

Texas Water Development Board



W **A** **T** **E** **R**
Conditions

RESERVOIR STORAGE

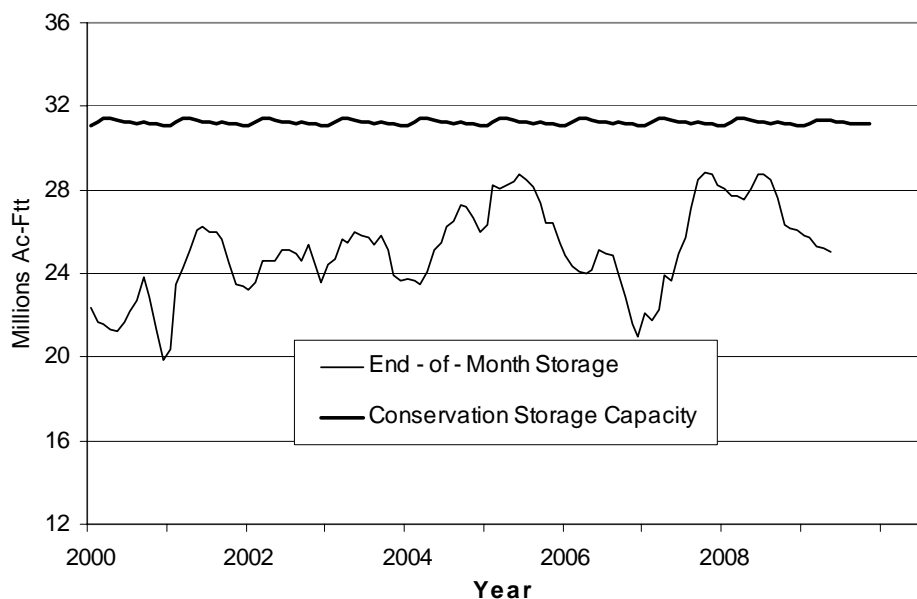
December 2008

Near the end of December, the 109 reservoirs monitored for this report were 80 percent full*, on average, holding 25.06 million acre-feet in conservation storage, about 0.14 million acre-feet less than November and 2.66 million acre-feet less than December of 2007.

Storage was at 100% in 11 reservoirs, with both Falcon and Amistad remaining full. Eight out of these 11 reservoirs are in the East Region. On the other hand, four lakes were below 10% full: O C Fisher Lake was still effectively empty, Palo Duro (2%) was almost empty, and Lake Meredith (8%) and J B Thomas (8%) stayed just below the 10% level.

Regionally, the Southern Region (95%) is the only region having storage at or above 90% of capacity, and the High Plains (12%) and Trans-Pecos Regions (27%) remained very low. Storage increased during the month in three regions and decreased in the remaining six. Storage increased in only two of the nine regions over the past 12 month period.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



* Figures are based on end of the month data at 109 major reservoirs that represent 95 percent of the total conservation storage capacity of the 175 major water supply reservoirs in Texas. By definition, a major reservoir has a conservation storage capacity of 5,000 acre-feet or greater.

