

Water-Data Report 2010

03503000 LITTLE TENNESSEE RIVER AT NEEDMORE, NC

Upper Tennessee Basin
Upper Little Tennessee Subbasin

LOCATION.--Lat 35°20'11", long 83°31'37" referenced to North American Datum of 1983, Swain County, NC, Hydrologic Unit 06010202, on left bank on Secondary Road 1113, 0.8 mi downstream of DeHart Creek, 0.8 mi north of Needmore, 2.4 mi downstream of Brush Creek, 6.3 mi downstream of Tellico Creek, and at river mile 92.9.

DRAINAGE AREA.--436 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1943 to December 1981, October 1983 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,761.19 ft above National Geodetic Vertical Datum of 1929 levels by Tennessee Valley Authority).
Satellite telemetry at streamgage.

REMARKS.--No estimated daily discharges. Records fair. Considerable fluctuation caused by Porters Bend power plant at Lake Emory, 20 mi upstream.
Minimum discharge for period of record also occurred November 8, 1954. Minimum discharge for current water year also occurred September 22, 23.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of October 1898 and August 30, 1940, reached stages of about 13 and 11.5 ft, respectively, from flood profiles by Tennessee Valley Authority.

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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	1,120	2,560	1,280	1,930	1,950	1,310	1,220	1,080	2,050	536	474	286
2	1,030	1,990	2,540	1,770	2,300	1,370	1,180	1,070	1,210	514	408	270
3	977	1,700	3,830	1,660	2,380	1,370	1,140	1,960	1,220	505	380	269
4	894	1,500	2,340	1,590	2,120	1,300	1,120	1,800	1,030	488	374	256
5	1,330	1,380	1,980	1,520	6,110	1,250	1,080	1,400	950	473	370	255
6	1,140	1,280	1,750	1,460	6,550	1,220	1,070	1,260	904	460	422	253
7	1,010	1,210	1,600	1,430	3,850	1,200	1,040	1,170	859	440	440	250
8	927	1,160	1,560	1,400	3,050	1,190	1,250	1,100	779	433	371	250
9	852	1,110	5,590	1,340	2,680	1,190	1,620	1,030	782	431	345	262
10	879	1,480	3,440	1,320	2,530	1,200	1,210	1,000	819	500	350	254
11	825	7,680	2,490	1,300	2,240	1,240	1,140	1,040	759	440	352	330
12	958	4,350	2,130	1,270	2,110	1,450	1,100	1,010	760	623	408	654
13	1,180	2,780	2,330	1,230	2,020	1,770	1,060	979	709	632	369	373
14	1,060	2,240	2,280	1,190	1,900	1,520	1,040	931	669	609	433	297
15	1,620	1,940	2,010	1,140	1,890	1,390	1,010	953	659	489	383	275
16	1,760	1,750	1,830	1,120	1,790	1,320	996	1,220	694	462	376	265
17	1,360	1,610	1,710	2,410	1,680	1,270	972	1,150	755	468	421	259
18	1,190	2,860	1,890	2,040	1,610	1,240	950	998	654	459	382	256
19	1,070	2,550	3,210	1,620	1,560	1,190	924	922	639	526	386	250
20	1,010	2,050	2,330	1,500	1,510	1,160	929	875	604	450	370	246
21	953	1,830	2,010	1,740	1,480	1,160	962	864	578	429	709	239
22	905	1,720	1,860	2,040	1,690	2,030	903	894	600	413	1,360	236
23	891	1,690	1,750	1,710	1,660	1,550	883	829	604	407	543	243
24	2,250	1,550	1,690	2,190	1,550	1,400	950	801	662	390	429	258
25	1,540	1,470	5,560	6,850	1,480	1,320	2,870	794	559	380	389	240
26	1,260	1,410	4,520	3,540	1,420	1,320	1,980	806	737	386	342	311
27	1,490	1,340	3,060	2,650	1,390	1,230	1,480	762	671	445	343	781
28	3,100	1,280	2,570	2,260	1,350	1,260	1,330	861	678	445	352	1,010
29	1,960	1,240	2,270	2,070	---	1,660	1,270	807	571	485	350	525
30	1,610	1,290	2,060	2,400	---	1,370	1,140	758	585	408	331	754
31	1,700	---	2,020	2,160	---	1,280	---	1,200	---	408	288	---
Total	39,851	60,000	77,490	59,850	63,850	41,730	35,819	32,324	23,750	14,534	13,250	10,407
Mean	1,286	2,000	2,500	1,931	2,280	1,346	1,194	1,043	792	469	427	347
Max	3,100	7,680	5,590	6,850	6,550	2,030	2,870	1,960	2,050	632	1,360	1,010
Min	825	1,110	1,280	1,120	1,350	1,160	883	758	559	380	288	236
Cfsm	2.95	4.59	5.73	4.43	5.23	3.09	2.74	2.39	1.82	1.08	0.98	0.80
In.	3.40	5.12	6.61	5.11	5.45	3.56	3.06	2.76	2.03	1.24	1.13	0.89

