

Water-Data Report 2010

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 NGVD of 1929. Satellite telemetry at streamgage.

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 Cape Fear Public Utility Authority diverted an average of 22.6 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 period of record not determined due to fish lockage.

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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	950	844	4,080	14,400	14,000	6,310	11,700	1,430	4,580	1,700	1,640	822
2	841	927	5,480	13,900	12,500	6,820	11,400	1,130	5,590	1,620	1,220	781
3	735	1,090	5,920	13,300	13,200	7,120	10,300	990	6,810	1,400	1,050	785
4	668	1,090	9,950	11,400	14,600	7,810	9,300	995	7,680	1,210	956	799
5	668	1,080	14,500	8,550	16,600	9,140	8,570	1,060	7,370	1,090	933	743
6	743	1,130	15,600	5,860	18,200	9,830	8,080	1,080	5,060	971	889	709
7	804	1,090	15,500	4,430	20,400	8,930	7,210	1,040	3,270	884	913	711
8	791	979	14,900	3,920	23,700	7,470	6,250	1,000	2,420	835	916	708
9	741	902	13,900	3,670	27,900	6,330	5,240	913	1,930	859	809	728
10	784	923	12,900	3,480	32,800	5,340	4,490	833	1,680	970	789	763
11	756	1,970	14,500	3,300	34,600	4,720	4,140	807	1,520	1,240	779	714
12	719	6,920	15,900	3,280	32,100	4,700	3,870	806	1,370	1,240	775	707
13	768	11,900	16,100	3,200	27,800	5,130	3,810	831	1,230	1,090	783	684
14	806	14,400	15,600	2,830	24,000	7,450	3,250	860	1,220	1,050	776	698
15	849	16,000	15,000	2,490	21,600	10,100	2,760	826	1,170	1,090	758	713
16	915	16,800	15,300	2,430	20,000	10,900	2,400	777	1,140	1,050	727	678
17	936	16,100	15,200	2,840	18,800	10,700	1,960	948	1,270	1,040	807	680
18	884	14,300	11,400	4,980	17,800	10,100	1,540	1,800	1,440	1,040	832	699
19	812	13,200	7,710	10,600	17,000	9,020	1,370	2,750	1,470	1,240	1,090	706
20	796	12,900	7,160	13,200	16,300	6,720	1,420	5,150	1,570	1,240	1,860	680
21	796	11,800	9,440	13,400	14,700	5,060	1,450	7,500	1,560	1,140	2,380	689
22	792	8,680	9,970	12,900	12,700	4,540	1,550	7,510	1,500	1,110	2,130	683
23	782	6,200	10,600	13,600	11,800	4,240	1,490	6,240	1,410	1,030	1,730	635
24	768	5,670	10,700	15,500	10,400	4,090	1,420	4,600	1,230	958	1,650	613
25	755	6,670	10,100	16,100	9,380	3,780	1,330	4,630	1,110	881	2,000	609
26	719	8,240	9,640	16,200	8,080	3,710	1,390	5,260	1,400	818	2,500	613
27	732	6,930	11,400	17,900	6,720	3,520	1,530	5,370	1,790	808	2,180	1,330
28	802	5,310	15,100	19,400	5,940	3,220	1,690	4,790	1,780	932	1,470	4,370
29	873	4,450	16,300	20,300	---	3,560	1,660	4,350	1,560	1,890	1,080	4,800
30	894	4,030	15,800	19,900	---	7,340	1,590	4,670	1,500	2,560	908	5,780
31	854	---	15,200	17,400	---	10,500	---	4,700	---	2,370	899	---
Total	24,733	202,525	380,850	314,660	503,620	208,200	124,160	85,646	74,630	37,356	38,229	34,630
Mean	798	6,751	12,290	10,150	17,990	6,716	4,139	2,763	2,488	1,205	1,233	1,154
Max	950	16,800	16,300	20,300	34,600	10,900	11,700	7,510	7,680	2,560	2,500	5,780
Min	668	844	4,080	2,430	5,940	3,220	1,330	777	1,110	808	727	609

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2010 ^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,194	3,652	5,187	7,573	8,780	10,230	7,652	3,773	3,647	2,870	3,025	3,856
Max	15,080	12,870	12,290	17,180	27,780	23,830	21,650	12,110	15,070	10,860	13,400	22,580
(WY)	(2000)	(2007)	(2010)	(1998)	(1998)	(1998)	(2003)	(1989)	(1982)	(1995)	(2003)	(1996)
Min	798	695	1,111	1,717	2,571	2,012	1,667	968	874	802	713	686
(WY)	(2010)	(2008)	(2002)	(2001)	(2008)	(2006)	(1986)	(2002)	(2002)	(2002)	(2007)	(2007)