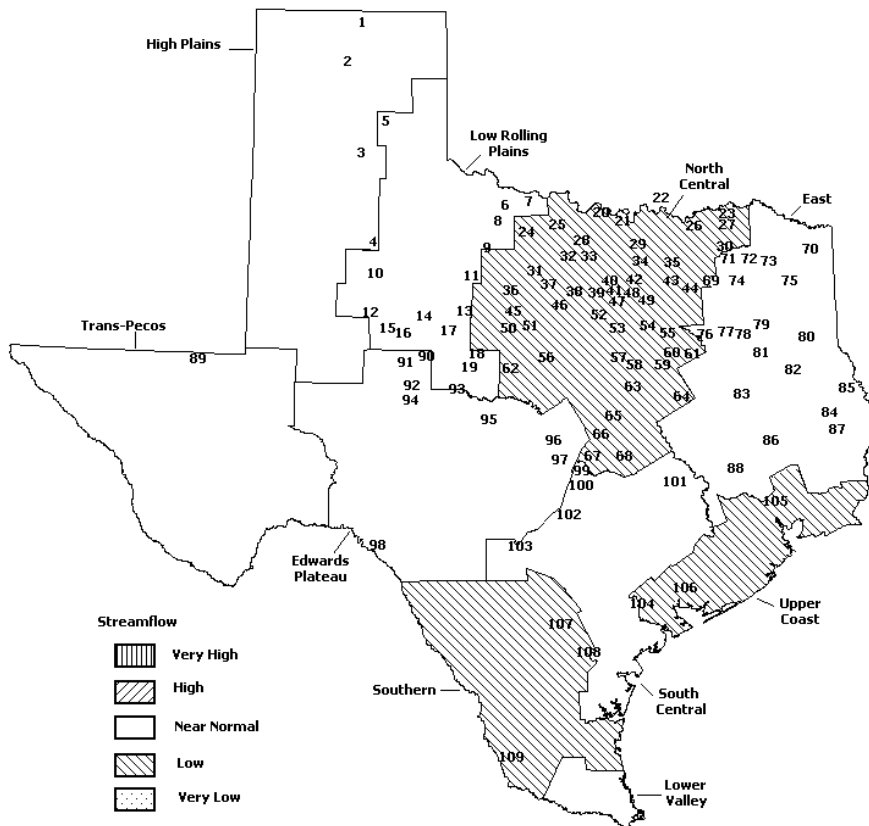
STREAMFLOW

Of 29 reporting index stations in December, computed 30-day mean flows were very high (<5%) at 1 station, high (5% - 30%) at 1 station, low (70% - 95%) at 13 stations, very low (> 95%) at 1 station and near normal (30% - 70%) at the remaining 13 stations. Compared to November, flows increased at 17 index stations, decreased at 10 stations, and were unchanged at 2 stations.

On a regional basis, flows in December were low in North Central, Upper Coast, and Southern regions, and normal in all other regions. Streamflow in the Lower Valley Region is not monitored.

