Water-Data Report 2008

08093100 Brazos River near Aquilla, TX

Middle Brazos-Bosque Basin
Middle Brazos-Lake Whitney Subbasin

LOCATION.--Lat 31°48′44″, long 97°17′51″ referenced to North American Datum of 1927, Bosque County, TX, Hydrologic Unit 12060202, on right bank at downstream side of highway embankment near right end of bridge on Farm Road 2114, 2.0 mi downstream from Tener Creek, 4.9 mi downstream from Iron Creek, 5.4 mi southwest of Aquilla, 9.0 mi downstream from Whitney Dam, and at river mile 434.0.

DRAINAGE AREA.--27,244 mi^2 of which 9,566 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Oct. 1938 to current year. Prior to Oct. 1974, published as "Brazos River near Whitney".

PERIOD OF RECORD.--Water-Quality.--
CHEMICAL DATA: Mar. 2002 to Aug. 2002.
BIOCHEMICAL DATA: Mar. 2002 to Aug. 2002.
RADIOCHEMICAL DATA: Mar. 2002 to Aug. 2002.

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

GAGE.--Water-stage recorder. Datum of gage is 404.29 ft above NGVD of 1929. Prior to Oct. 1, 1948, non recording gage at site 13.9 mi upstream at datum 27.77 ft higher. Oct. 1, 1948, to Feb. 12, 1975, at site 5.6 mi upstream at datum 13.10 ft higher. Satellite telemeter at station.

REMARKS.--Records good except for estimated daily discharges, which are fair. Since water year 1941, at least 10% of contributing drainage area has been regulated. Most flow occurs as releases from Whitney Lake (station 08092500) 9.0 mi upstream. Brazos River at Whitney Dam (station 08092600) uses the discharge record at this station for publication of water-quality records. There are diversions above station for irrigation and industrial operations.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--2 years (water years 1939-40) prior to regulation by Possum Kingdom Lake. 1,149 ft^3/s (832,500 acre-ft/yr), at site and datum in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1853, 45 ft, May 9, 1922, at site and datum in use Oct. 1, 1948, to Feb. 12, 1975, from information by local residents.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--WATER YEARS, 1939-1940: Maximum discharge, 39,800 ft^3/s, June 19, 1939, gage height, 19.16 ft, maximum gage height, 19.92 ft, Aug. 20 1940, at site and datum then in use.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,120	37	246	5.8	787	305	1,300	4,520	1,620	372	1,800	558
2	1,880	499	357	5.0	812	176	986	3,830	601	295	1,560	785
3	2,000	481	1,030	5.4	53	533	531	2,260	794	250	e1,140	273
4	1,850	479	27	557	190	532	2,070	2,250	1,150	14	e1,200	470
5	1,710	220	614	56	814	212	1,830	2,650	2,310	11	476	971
6	351	117	582	249	366	41	1,500	2,830	2,270	11	558	710
7	1,330	302	258	11	68	476	1,300	2,280	1,900	14	1,150	528
8	1,570	168	404	7.6	767	903	550	2,400	1,660	24	1,070	281
9	1,120	788	978	96	45	76	421	2,960	2,210	27	499	74
10	496	265	926	30	110	140	2,820	2,360	177	24	607	261
11	255	239	300	673	334	253	3,200	2,210	8.8	26	703	186
12	179	94	480	37	106	415	1,170	1,010	769	22	397	544
13	475	812	293	6.3	1,040	53	1,040	2,400	1,010	22	784	282
14	1,950	50	115	6.1	301	21	1,550	5,030	252	1,010	1,030	21
15	2,720	326	439	6.5	287	e22	1,390	2,440	640	2,000	401	8.0
16	178	269	981	6.5	279	e22	1,080	1,400	262	373	300	2.9
17	805	8.7	130	694	77	17	1,490	541	12	281	291	3.6
18	983	349	194	54	296	180	2,390	448	1,230	128	278	3.8
19	513	373	341	150	47	335	832	1,550	857	31	50	4.6
20	502	113	23	1,400	109	103	644	1,430	888	27	240	5.2
21	607	478	5.0	921	317	106	849	1,250	1,140	1,050	575	6.0
22	335	356	5.1	1,030	747	837	1,890	1,160	1,170	400	737	6.6
23	934	95	466	720	751	997	883	1,160	1,470	213	374	196
24	101	981	11	371	58	1,650	1,440	2,140	266	34	75	234
25	6.2	1,280	5.3	65	17	70	3,020	1,780	1,020	27	203	635
26	6.0	521	90	731	34	26	4,460	1,640	719	28	246	661
27	174	363	199	702	500	518	4,560	876	870	26	555	291
28	5.7	337	8.7	837	234	1,830	4,500	1,290	1,320	123	848	417
29	335	1,410	5.3	422	37	909	4,470	2,060	640	382	235	386
30	1,010	242	4.9	460	---	692	4,480	1,180	896	815	6.8	325
31	376	---	5.2	167	---	1,100	---	846	---	1,210	4.7	---
Total	26,876.9	12,052.7	9,523.5	10,482.2	9,583	13,550	58,646	62,181	30,131.8	9,270	18,393.5	9,129.7
Mean	867	402	307	338	330	437	1,955	2,006	1,004	299	593	304
Max	2,720	1,410	1,030	1,400	1,040	1,830	4,560	5,030	2,310	2,000	1,800	971
Min	5.7	8.7	4.9	5.0	17	17	421	448	8.8	11	4.7	2.9
Ac-ft	53,310	23,910	18,890	20,790	19,010	26,880	116,300	123,300	59,770	18,390	36,480	18,110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2008[Z], BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,475	1,034	883	1,018	1,168	1,523	1,503	3,291	3,181	1,560	1,009	1,041
Max	12,300	7,201	7,148	18,010	11,190	13,700	14,340	29,670	35,640	19,440	5,252	8,249
(WY)	(1982)	(1975)	(1992)	(1992)	(1992)	(1992)	(1942)	(1957)	(1957)	(2007)	(1995)	(1966)
Min	24.5	20.5	28.9	9.92	15.6	26.7	12.5	13.0	95.5	28.6	61.5	28.1
(WY)	(1989)	(1984)	(2000)	(1953)	(1984)	(1953)	(1953)	(1988)	(1999)	(1978)	(1988)	(1999)

