

Water-Data Report 2011

08102500 Leon River near Belton, TX

Little Basin
Leon Subbasin

LOCATION.--Lat 31°04'12", long 97°26'28" referenced to North American Datum of 1927, Bell County, TX, Hydrologic Unit 12070201, on left bank 1,400 ft upstream from bridge on Farm Road 817, 2,000 ft upstream from concrete dam, 1.0 mi upstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.6 mi northeast of Belton, 3.2 mi downstream from Belton Dam, 5.2 mi upstream from Nolan Creek, and 13.1 mi upstream from mouth.

DRAINAGE AREA.--3,582 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Oct. 1923 to current year.

PERIOD OF RECORD, Water-Quality.--

CHEMICAL DATA: Mar. 1961 to Aug. 1964, Jan. 1994 to Aug. 1998.

BIOCHEMICAL DATA: Mar. 1961 to Aug. 1964, Jan. 1994 to Aug. 1998.

PERIOD OF DAILY RECORD, Water-Quality.--

WATER TEMPERATURE: Mar. 1957 to Oct. 1972.

REVISED RECORDS.--WSP 1442: 1925(M), 1935(M), 1936, 1938(M), 1941-42(M), 1944-45(M). WSP 1712: 1937(M). WDR TX-76-2: Drainage area. WRD TX-2008: Drainage area.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 476.68 ft above NGVD of 1929. Prior to May 21, 1931, nonrecording gage. Satellite telemeter at station.

REMARKS.--Records good except for those daily discharges below 10 ft³/s, which are fair. Since Mar. 1954, at least 10% of contributing drainage area has been regulated. The city of Temple diverts water from the pool at gage and returns wastewater effluent to Little Elm Creek downstream from station. The Brazos River Authority returns wastewater effluent to the Leon River downstream from station for their Temple-Belton plant. No flow at times. Some records listed in the "Period of Record" for surface water and water quality may not be available electronically.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--30 years (water years 1924-53) prior to regulation by Belton Lake, 659 ft³/s (477,400 acre-ft/yr).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Dec. 1913 reached a stage of 25 ft, and a flood in Sept. 1921 reached a stage of 21 ft, from information by local residents.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--WATER YEARS, 1924-1953: Maximum discharge, 56,500 ft³/s Apr. 22, 1945 (gage height, 24.41 ft). No flow at times.

Water-Data Report 2011

08102500 Leon River near Belton, TX—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	36	9.9	8.7	16	24	11	8.0	18	31	20	169	442
2	43	6.8	7.7	16	19	9.7	7.3	14	27	57	27	425
3	48	7.1	7.0	12	6.3	8.6	22	11	4.5	68	24	486
4	33	5.2	10	10	7.0	8.2	15	5.5	1.2	66	24	376
5	20	6.2	13	5.2	4.8	9.7	9.0	7.0	4.3	34	23	205
6	19	15	8.4	6.9	2.6	11	6.9	17	6.1	17	36	170
7	15	21	6.0	6.9	4.5	11	6.2	18	2.7	33	60	255
8	14	12	5.7	10	15	11	4.7	20	0.78	41	35	215
9	7.1	9.7	7.6	41	54	9.0	11	7.6	1.1	23	39	142
10	5.3	7.9	8.4	19	30	8.1	21	4.0	2.1	36	31	163
11	3.0	27	16	26	1.8	7.8	19	22	3.1	41	24	253
12	6.1	22	19	36	5.1	8.5	14	54	9.4	41	28	132
13	e0.57	29	11	40	8.2	7.9	21	21	7.0	20	31	127
14	e0.08	37	12	40	6.0	4.7	12	29	1.9	12	22	149
15	e0.01	24	9.1	50	0.73	1.4	8.0	30	0.10	13	24	202
16	13	16	9.3	60	0.11	1.3	6.4	18	0.07	50	31	166
17	37	18	7.1	52	0.00	0.85	19	30	18	58	28	217
18	8.7	17	16	32	0.03	0.80	22	22	32	26	23	217
19	0.16	12	19	39	1.5	0.27	25	9.8	42	20	24	115
20	0.02	27	12	61	6.1	1.4	21	24	20	19	22	122
21	2.1	35	8.8	71	10	2.4	21	37	14	25	45	101
22	6.8	21	11	73	9.2	2.8	25	36	18	12	28	107
23	3.0	13	15	74	9.2	2.4	20	17	21	22	240	102
24	2.9	12	17	56	10	0.40	23	19	26	56	429	125
25	1.6	15	18	54	11	3.8	23	15	74	26	407	138
26	7.8	21	16	50	12	12	12	22	81	16	352	108
27	8.1	19	16	50	11	25	13	26	75	17	321	199
28	3.2	22	15	45	9.5	15	8.6	28	33	20	464	171
29	4.8	15	17	36	---	13	2.4	26	20	100	381	132
30	11	12	17	38	---	14	5.4	29	15	358	418	202
31	17	---	17	22	---	6.8	---	16	---	432	489	---
Total	377.34	514.8	380.8	1,148.0	278.67	229.82	431.9	652.9	591.35	1,779	4,299	5,964
Mean	12.2	17.2	12.3	37.0	9.95	7.41	14.4	21.1	19.7	57.4	139	199
Max	48	37	19	74	54	25	25	54	81	432	489	486
Min	0.01	5.2	5.7	5.2	0.00	0.27	2.4	4.0	0.07	12	22	101
Ac-ft	748	1,020	755	2,280	553	456	857	1,300	1,170	3,530	8,530	11,830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2011², BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	362	305	367	467	539	887	772	957	984	757	403	277
Max	3,918	3,058	4,619	5,066	4,379	6,621	5,170	4,560	6,002	6,287	5,830	4,689
(WY)	(1960)	(1960)	(2005)	(1992)	(2010)	(1997)	(1992)	(1990)	(1957)	(1957)	(2007)	(2007)
Min	2.79	1.07	0.67	2.51	0.67	2.56	1.70	0.87	0.05	0.26	1.86	0.25
(WY)	(1969)	(1955)	(1955)	(1955)	(2009)	(1955)	(1954)	(1954)	(1954)	(1954)	(1954)	(1954)

08102500 Leon River near Belton, TX—Continued**SUMMARY STATISTICS**

	Calendar Year 2010		Water Year 2011		Water Years 1954 - 2011^z		
Annual total	326,090.13		16,647.58				
Annual mean	893		45.6		590		
Highest annual mean					3,067	1992	
Lowest annual mean					4.71	1955	
Highest daily mean	5,110	Feb 17	489	Aug 31	10,200	Mar 6, 1992	
Lowest daily mean	0.01	Oct 15	0.00	Feb 17	0.00	Oct 1, 1953	
Annual seven-day minimum	2.4	Oct 19	1.2	Mar 15	0.00	Oct 1, 1953	
Maximum peak flow			1,010	Aug 31	10,200	Mar 6, 1992	
Maximum peak stage			5.06	Aug 31	9.74	Mar 6, 1992	
Annual runoff (ac-ft)	646,800		33,020		427,600		
10 percent exceeds	4,110		123		2,140		
50 percent exceeds	43		18		43		
90 percent exceeds	8.6		3.1		5.2		

^z Period of regulated streamflow.