DECEMBER STREAMFLOW CONDITIONS

Reservoirs Shown on Map



1. Palo Duro Reservoir
2. Meredith, Lake
3. MacKenzie Reservoir
4. White River Lake
5. Greenbelt Lake
6. Electra, Lake
7. N. Fork Buffalo Creek Reservoir
8. Kemp, Lake
9. Miller's Creek Reservoir
10. Alan Henry Reservoir
11. Stamford, Lake
12. Lake J. B. Thomas
13. Fort Phantom Hill, Lake
14. Sweetwater, Lake
15. Colorado City, Lake
16. Champion Creek Reservoir
17. Abilene, Lake
18. Coleman, Lake
19. Hords Creek Lake
20. Farmers Creek Reservoir
21. Hubert H Moss Lake
22. Texoma, Lake
23. Pat Mayse Lake
24. Lake Kickapoo
25. Lake Arrowhead
26. Bonham, Lake
27. Crook, Lake
28. Amon G Carter, Lake
29. Ray Roberts, Lake
30. Jim Chapman Lake
31. Graham, Lake
32. Lost Creek Reservoir
33. Bridgeport Reservoir
34. Lewisville Lake
35. Lavon Lake
36. Hubbard Creek Reservoir
37. Possum Kingdom Lake
38. Mineral Wells, Lake
39. Weatherford, Lake
40. Eagle Mountain Lake
41. Worth, Lake
42. Grapevine Lake
43. Lake Ray Hubbard
44. New Terrell City Lake
45. Daniel, Lake
46. Palo Pinto, Lake
47. Benbrook Lake
48. Arlington, Lake
49. Joe Pool Lake
50. Cisco, Lake
51. Leon, Lake
52. Lake Granbury
53. Pat Cleburne, Lake
54. Waxahacie, Lake
55. Bardwell Lake
56. Proctor Lake
57. Whitney Lake
58. Aquilla Lake
59. Navarro Mills Lake
60. Halbert, Lake
61. Richland-Chambers Reservoir
62. Lake Brownwood
63. Waco Lake
64. Limestone, Lake
65. Belton Lake
66. Stillhouse Hollow Lake
67. Georgetown, Lake
68. Granger Lake
69. Tawakoni, Lake
70. Wright Patman Lake
71. Sulphur Springs, Lake
72. Cypress Springs, Lake
73. Bob Sandlin, Lake
74. Fork Reservoir, Lake
75. O' the Pines, Lake
76. Cedar Creek Reservoir Trinity
77. Athens, Lake
78. Palestine, Lake
79. Tyler, Lake
80. Murvaul, Lake
81. Jacksonville, Lake
82. Nacogdoches, Lake
83. Houston County Lake
84. Sam Rayburn Reservoir
85. Toledo Bend Reservoir
86. Livingston, Lake
87. B. A. Steinhagen Lake
88. Conroe, Lake
89. Red Bluff Reservoir
90. Oak Creek Reservoir
91. E. V. Spence Reservoir
92. O. C. Fisher Lake
93. O. H. Ivie Reservoir
94. Twin Buttes Reservoir
95. Vradly Creek Reservoir
96. Buchanan, Lake
97. Lyndon B Johnson, Lake
98. Amistad Reservoir, Intl.
99. Travis, Lake
100. Austin, Lake
101. Somerville Lake
102. Canyon Lake
103. Medina Lake
104. Coletto Creek Reservoir
105. Lake Houston
106. Texana, Lake
107. Choke Canyon Reservoir
108. Lake Corpus Christi
109. Falcon Reservoir, Intl.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage		Conservation Storage		Change since Late November 2008		Change since Late December 2007	
		Capacity (acre-feet)	Late Dec. (acre-feet)	2008 (%)	Late November (acre-feet)	2008 (%)	Late December (acre-feet)	2007 (%)	
HIGH PLAINS									
Palo Duro Reservoir	1	60,897	1,179	2	-191	0	311	1	
Meredith, Lake (Texas)	2	500,000	63,937	13	-1,111	0	12,644	3	
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	63,937	8	-1,111	0	12,644	2	
