

Water-Data Report 2008

02105769 CAPE FEAR RIVER AT LOCK 1 NEAR KELLY, NC

Cape Fear Basin
Lower Cape Fear Subbasin

LOCATION.--Lat 34°24'16", long 78°17'37" referenced to North American Datum of 1983, Bladen County, NC, Hydrologic Unit 03030005, on right bank near upstream end of Lock 1, 1.3 mi upstream from Natmore Creek, 2.0 mi upstream from bridge on North Carolina Highway 11, 4.6 mi southeast of Kelly, and at river mile 67.

DRAINAGE AREA.--5,255 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1969 to current year.

REVISED RECORDS.--WDR NC-81-1: Drainage area.

GAGE.--Water-stage recorder with concrete lock and dam control. Datum of gage is 2.90 ft above National Geodetic Vertical Datum of 1929. Satellite telemetry at station.

REMARKS.--No estimated daily discharges. Daily discharges above 2,500 ft³/s are fair, daily discharges below 2,500 ft³/s are poor. Slight regulation at high flow December 1972 to August 1981, caused by storage in B. Everett Jordan Lake. Flow regulated since September 1981 by B. Everett Jordan Lake (station 02098197). Slight diurnal fluctuation and some regulation for short periods at low flow caused by power plants upstream from station. The City of Wilmington diverted an average of 22.9 ft³/s for municipal water supply, most of which was returned downstream of station as treated effluent. Prior to regulation, maximum discharge: 57,000 ft³/s, March 3, 1979; gage height: 24.92 ft, from floodmarks. Minimum discharge prior to regulation, 406 ft³/s, July 1, 1981. Minimum discharge for current water year and period of record not determined due to fish lockage.

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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	346	1,990	800	5,500	1,100	3,670	3,620	9,720	1,090	824	1,950	8,360
2	338	1,310	799	8,180	1,350	2,950	4,850	7,930	1,130	734	2,050	8,130
3	341	961	795	6,130	1,740	2,380	5,930	5,120	1,140	672	1,680	6,870
4	341	789	733	3,910	2,470	1,970	6,180	3,500	1,150	632	1,380	4,300
5	351	692	749	2,690	2,910	2,220	7,210	2,640	1,100	658	1,140	2,660
6	353	673	754	2,080	2,420	5,130	13,600	2,160	991	702	1,010	4,000
7	377	721	724	1,740	1,970	10,400	17,100	1,780	801	935	938	12,900
8	387	651	699	1,510	1,680	10,600	18,000	1,560	741	1,360	1,170	18,500
9	380	501	704	1,410	1,480	12,400	17,000	1,380	761	2,250	1,280	21,200
10	374	448	722	1,350	1,400	14,100	14,100	1,380	747	3,330	1,140	22,600
11	367	449	748	1,290	1,300	11,900	10,900	1,440	694	2,590	1,230	22,300
12	339	573	780	1,280	1,170	8,640	8,480	1,590	823	2,360	1,850	20,700
13	334	612	775	1,260	1,330	8,460	7,390	1,740	794	2,050	1,830	19,300
14	332	611	799	1,170	1,610	7,630	6,810	2,640	719	1,490	2,040	17,900
15	322	653	822	1,060	2,750	6,450	6,270	5,250	805	1,180	2,060	16,300
16	317	675	1,090	999	3,300	6,660	5,830	6,070	1,800	994	2,070	14,400
17	315	603	1,770	1,020	3,100	8,050	5,450	5,840	1,990	872	2,290	9,970
18	313	520	2,000	1,150	3,220	9,860	5,190	5,640	1,460	813	1,970	5,720
19	326	527	1,760	1,450	4,150	9,500	4,890	5,040	1,180	824	1,620	4,220
20	347	532	1,500	1,920	3,690	7,420	4,740	4,830	962	886	1,330	4,290
21	349	531	1,390	2,240	3,560	5,830	4,760	4,890	932	959	1,180	4,540
22	354	533	1,320	2,420	3,640	5,230	4,950	3,550	1,080	905	1,050	4,190
23	320	560	1,220	2,340	3,750	5,040	5,390	2,420	1,130	944	961	3,750
24	339	566	1,210	2,110	3,600	4,660	5,170	2,000	1,050	1,560	908	2,930
25	466	562	1,230	1,870	3,280	4,040	4,720	1,810	998	2,290	879	2,190
26	657	579	1,380	1,670	3,030	3,670	3,890	1,620	966	2,220	918	2,460
27	2,120	700	1,700	1,560	2,970	3,410	3,070	1,430	916	1,660	1,490	3,390
28	5,980	740	1,960	1,360	2,990	3,210	2,620	1,230	866	1,350	3,890	4,140
29	8,040	784	1,890	1,130	3,590	3,180	3,230	1,290	864	1,190	8,610	4,360
30	5,730	813	1,820	1,100	---	3,140	6,490	1,340	861	1,170	11,100	4,460
31	3,310	---	2,300	1,080	---	3,150	---	1,210	---	1,280	9,580	---
Total	34,565	20,859	36,943	65,979	74,550	194,950	217,830	100,040	30,541	41,684	72,594	281,030
Mean	1,115	695	1,192	2,128	2,571	6,289	7,261	3,227	1,018	1,345	2,342	9,368
Max	8,040	1,990	2,300	8,180	4,150	14,100	18,000	9,720	1,990	3,330	11,100	22,600
Min	313	448	699	999	1,100	1,970	2,620	1,210	694	632	879	2,190

