

Water-Data Report 2011

03603000 DUCK RIVER ABOVE HURRICANE MILLS, TN

Lower Tennessee Basin
Lower Duck Subbasin

LOCATION.--Lat 35°55'48", long 87°44'35" referenced to North American Datum of 1927, Humphreys County, TN, Hydrologic Unit 06040003, on left bank 0.4 mi downstream from Tumbling Creek, 1.3 mi upstream from bridge on State Highway 13, 3.6 mi southeast of Hurricane Mills, and at mile 26.0.

DRAINAGE AREA.--2,557 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1925 to Sept. 1994. October 2008 to current year. Prior to 1951, published as "near Hurricane Mills."

REVISED RECORDS.--WSP 803: 1935. WSP 823: 1927(M). WSP 853: Drainage area. WSP 1436: 1926-28, 1938(M).

GAGE.--Data collection platform. Datum of gage is 370.53 ft above NGVD of 1929. Prior to Feb. 21, 1934, nonrecording gage and Feb. 21, 1934, to Sept. 30, 1951, water-stage recorder at bridge 5.6 mi downstream at datum 8.8 ft lower.

REMARKS.--Records rated good except for Oct. 1-12 and Sep. 1-5, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to regulation, 122,000 ft³/s, Feb. 14, 1948, gage height, 30.70 ft, from floodmark in gage house, present site and datum. Flow regulated since January 1976 by Normandy Lake. Prior to 1953 occasional regulation at low flow from small dams upstream. Minor diversions for irrigation.

CORRECTIONS.--The following mistakes were made in the Water Year 2011 statistics in the summary statistics section of the original report for 2011: the highest daily mean (42,600 ft³/s on Apr. 29) was incorrectly flagged as an estimate, the maximum peak stage (21.85 ft. on Apr. 29) was incorrectly flagged as being from flood marks at the gage, and the instantaneous low flow (567 ft³/s on Oct. 1) was incorrectly flagged as also occurring on Sept. 27-30. The Instantaneous low flow should have been flagged as also occurring on Oct. 12 and Oct. 24. Also, the highest daily mean for calendar year 2010 (104,000 ft³/s on May 3) should have been flagged as an estimate.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 42,900 ft³/s, Apr. 29, gage height, 21.85 ft; minimum, 576 ft³/s, Oct. 1,12,24.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	583	992	4,840	1,120	3,120	12,400	5,910	41,400	1,840	4,340	1,060	720
2	583	938	11,000	1,560	3,430	14,100	5,950	28,500	1,720	3,790	977	718
3	587	896	10,300	10,700	4,620	14,100	5,010	16,700	1,630	3,070	1,360	718
4	591	855	5,620	11,400	4,540	8,860	4,320	22,700	1,550	2,680	1,570	718
5	592	813	3,860	6,360	4,180	6,760	5,650	21,700	1,470	2,450	1,360	733
6	591	780	3,110	4,520	3,690	6,920	12,700	17,400	1,390	2,210	1,220	858
7	582	752	2,630	3,700	3,360	11,100	19,700	11,400	1,320	1,810	1,260	2,800
8	582	729	2,120	3,250	3,190	15,300	14,000	8,390	1,260	1,560	1,670	6,790
9	582	712	1,810	2,910	3,030	12,400	7,940	6,790	1,220	1,510	1,850	6,030
10	582	701	1,650	2,640	2,880	12,000	6,150	5,710	1,170	1,680	1,810	3,870
11	582	694	1,550	2,440	2,710	12,500	5,240	4,910	1,130	1,790	1,540	2,710
12	581	710	1,700	2,270	2,520	11,600	5,480	4,220	1,080	1,640	1,320	2,110
13	613	746	3,740	2,140	2,390	9,140	5,530	3,760	1,030	1,430	1,160	1,760
14	680	767	4,530	1,990	2,270	7,400	4,810	3,670	1,000	1,280	1,060	1,540
15	739	757	3,860	1,760	2,150	6,330	4,400	3,590	988	1,180	981	1,470
16	698	746	3,130	1,630	2,040	5,680	5,170	3,400	989	1,110	912	1,390
17	649	768	2,660	1,580	1,930	5,870	10,700	3,140	1,050	1,050	856	1,320
18	635	924	2,430	1,580	1,810	5,510	13,000	2,860	1,070	1,060	819	1,250
19	628	1,000	2,360	1,650	1,690	4,720	8,850	2,640	1,170	1,070	808	1,190
20	621	943	2,290	1,890	1,620	3,840	6,550	2,460	1,350	1,100	855	1,160
21	610	959	2,130	2,500	1,570	3,310	6,770	2,300	1,400	1,070	866	1,750
22	598	993	1,970	2,730	1,550	2,910	9,080	2,150	1,540	1,010	821	4,090
23	585	975	1,810	2,520	1,500	2,650	8,260	2,090	1,650	993	780	3,960
24	580	1,010	1,690	2,310	1,550	2,480	6,970	2,250	1,580	2,020	760	2,990
25	628	1,500	1,570	2,140	4,100	2,340	6,100	2,300	1,470	2,910	752	2,360
26	709	1,710	1,430	2,110	14,400	2,240	5,000	2,280	1,830	1,970	747	2,040
27	1,060	1,740	1,330	2,490	16,100	2,320	22,600	2,390	2,040	1,530	743	1,800
28	1,190	1,790	1,240	3,980	11,800	2,930	40,500	2,290	2,210	1,330	737	1,610
29	1,160	1,850	1,190	4,780	---	3,870	42,600	2,150	4,590	1,190	730	1,450
30	1,090	2,040	1,150	4,090	---	4,210	42,500	2,140	3,870	1,060	730	1,310
31	1,030	---	1,120	3,500	---	4,820	---	2,020	---	1,070	724	---
Total	21,521	30,790	91,820	100,240	109,740	220,610	347,440	239,700	47,607	53,963	32,838	63,215
Mean	694	1,026	2,962	3,234	3,919	7,116	11,580	7,732	1,587	1,741	1,059	2,107
Max	1,190	2,040	11,000	11,400	16,100	15,300	42,600	41,400	4,590	4,340	1,850	6,790
Min	580	694	1,120	1,120	1,500	2,240	4,320	2,020	988	993	724	718