MacKenzie Reservoir	3	46,429	5,837	13	-161	0	-1,576	-3	
White River Lake	4	29,880	6,913	23	-188	-1	5,396	18	
TOTAL		637,206	77,866	12	-1,651	0	16,775	3	
LOW ROLLING PLAINS									
Greenbelt Lake	5	59,500	18,431	31	-164	0	-3,468	-6	
*Electra, Lake	6	5,626	975	17	-56	-1	-789	-14	
N. Fork Buffalo Crk Reservoir	7	15,400	4,085	27	-109	-1	-917	-6	
Kemp, Lake	8	245,308	169,979	69	-2,340	-1	-75,329	-31	
Millers Creek Reservoir	9	27,888	16,515	59	-629	-2	-6,902	-25	
Alan Henry Reservoir	10	94,808	93,438	99	-940	-1	1,421	1	
Stamford, Lake	11	51,570	36,395	71	-1,236	-2	-14,183	-28	
J B Thomas, Lake	12	199,931	16,458	8	-1,608	-1	-9,832	-5	
Fort Phantom Hill, Lake	13	70,030	63,453	91	-1,629	-2	-3,572	-5	
Sweetwater, Lake	14	10,006	7,618	76	-152	-2	151	2	
Colorado City, Lake	15	31,793	22,019	69	-409	-1	-5,392	-17	
Champion Creek Reservoir	16	41,618	8,992	22	-90	0	-460	-1	
Abilene, Lake	17	6,099	3,900	64	-240	-4	-1,738	-28	
Coleman, Lake	18	38,076	28,333	74	-620	-2	-6,817	-18	
Hords Creek Lake	19	5,684	2,929	52	-146	-3	-1,944	-34	
TOTAL		903,337	493,520	55	-10,368	-1	-129,771	-14	
NORTH CENTRAL									
Nocona, Lake (Farmers Crk)	20	21,445	17,184	80	-442	-2	-2,368	-11	
Hubert H Moss Lake	21	24,058	21,101	88	-285	-1	-1,482	-6	
Texoma, Lake (Texas)	22	1,262,640	1,242,272	98	-2,210	0	29,539	2	
Texoma, Lake (Texas & Oklahoma)	(22)	2,525,281	2,484,544	98	-4,420	0	59,077	2	
*Pat Mayse Lake	23	118,100	107,110	91	-794	-1	-10,990	-9	
Kickapoo, Lake	24	85,825	40,348	47	-1,591	-2	-20,791	-24	
Arrowhead, Lake	25	235,997	159,801	68	-3,799	-2	-49,070	-21	
Bonham, Lake	26	11,026	8,210	74	-262	-2	-1,849	-17	
Crook, Lake	27	9,195	8,761	95	-20	0	-382	-4	
Amon G Carter, Lake	28	19,903	16,259	82	-486	-2	-2,062	-10	
Ray Roberts, Lake	29	798,758	729,934	91	-10,803	-1	-57,464	-7	
Jim Chapman Lake (Cooper)	30	260,332	162,550	62	-13,132	-5	-133,237	-51	
Graham, Lake	31	45,260	41,017	91	-854	-2	1,859	4	
*Lost Creek Reservoir	32	11,950	10,423	87	-208	-2	-914	-8	
Bridgeport, Lake	33	366,236	280,535	77	-4,879	-1	-48,349	-13	
Lewisville Lake	34	543,988	433,012	80	538	0	-95,017	-17	
Lavon Lake	35	443,844	355,843	80	750	0	-24,040	-5	
Hubbard Creek Reservoir	36	318,067	261,010	82	-5,171	-2	-20,617	-6	
Possum Kingdom Lake	37	540,340	501,449	93	-2,709	-1	-13,185	-2	
*Mineral Wells, Lake	38	7,065	5,219	74	-101	-1	-901	-13	
Weatherford, Lake	39	18,645	12,412	67	-460	-2	-3,632	-19	
Eagle Mountain Lake	40	182,500	145,011	79	-5,456	-3	-15,537	-9	
Worth, Lake	41	24,500	19,020	78	1,354	6	-2,516	-10	
Grapevine Lake	42	164,702	121,246	74	-3,626	-2	-35,578	-22	
Ray Hubbard, Lake	43	452,040	426,142	94	-4,915	-1	-25,898	-6	
New Terrell City Lake	44	8,583	7,510	87	-121	-1	-827	-10	
Daniel, Lake	45	9,435	6,812	72	-263	-3	-980	-10	
Palo Pinto, Lake	46	27,150	15,282	56	-1,057	-4	-7,026	-26	
Benbrook Lake	47	85,648	59,702	70	965	1	-25,946	-30	