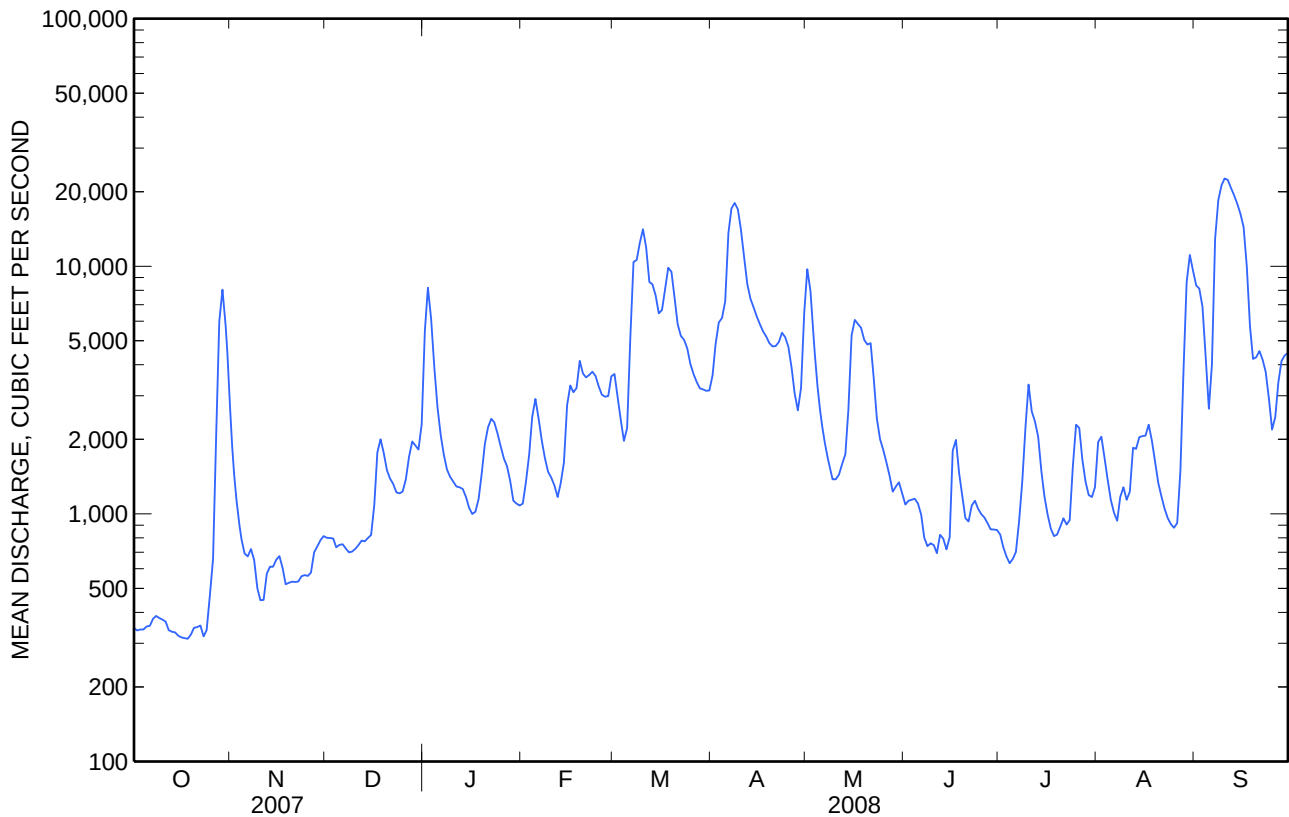
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2008^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,330	3,592	4,888	7,564	8,664	10,330	7,851	3,874	3,686	2,999	3,147	4,058
Max	15,080	12,870	11,050	17,180	27,780	23,830	21,650	12,110	15,070	10,860	13,400	22,580
(WY)	(2000)	(2007)	(1984)	(1998)	(1998)	(1998)	(2003)	(1989)	(1982)	(1995)	(2003)	(1996)
Min	1,023	695	1,111	1,717	2,571	2,012	1,667	968	874	802	713	686
(WY)	(1999)	(2008)	(2002)	(2001)	(2008)	(2006)	(1986)	(2002)	(2002)	(2002)	(2007)	(2007)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1982 - 2008 ^a	
Annual total	1,232,777		1,171,565			
Annual mean	3,377		3,201		5,313	
Highest annual mean					10,740	
Lowest annual mean					1,833	
Highest daily mean	18,000	Apr 19	22,600	Sep 10	47,600	Sep 11, 1996
Lowest daily mean	313	Oct 18	313	Oct 18	179	Aug 10, 2002
Annual seven-day minimum	323	Oct 13	323	Oct 13	323	Oct 13, 2007
Maximum peak flow			23,000	Sep 10	48,300	Sep 11, 1996
Maximum peak stage			20.77	Sep 10	24.29	Sep 11, 1996
Instantaneous low flow			^b NOT DETERMINED		^b NOT DETERMINED	
10 percent exceeds	10,100		7,960		14,100	
50 percent exceeds	1,200		1,660		2,730	
90 percent exceeds	501		571		1,010	