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2010 ^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	636	810	1,052	1,331	1,520	1,653	1,461	1,146	903	699	624	616
Max	2,557	2,169	2,500	2,570	3,718	3,372	2,746	2,573	2,061	2,206	1,670	2,817
(WY)	(1965)	(1980)	(2010)	(1946)	(1990)	(1990)	(1964)	(1976)	(1949)	(2005)	(1967)	(2004)
Min	192	274	368	349	573	596	553	453	342	238	213	201
(WY)	(1955)	(2009)	(1966)	(1981)	(2009)	(1988)	(1986)	(2007)	(2008)	(1986)	(1986)	(1999)

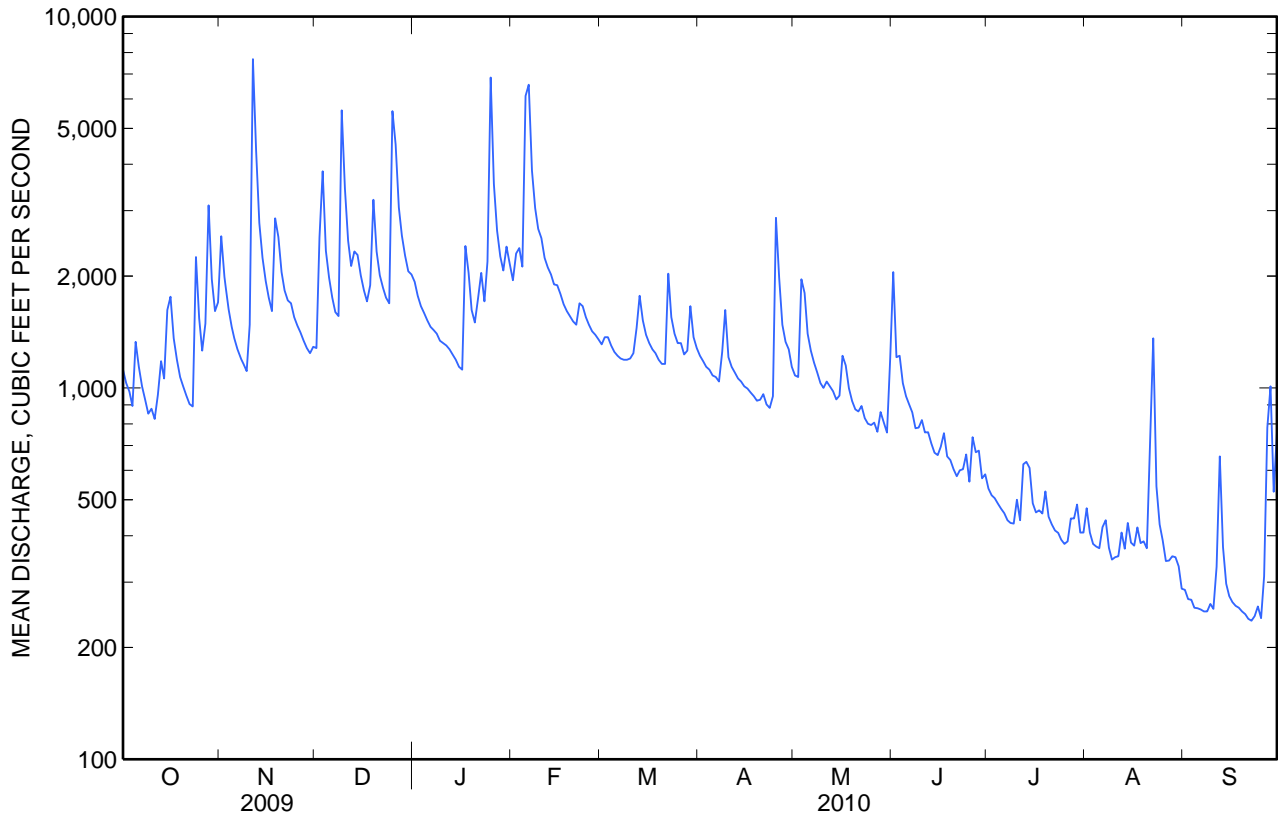
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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1944 - 2010 ^a	
Annual total	428,846		472,855			
Annual mean	1,175		1,295		1,038	
Highest annual mean					1,565	1973
Lowest annual mean					495	1986
Highest daily mean	10,000	Sep 22	7,680	Nov 11	17,200	Oct 5, 1964
Lowest daily mean	318	Sep 14	236	Sep 22	71	Nov 7, 1954
Annual seven-day minimum	344	Sep 9	245	Sep 19	142	Oct 2, 1986
Maximum peak flow			10,300	Nov 11	22,100	Oct 5, 1964
Maximum peak stage			7.97	Nov 11	12.87	Oct 5, 1964
Instantaneous low flow			^b 228	Sep 21	^b 52	Nov 7, 1954
Annual runoff (cfsm)	2.69		2.97		2.38	
Annual runoff (inches)	36.59		40.34		32.34	
10 percent exceeds	2,180		2,260		1,880	
50 percent exceeds	888		1,160		800	
90 percent exceeds	404		371		350	

^a See Period of Record.