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,500	3,219	6,393	6,090	7,051	7,263	5,941	5,703	1,928	1,589	1,052	1,468
Max	5,684	10,120	17,110	15,490	18,030	19,430	15,080	18,140	6,475	7,116	2,060	7,207
(WY)	(1990)	(1980)	(2005)	(1979)	(2003)	(1980)	(1994)	(1983)	(1989)	(1989)	(2001)	(1979)
Min	580	856	1,190	958	1,806	2,235	1,373	1,058	574	644	575	533
(WY)	(1988)	(2009)	(1981)	(1986)	(2007)	(1981)	(1986)	(1987)	(1988)	(2007)	(1987)	(1999)

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SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		*Water Years 1977 - 2011	
Annual total	1,512,751		1,359,484			
Annual mean	4,145		3,725		4,162	
Highest annual mean					6,546 1979	
Lowest annual mean					1,646 1981	
Highest daily mean	^a 104,000	May 3	42,600	Apr 29	^a 104,000	May 3, 2010
Lowest daily mean	580	Oct 24	^b 580	Oct 24	428	Jul 10, 1988
Annual seven-day minimum	583	Oct 6	583	Oct 6	455	Aug 31, 1987
Maximum peak flow			42,900	Apr 29	171,000	May 2, 2010
Maximum peak stage			21.85	Apr 29	^c 34.21	May 2, 2010
Instantaneous low flow			^b 567	Oct 1	412	Jul 7, 1988
10 percent exceeds	8,610		8,570		9,130	
50 percent exceeds	1,660		1,840		1,940	
90 percent exceeds	682		730		711	

* Regulated period only (1977-94, 2008-2011).

^a Estimated

^b Also occurred Oct 12 and Oct 24.

^c From flood marks at gage.