^aRegulated period only (1982-2008). See Remarks.^bSee Remarks.

02105769 CAPE FEAR RIVER AT LOCK 1 NEAR KELLY, NC—Continued**CLIMATOLOGICAL RECORDS**

PERIOD OF RECORD.--November 1998 to current year. Records from November 1998 to September 1999 are unpublished and available from the USGS Water Science Center, Raleigh, NC.

INSTRUMENTATION.--Tipping-bucket raingage. Satellite telemetry at station.

REMARKS.--Precipitation data collected during freezing periods may not be accurately reflected in daily record; consequently, winter record is poor.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY SUM VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	0.00	0.00	0.29	0.01	0.24	0.00	0.12	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.06	0.00
3	0.02	0.00	0.04	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00
4	0.02	0.00	0.00	0.00	0.00	0.48	0.01	0.31	0.00	0.00	0.00	0.00
5	0.06	0.00	0.00	0.00	0.00	0.02	1.90	1.23	0.00	0.00	0.00	2.44
6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.03	0.00	0.58
7	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.07	0.88	0.00
8	0.00	2.17	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.15	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
10	0.02	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.46	0.12	0.24
11	0.00	0.00	0.00	0.02	0.00	0.00	0.00	1.26	0.00	0.06	0.00	0.01
12	0.00	0.00	0.00	0.09	0.12	0.00	0.00	0.01	0.00	0.00	0.00	0.02
13	0.00	0.00	0.00	0.00	2.03	0.00	0.00	0.00	0.00	0.00	1.16	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.01	0.00
15	0.00	0.41	0.06	0.00	0.00	1.32	0.00	0.00	0.00	0.23	0.00	0.57
16	0.00	0.01	0.66	0.00	0.00	0.01	0.00	0.14	0.01	0.01	0.01	0.00
17	0.00	0.00	0.00	0.61	0.01	0.00	0.00	0.00	0.00	0.00	0.40	0.05
18	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.01	0.00	0.06	0.00	0.00
19	0.01	0.00	0.00	1.38	0.01	0.03	0.00	0.00	0.00	1.44	0.00	0.00
20	0.00	0.00	0.00	0.02	0.00	0.53	0.13	0.78	0.19	0.01	0.00	0.00
21	0.00	0.00	0.56	0.00	0.59	0.00	0.12	0.00	0.33	0.00	0.04	0.00
22	0.00	0.00	0.00	0.01	1.07	0.00	0.06	0.00	0.10	0.00	0.00	0.00
23	0.00	0.00	0.02	0.03	0.06	0.00	0.10	0.00	0.34	0.74	0.00	0.00
24	0.67	0.00	0.01	0.00	0.00	0.04	0.01	0.00	0.01	0.53	0.00	0.00
25	5.23	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.94
26	0.88	0.01	1.15	0.08	0.28	0.00	0.00	0.00	0.00	0.00	0.57	0.04
27	1.05	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.04	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.63	0.00	0.00	0.73	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.98	0.00	0.01	0.01
30	0.00	0.00	1.36	0.38	---	0.41	0.00	0.00	0.00	0.05	0.00	0.01
31	0.00	---	0.01	0.00	---	0.24	---	0.00	---	1.43	0.27	---
Total	7.96	2.64	3.87	2.68	5.07	4.03	2.85	4.42	2.10	5.65	4.45	5.92

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