Arlington, Lake	48	38,740	26,165	68	1,125	3	-9,292	-24	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage		Change since Late November 2008		Change since Late December 2007		
			Late Dec. (acre-feet)	2008 (%)	(acre-feet)	(%)	(acre-feet)	(%)	
NORTH CENTRAL (Continue)									
Joe Pool Lake	49	142,861	124,352	87	-1,964	-1	-9,760	-7	
*Cisco, Lake	50	26,000	19,430	75	-361	-1	-1,840	-7	
Leon, Lake	51	26,421	21,284	81	-576	-2	-3,557	-13	
Granbury, Lake	52	128,046	111,655	87	-4,454	-3	-6,281	-5	
Pat Cleburne, Lake	53	25,730	19,769	77	-469	-2	-4,562	-18	
Waxahachie, Lake	54	10,779	10,530	98	991	9	514	5	
Bardwell Lake	55	46,122	36,555	79	-336	-1	-8,793	-19	
Proctor Lake	56	55,457	36,539	66	-1,020	-2	-17,805	-32	
Whitney, Lake	57	553,349	369,047	67	-14,058	-3	-62,125	-11	
Aquilla Lake	58	45,092	34,523	77	-1,172	-3	-7,990	-18	
Navarro Mills Lake	59	55,817	42,152	76	-1,423	-3	-9,700	-17	
*Halbert, Lake	60	6,033	3,484	58	-197	-3	-1,356	-22	
Richland-Chambers Reservoir	61	1,103,816	926,734	84	-23,189	-2	-115,225	-10	
*Brownwood, Lake	62	131,429	103,982	79	-2,141	-2	-18,823	-14	
Waco, Lake	62	198,943	176,780	89	-2,771	-1	-22,163	-11	
Limestone, Lake	64	208,015	178,637	86	-4,260	-2	-9,099	-4	
Belton Lake	65	435,225	403,748	93	-6,641	-2	-31,477	-7	
Stillhouse Hollow Lake	66	227,771	198,842	87	-3,583	-2	-28,929	-13	
Georgetown, Lake	67	36,823	16,835	46	433	1	-18,541	-50	
Granger Lake	68	52,525	39,417	75	-607	-1	-13,108	-25	
Tawakoni, Lake	69	888,126	719,118	81	-23,973	-3	-103,629	-12	
TOTAL		10,540,352	8,834,753	84	-150,683	-1	-1,072,801	-10	
EAST									
Wright Patman Lake	70	122,593	122,593	100	0	0	0	0	
*Sulphur Springs, Lake	71	17,838	14,698	82	-116	-1	-2,465	-14	
Cypress Springs, Lake	72	67,689	67,689	100	0	0	0	0	
Bob Sandlin, Lake	73	200,579	197,231	98	362	0	3,308	2	
Fork Reservoir, Lake	74	604,927	583,544	96	-6,864	-1	-12,671	-2	
O the Pines, Lake	75	238,933	238,933	100	0	0	0	0	
Cedar Creek Reservoir in Trinity	76	644,686	571,404	89	-1,817	0	-43,061	-7	
Athens, Lake	77	29,435	28,430	97	71	0	-1,005	-3	
Palestine, Lake	78	370,907	370,907	100	0	0	0	0	
Tyler, Lake	79	73,256	73,256	100	0	0	2,985	4	
Murvaul, Lake	80	38,284	38,284	100	342	1	3,995	10	
Jacksonville, Lake	81	30,300	29,732	98	634	2	-568	-2	
Nacogdoches, Lake	82	39,521	35,080	89	99	0	-829	-2	
Houston County Lake	83	17,113	17,113	100	0	0	254	1	
Sam Rayburn Reservoir	84	2,857,077	2,152,028	75	58,133	2	-145,969	-5	
Toledo Bend Reservoir (Texas)	85	2,236,450	1,914,662	86	11,544	1	1,649	0	
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	3,829,324	86	23,087	1	3,298	0	
*Livingston, Lake	86	1,741,867	1,741,867	100	0	0	0	0	
B A Steinhagen Lake	87	66,966	52,429	78	-2,272	-3	-8,186	-12	
Conroe, Lake	88	416,188	395,025	95	-1,488	0	-9,275	-2	
TOTAL		9,814,609	8,644,905	88	58,628	1	-211,838	-2	
TRANS-PECOS									
Red Bluff Reservoir	89	289,670	78,238	27	963	0	-26,249	-9	
TOTAL		289,670	78,238	27	963	0	-26,249	-9	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