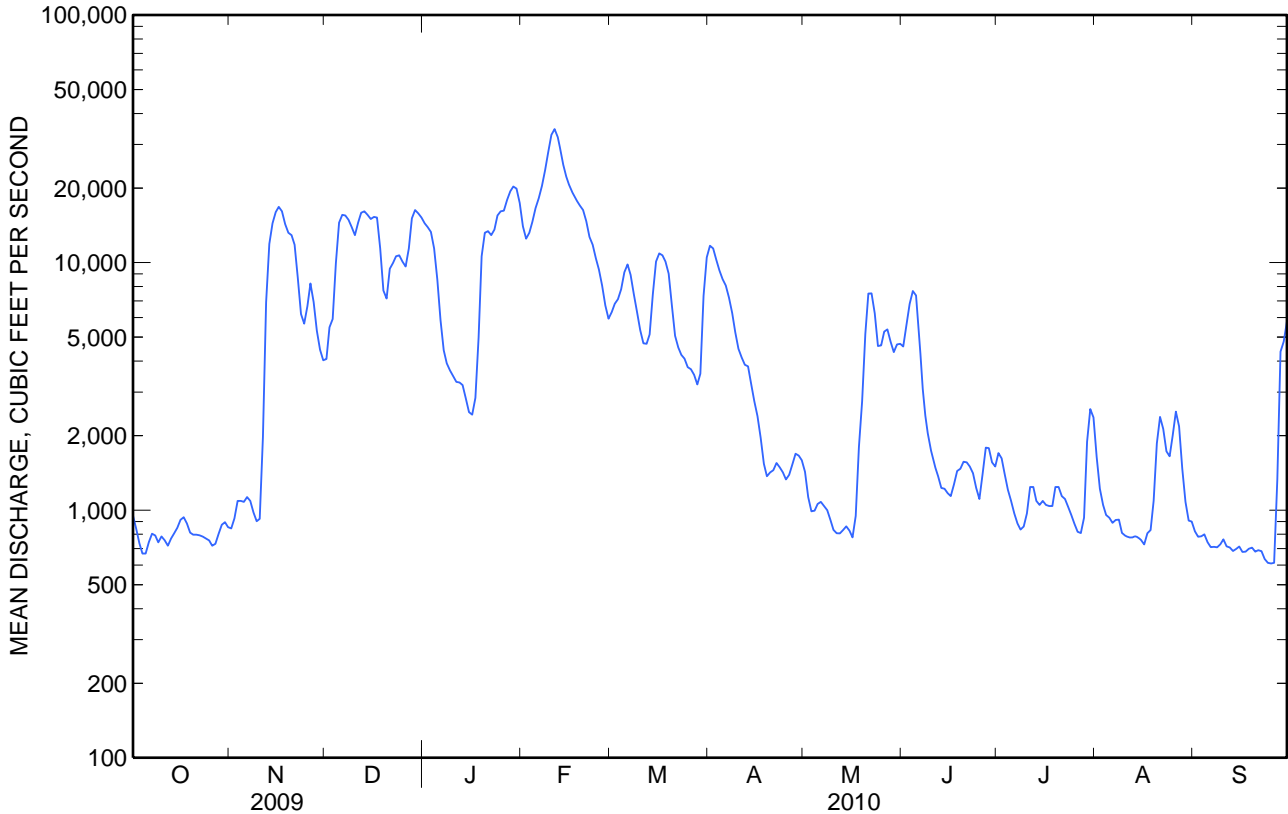
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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1982 - 2010 ^a	
Annual total	1,649,761		2,029,239			
Annual mean	4,520		5,560		5,266	
Highest annual mean					10,740	2003
Lowest annual mean					1,833	2002
Highest daily mean	20,400	Mar 6	34,600	Feb 11	47,600	Sep 11, 1996
Lowest daily mean	591	Sep 15	609	Sep 25	179	Aug 10, 2002
Annual seven-day minimum	646	Sep 12	646	Sep 20	323	Oct 13, 2007
Maximum peak flow			35,000	Feb 11	48,300	Sep 11, 1996
Maximum peak stage			22.59	Feb 11	24.29	Sep 11, 1996
Instantaneous low flow			575	Sep 26	^b Not Determined	
10 percent exceeds	12,300		15,200		14,000	
50 percent exceeds	2,330		2,380		2,700	
90 percent exceeds	791		772		992	

^a Regulated period only (1982-2010). See Remarks.

^b See 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.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY SUM VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	0.00	0.01	0.00	0.25	0.00	0.00	1.37	0.39	0.18	0.00
2	0.05	0.00	2.11	0.00	0.43	0.64	0.00	0.00	0.47	0.00	0.00	0.00
3	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.09	0.00	0.00	0.00
4	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
5	0.93	0.00	0.64	0.00	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
9	0.00	0.00	0.08	0.00	0.32	0.00	0.08	0.00	0.00	0.00	0.00	0.00
10	0.20	0.99	0.00	0.00	0.01	0.00	0.00	0.00	0.04	0.01	0.00	0.00
11	0.00	2.40	0.00	0.00	0.00	0.70	0.00	0.04	0.00	0.00	0.00	0.05
12	0.19	0.22	0.01	0.00	e0.05	0.00	0.00	0.00	0.00	0.11	0.15	0.01
13	0.00	0.13	0.11	0.00	e0.26	0.03	0.00	0.00	0.49	0.00	0.00	0.00
14	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.00
15	0.06	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.00
16	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00
17	0.04	0.00	0.00	1.20	0.00	0.00	0.00	0.14	0.00	0.05	0.00	0.00
18	0.00	0.00	1.04	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.02	0.00
19	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.35	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	---	0.00	1.24	0.00
21	0.00	0.00	0.00	0.88	0.00	0.00	0.18	0.00	---	0.00	0.00	0.00
22	0.00	0.24	0.00	0.02	0.68	0.04	0.00	0.00	---	0.00	0.86	0.00
23	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.01	0.10	0.00	0.00	0.99	0.00	0.00	0.58	0.00
25	0.00	0.00	1.37	1.11	0.00	0.00	0.26	0.01	0.26	0.00	0.00	0.00
26	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.03	0.00	1.15
27	0.05	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.50	0.20	0.00	4.12
28	0.13	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.05	0.00	0.11
29	0.00	0.00	0.00	0.00	---	0.70	0.00	0.00	0.40	0.24	0.00	3.85
30	0.00	0.05	0.01	0.37	---	0.01	0.00	0.00	0.51	0.00	0.00	4.61
31	0.05	---	0.37	0.00	---	0.00	---	0.00	---	0.00	0.00	---
Total	2.30	4.34	5.94	3.62	3.21	2.37	0.67	1.87	---	2.61	3.38	13.98

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