

## ROANOKE RIVER BASIN

## 02074000 SMITH RIVER AT EDEN, NC

LOCATION.--Lat 36°31'32", long 79°45'56", Rockingham County, Hydrologic Unit 03010103, on right bank at Eden, 0.3 mi downstream of bridge on State 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 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1433: 1946.

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 fair. Flow regulated since August 1950 by Philpott Lake, 40 mi upstream (usable capacity, 6,325,000,000 ft<sup>3</sup>). Additional regulation by hydroelectric plant at Martinsville, Virginia, 18 mi upstream. Maximum discharge prior to regulation: 45,600 ft<sup>3</sup>/s, Aug. 15, 1940, from rating curve extended above 12,000 ft<sup>3</sup>/s on the basis of computation of peak flow over dam 1.5 mi downstream; gage height: 19.28 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,770	610	1,090	791	690	944	1,360	485	948	566	1,300	514
2	1,640	837	815	541	736	868	1,760	567	954	847	975	625
3	1,740	863	1,290	640	827	872	1,690	751	623	454	949	474
4	1,770	956	1,330	1,290	869	890	1,430	724	646	527	881	306
5	1,680	1,010	1,210	1,150	726	794	1,390	797	482	1,030	851	319
6	1,260	857	1,190	1,180	639	705	1,340	903	510	787	786	448
7	968	467	1,240	1,160	789	820	1,340	835	680	1,710	449	493
8	932	619	1,220	993	756	1,040	1,360	344	680	3,440	559	471
9	887	665	1,170	430	792	1,070	1,310	517	998	1,100	974	591
10	412	632	2,250	649	809	1,070	1,280	787	827	531	1,030	378
11	597	662	1,270	858	768	1,020	1,270	723	649	623	839	281
12	936	1,010	811	837	630	853	1,270	753	548	929	823	300
13	1,090	1,430	960	839	541	514	1,320	859	463	785	719	466
14	1,430	773	1,150	3,280	790	824	1,300	550	830	1,090	398	523
15	1,030	800	1,240	1,470	845	1,090	1,050	492	785	1,010	428	535
16	1,010	798	1,220	1,010	741	1,090	889	571	786	811	737	428
17	405	858	1,220	1,320	841	1,290	435	712	614	594	1,050	498
18	525	872	1,060	1,260	869	952	642	617	490	605	729	240
19	1,120	872	519	1,200	641	1,270	936	679	452	979	580	252
20	1,200	828	661	1,220	524	635	917	527	424	967	551	526
21	1,330	422	856	1,230	726	818	920	599	612	815	434	754
22	968	578	770	1,090	796	1,080	909	497	700	984	417	435
23	1,110	1,020	942	485	784	1,270	1,010	550	635	886	762	450
24	386	1,720	1,110	708	824	1,530	595	467	472	529	726	329
25	607	2,340	837	1,150	846	1,240	667	483	518	561	674	256
26	918	1,310	585	1,120	621	1,040	744	822	443	732	715	295
27	860	1,010	761	1,120	525	603	784	952	429	786	480	546
28	859	1,010	774	1,110	789	3,180	722	1,020	754	715	361	468
29	860	1,060	760	996	---	2,170	815	984	609	968	404	461
30	822	1,020	761	505	---	1,590	855	417	680	814	730	472
31	406	---	957	880	---	1,400	---	511	---	2,210	745	---
TOTAL	31,528	27,909	32,029	32,512	20,734	34,532	32,310	20,495	19,241	29,385	22,056	13,134
MEAN	1,017	930	1,033	1,049	740	1,114	1,077	661	641	948	711	438
MAX	1,770	2,340	2,250	3,280	869	3,180	1,760	1,020	998	3,440	1,300	754
MIN	386	422	519	430	524	514	435	344	424	454	361	240
CFSM	1.89	1.73	1.92	1.95	1.38	2.07	2.00	1.23	1.19	1.76	1.32	0.81
IN.	2.18	1.93	2.21	2.25	1.43	2.39	2.23	1.42	1.33	2.03	1.53	0.91
†	-230	76	-32	-30	58	96	-89	-26	-5	8	-71	-119

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2005,\* BY WATER YEAR (WY)

MEAN	510	506	593	685	731	891	888	706	654	520	501	538
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	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1951 - 2005*	
ANNUAL TOTAL	309,988		315,865		643 (UNADJUSTED)	
ANNUAL MEAN	847		865		1,010 1987	
HIGHEST ANNUAL MEAN			‡834		254 2002	
LOWEST ANNUAL MEAN					16,700 Jun 21, 1972	
HIGHEST DAILY MEAN	5,610	Sep 8	3,440	Jul 8	46	Aug 14, 1967
LOWEST DAILY MEAN	190	Aug 29	240	Sep 18	100	Aug 10, 2002
ANNUAL SEVEN-DAY MINIMUM	383	Aug 24	397	Sep 22	24,800	Jun 21, 1972
MAXIMUM PEAK FLOW			6,980	Mar 28	16.24	Jun 21, 1972
MAXIMUM PEAK STAGE			8.22	Mar 28	38	Aug 7, 1967
INSTANTANEOUS LOW FLOW			218	Sep 24	1.19	
ANNUAL RUNOFF (CFSM)	1.57		1.61		16.23	
ANNUAL RUNOFF (INCHES)	21.43		21.84			
10 PERCENT EXCEEDS	1,250		1,290			
50 PERCENT EXCEEDS	748		811			
90 PERCENT EXCEEDS	431		462			

† Change in contents, equivalent in cubic feet per second, in Philpott Lake provided by U.S. Army Corps of Engineers.

\* Regulated period only (1951-2005). See REMARKS.

‡ Adjusted for change in contents.

