Water-Data Report 2012

08100000 Leon River near Hamilton, TX

Little Basin
Leon Subbasin

LOCATION.--Lat 31°47′19″, long 98°07′16″ referenced to North American Datum of 1927, Hamilton County, TX, Hydrologic Unit 12070201, at downstream side of bridge on U.S. Highway 281, 2.2 mi upstream from Mesquite Creek, 3.6 mi downstream from Bear Creek, 5.9 mi north of Hamilton, and 172.9 mi upstream from mouth.

DRAINAGE AREA.--1,891 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Jan. 1925 to Sept. 1931, Sept. 1960 to Sept. 1996, Oct. 2007 to current year (daily mean discharge), Oct. 1996 to Sept. 2007 (peak discharges greater than base discharge).

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.38 ft above NGVD of 1929. Jan. 7, 1925, to Sept. 30, 1931, nonrecording gage 1.4 mi downstream at datum 1.87 ft higher. Sept. 1 to Nov. 22, 1960, nonrecording gage at same site and at 5.00 ft higher datum. Nov. 22, 1960, to Sept. 30, 1972, recording gage at same site and at 5.00 ft higher datum. Satellite telemeter at station.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Since water year 1954, at least 10% of contributing drainage area has been regulated. There are numerous diversions above station for irrigation, municipal supply, and industrial uses. At times flow is affected by discharge from floodwater-retarding structures controlling runoff from 43.9 mi^2. 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.--6 years (water years 1926-31) prior to regulation by Lake Leon, 130 ft^3/s (94,200 acre-ft/yr).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1858, 38.4 ft in May 1908 and Dec. 1913; flood in Sept. 1911 reached a stage of 37.0 ft, all at present site and datum, from information by local residents. The flood in Oct. 1959 reached a stage of 34.1 ft, present datum.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--WATER YEARS 1925-1931: Maximum discharge, 5,680 ft^3/s, May 22, 1931, gage height, 20.00 ft; no flow at times.

REVISIONS.--The maximum discharge for the 2006 water year has been revised to 437 ft^3/s, Mar. 20, 2006, gage height, 8.93 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	0.00	0.24	60	701	413	19	21	13	0.00	0.00
2	0.00	0.00	0.00	0.19	45	543	472	18	20	12	0.01	0.72
3	0.00	0.00	0.00	0.04	38	337	377	18	16	12	0.00	0.87
4	0.00	0.00	0.01	0.05	33	236	315	20	15	12	0.00	0.31
5	0.00	0.00	0.19	0.05	26	225	261	22	12	11	0.00	0.03
6	0.00	0.00	0.00	0.06	23	203	208	19	9.4	5.8	0.00	0.00
7	0.00	0.00	1.5	0.07	22	101	196	47	33	2.9	0.00	0.00
8	0.00	0.00	1.3	0.09	20	74	188	242	227	1.7	0.00	0.00
9	1,150	0.00	4.8	0.66	19	81	190	117	130	1.1	0.00	0.00
10	1,890	0.00	4.7	99	19	285	187	51	53	1.6	0.00	0.00
11	219	0.00	3.2	154	34	1,400	173	341	33	0.97	0.00	0.00
12	59	0.00	2.2	43	44	679	110	145	29	0.73	0.00	0.00
13	26	0.00	1.5	18	73	463	94	75	e94	0.66	0.00	0.00
14	15	0.00	1.2	9.5	87	770	90	51	159	0.66	0.00	0.00
15	8.7	0.00	1.2	5.9	81	753	76	40	60	0.74	0.00	0.00
16	5.4	0.00	1.2	4.4	139	713	61	33	32	1.3	0.00	0.00
17	3.8	0.00	1.0	3.5	186	678	51	28	22	2.5	8.0	0.00
18	2.7	0.00	0.82	2.4	1,520	646	44	24	17	2.2	8.7	0.00
19	1.9	0.00	0.73	1.9	3,910	621	39	22	15	1.4	5.4	0.00
20	1.4	0.00	0.70	1.7	1,260	2,920	35	20	12	0.97	1.8	0.00
21	1.1	0.00	0.65	1.4	875	2,180	35	18	11	0.53	1.1	0.00
22	0.86	0.00	0.51	1.3	817	933	33	22	20	0.26	0.53	0.00
23	0.46	0.00	0.38	1.2	1,030	1,090	32	22	24	0.12	0.11	0.00
24	0.28	0.00	0.34	4.4	980	1,010	30	20	25	0.01	0.00	0.00
25	0.14	0.00	0.34	4,340	922	935	28	18	17	0.00	11	0.00
26	0.03	0.00	0.32	3,400	885	871	27	16	13	0.00	5.7	0.00
27	0.00	0.00	0.25	1,140	840	748	24	15	18	0.00	2.9	0.00
28	0.00	0.00	0.24	453	803	463	22	14	15	0.00	1.4	0.00
29	0.00	0.00	0.25	276	760	380	20	14	13	0.00	0.74	0.00
30	0.00	0.00	0.27	149	---	366	20	14	14	0.00	0.28	0.00
31	0.00	---	0.29	87	---	344	---	17	---	0.00	0.07	---
Total	3,385.77	0.00	30.09	10,198.05	15,551	21,749	3,851	1,542	1,179.4	86.15	47.74	1.93
Mean	109	0.00	0.97	329	536	702	128	49.7	39.3	2.78	1.54	0.06
Max	1,890	0.00	4.8	4,340	3,910	2,920	472	341	227	13	11	0.87
Min	0.00	0.00	0.00	0.04	19	74	20	14	9.4	0.00	0.00	0.00
Ac-ft	6,720	0.00	60	20,230	30,850	43,140	7,640	3,060	2,340	171	95	3.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2012[hz], BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	89.8	73.6	121	154	202	183	230	422	344	224	148	140
Max	719	823	2,581	1,839	2,121	1,036	1,524	4,284	1,780	1,395	1,298	1,238
(WY)	(1965)	(1992)	(1992)	(1992)	(1992)	(1992)	(1995)	(1990)	(1990)	(1992)	(1995)	(1962)
Min	0.04	0.00	0.04	1.49	1.43	0.58	0.38	1.16	0.00	0.00	0.00	0.00
(WY)	(1968)	(2012)	(1979)	(1981)	(1981)	(1986)	(1984)	(1984)	(2011)	(2011)	(2011)	(2011)

