	3,400	---	1,710	1,190	1,320	498	516	385	554
30	470	508	1,680	1,420	---	1,460	1,070	372	304	496	152	7,560
31	269	---	1,660	1,330	---	1,650	---	275	---	417	359	---
Total	9,639	32,731	47,445	55,470	33,016	35,360	29,591	20,584	14,250	13,170	13,420	17,770
Mean	311	1,091	1,530	1,789	1,179	1,141	986	664	475	425	433	592
Max	812	8,710	3,430	11,000	2,970	1,940	1,920	1,320	944	739	952	7,560
Min	123	179	627	470	551	457	355	275	235	71	97	61
Cfsm	0.58	2.03	2.84	3.33	2.19	2.12	1.83	1.23	0.88	0.79	0.80	1.10
In.	0.67	2.26	3.28	3.84	2.28	2.44	2.05	1.42	0.99	0.91	0.93	1.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2010 ^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	504	519	609	712	724	881	876	696	658	512	493	537
Max	1,572	1,530	1,530	1,789	1,633	2,519	3,016	1,567	2,026	1,374	1,454	2,030
(WY)	(1990)	(1986)	(2010)	(2010)	(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 2009		Water Year 2010		Water Years 1951 - 2010 ^a	
Annual total	249,800		322,446			
Annual mean	684		883		643	
Highest annual mean					1,010	1987
Lowest annual mean					254	2002
Highest daily mean	8,710	Nov 12	11,000	Jan 25	16,700	Jun 21, 1972
Lowest daily mean	77	Aug 17	61	Sep 20	46	Aug 14, 1967
Annual seven-day minimum	214	Sep 8	243	Sep 16	100	Aug 10, 2002
Maximum peak flow			18,200	Jan 25	24,800	Jun 21, 1972
Maximum peak stage			13.99	Jan 25	16.24	Jun 21, 1972
Instantaneous low flow			31	Sep 25	31	Sep 25, 2010
Annual runoff (cfsm)	1.27		1.64		1.19	
Annual runoff (inches)	17.27		22.30		16.23	
10 percent exceeds	1,360		1,530		1,180	
50 percent exceeds	463		604		456	
90 percent exceeds	230		273		222	

^a Regulated period only (1951-2010). See Remarks.