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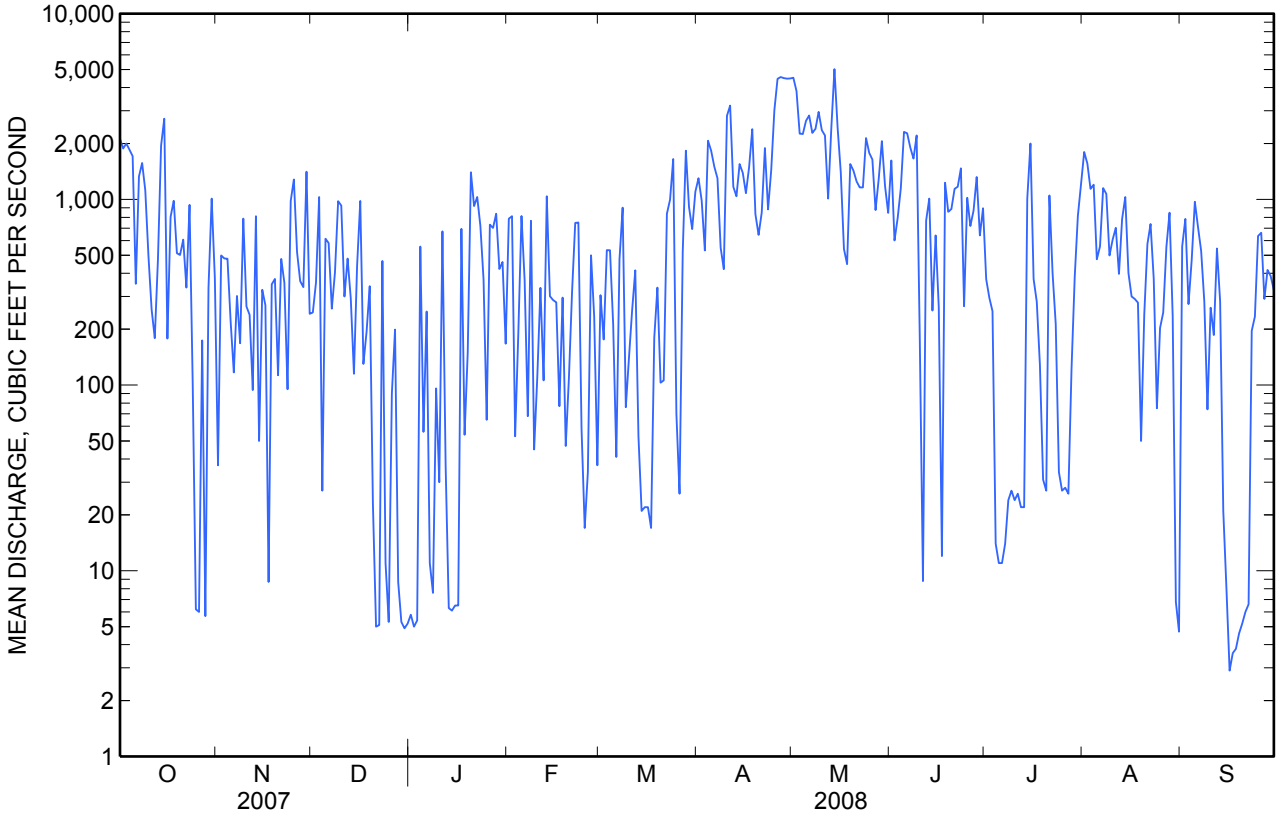
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1941 - 2008[Z]	
Annual total	1,505,670.1		269,820.3			
Annual mean	4,125		737		1,558	
Highest annual mean					6,566	1992
Lowest annual mean					141	1953
Highest daily mean	27,100	Jul 5	5,030	May 14	66,100	May 18, 1949
Lowest daily mean	4.9	Dec 30	2.9	Sep 16	0.40	May 9, 1953
Annual seven-day minimum	21	Jan 6	4.7	Sep 16	0.80	May 4, 1953
Maximum peak flow			7,690	May 14	[g]71,800	May 18, 1949
Maximum peak stage			14.43	May 14	31.03	May 18, 1949
Annual runoff (ac-ft)	2,986,000		535,200		1,129,000	
10 percent exceeds	14,000		1,880		3,180	
50 percent exceeds	1,250		444		590	
90 percent exceeds	22		14		37	

[Z]Period of regulated streamflow.

[g]At site and datum then in use.