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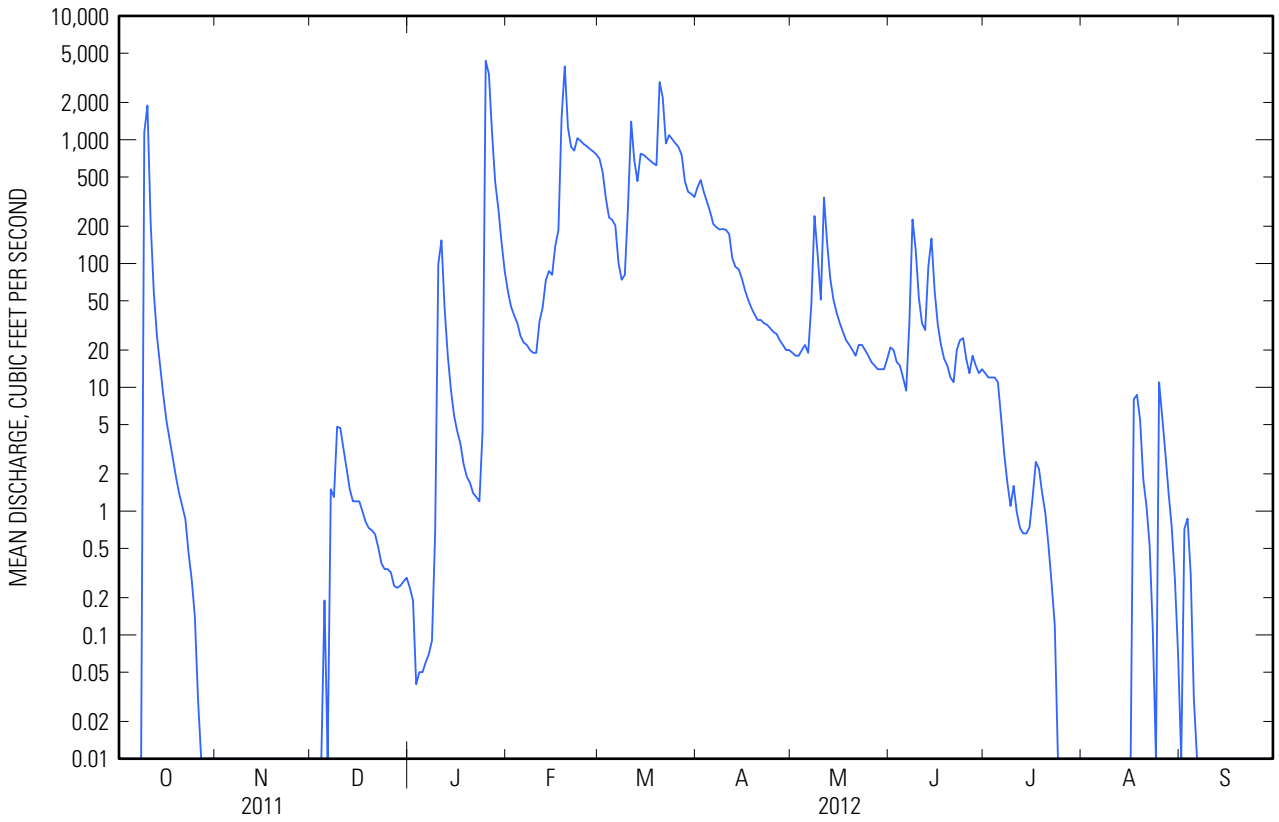
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1960 - 2012[hz]	
Annual total	4,366.57		57,622.13			
Annual mean	12.0		157		194	
Highest annual mean					1,219	1992
Lowest annual mean					3.77	2011
Highest daily mean	1,890	Oct 10	4,340	Jan 25	21,200	Dec 21, 1991
Lowest daily mean	0.00	Jun 4	0.00	Oct 1	0.00	Sep 9, 1960
Annual seven-day minimum	0.00	Jun 4	0.00	Oct 1	0.00	Aug 22, 1962
Maximum peak flow			6,200	Jan 25	32,100	Dec 20, 1991
Maximum peak stage			25.00	Jan 25	35.02	Dec 20, 1991
Annual runoff (ac-ft)	8,660		114,300		140,800	
10 percent exceeds	4.6		466		526	
50 percent exceeds	0.32		5.1		19	
90 percent exceeds	0.00		0.00		0.74	

[h] See Period of Record paragraph.
[z] Period of regulated streamflow.