^b See Remarks.



03503000 LITTLE TENNESSEE RIVER AT NEEDMORE, NC—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1954, 1957, 1958, 1960-62, 1968-73, 1977-80, 2010.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**[ft³/s, cubic feet per second; mg/L, milligrams per liter; °C, degrees Celsius]

Date	Sample start time	Medium name	Sample type	Discharge, instantaneous, ft³/s (00061)	Temperature, water, °C (00010)	Sampling method (82398)	Suspended sediment concentration, mg/L (80154)
11-04-2009	1515	Surface water	Regular	1,480	11.8	EWI	10
01-22-2010	1445	Surface water	Regular	1,490	8.2	EWI	31
04-06-2010	1945	Surface water	Regular	1,060	18.0	EWI	29
09-23-2010	1815	Surface water	Regular	244	26.0	EWI	3
09-27-2010	0846	Surface water	Regular	970	20.0	EWI	115

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CLIMATOLOGICAL RECORDS

PERIOD OF RECORD.--October 1998 to current year.

INSTRUMENTATION.--Tipping-bucket raingage and electronic datalogger. Satellite telemetry at station.

REMARKS.--Gage is operated in cooperation with Tennessee Valley Authority. 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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.01	0.00	0.00	---	0.00	0.00	0.01	0.06	0.00	0.00	0.00
2	0.02	0.00	1.62	0.00	---	0.33	0.00	0.00	0.03	0.00	0.12	0.00
3	0.00	0.00	0.00	0.00	---	0.00	0.00	2.12	0.00	0.00	0.00	0.02
4	0.18	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.98	0.00	0.12	0.00	2.15	0.00	0.00	0.00	0.18	0.00	0.29	0.00
6	0.25	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.21	0.00	0.00	0.00
7	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
8	0.00	0.00	1.11	0.00	0.00	0.00	1.69	0.02	0.00	0.00	0.00	0.03
9	0.50	0.00	1.73	0.00	0.17	0.00	0.00	0.00	0.45	0.04	0.00	0.00
10	0.04	2.48	0.00	0.00	0.00	0.00	0.00	0.16	0.08	0.00	0.00	0.00
11	0.00	1.08	0.00	0.00	0.00	0.28	0.00	0.01	0.00	0.00	0.02	1.74
12	0.64	0.00	0.00	0.00	0.00	0.66	0.00	0.03	0.00	0.46	0.00	0.00
13	0.00	0.00	0.43	0.00	0.00	0.20	0.00	0.00	0.00	0.18	0.00	0.00
14	0.35	0.00	0.01	0.00	0.10	0.11	0.00	0.00	0.00	0.00	0.00	0.00
15	0.92	0.00	0.01	0.00	0.25	0.00	0.00	0.08	0.21	0.00	0.00	0.00
16	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.19	0.00	0.27	0.63	0.00
17	0.00	0.30	0.00	0.88	0.00	0.00	0.00	0.09	0.00	0.00	0.39	0.00
18	0.00	0.51	---	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00
19	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.37	0.00
20	0.00	0.00	0.00	0.25	0.00	0.00	0.28	0.00	0.00	0.01	0.00	0.00
21	0.00	0.00	0.00	0.43	0.00	0.68	0.01	0.08	0.00	0.00	0.99	0.00
22	0.00	0.21	0.00	0.08	0.32	0.03	0.00	0.03	0.00	0.00	0.00	0.01
23	0.25	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
24	0.03	0.00	0.25	1.52	0.00	0.00	1.11	0.74	0.00	0.00	0.00	0.00
25	0.00	0.00	1.56	0.14	0.00	0.09	0.41	0.28	0.00	0.01	0.00	0.15
26	0.01	0.00	0.00	0.00	0.00	0.04	0.22	0.01	0.00	0.00	0.00	0.92
27	1.39	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.94
28	0.02	0.00	0.00	0.00	0.00	0.35	0.00	0.09	0.00	0.17	0.00	0.01
29	0.00	0.00	0.00	---	---	0.00	0.00	0.00	0.00	0.16	0.00	0.39
30	0.00	0.47	0.05	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.03
31	0.87	---	0.21	---	---	0.00	---	0.52	---	0.68	0.00	---
Total	6.60	5.07	---	---	---	2.78	3.85	4.46	1.23	2.03	2.85	4.24

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