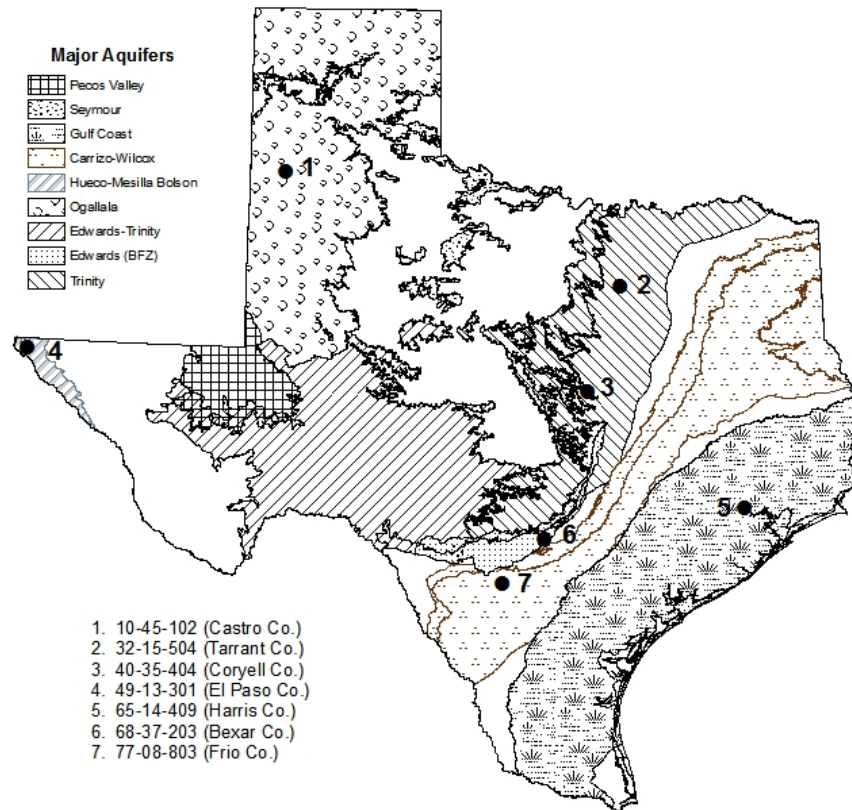
Name of Lake or Reservoir	No. on Map	Conservation		Change since		Change since		
		Storage Capacity (acre-feet)	Storage Late Dec. (acre-feet)	2008 (%)	Late November 2008 (acre-feet) (%)	Late December 2007 (acre-feet) (%)		
EDWARDS PLATEAU								
Oak Creek Reservoir	90	39,260	30,593	78	-639	-2	-7,636	-19
E V Spence Reservoir	91	517,272	53,629	10	-2,141	0	-21,965	-4
O C Fisher Lake	92	79,483	0	0	0	0	0	0
*O H Ivie Reservoir	93	554,335	306,177	55	-5,837	-1	-65,374	-12
Twin Buttes Reservoir	94	177,850	47,104	26	-1,076	-1	-20,004	-11
Brady Creek Reservoir	95	29,110	14,507	50	-448	-2	-1,173	-4
Buchanan, Lake	96	875,610	573,159	65	-9,807	-1	-266,776	-30
Lyndon B Johnson, Lake	97	113,690	112,790	99	-192	0	65	0
*Amistad Reservoir (Texas)	98	1,840,849	1,857,000	101	8,000	0	-407,000	-22
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	3,275,532	100	0	0	450,532	14
TOTAL		4,227,459	2,994,959	71	-12,140	0	-789,863	-19
SOUTH CENTRAL								
Travis, Lake	99	1,113,902	707,855	64	-11,616	-1	-397,898	-36
*Austin, Lake	100	21,804	20,820	95	-363	-2	-182	-1
Somerville Lake	101	147,104	116,902	79	-2,197	-1	-29,455	-20
Canyon Lake	102	378,781	295,038	78	-4,421	-1	-83,743	-22
Medina Lake	103	254,823	143,767	56	-8,048	-3	-107,740	-42
*Coletto Creek Reservoir	104	31,040	23,351	75	173	1	-7,266	-23
TOTAL		1,947,454	1,307,733	67	-26,472	-1	-626,284	-32
UPPER COAST								
Houston, Lake	105	128,863	128,863	100	0	0	0	0
Texana, Lake	106	153,246	115,772	76	-1,925	-1	-27,242	-18
TOTAL		282,109	244,635	87	-1,925	-1	-27,242	-10
SOUTHERN								
Choke Canyon Reservoir	107	695,262	567,121	82	-8,388	-1	-121,678	-18
Corpus Christi, Lake	108	256,961	168,816	66	-6,178	-2	-83,808	-33
*Falcon Reservoir (Texas)	109	1,551,034	1,650,000	106	21,000	1	412,000	27
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	2,646,817	100	0	0	883,817	33
TOTAL		2,503,257	2,385,937	95	6,434	0	206,514	8
STATE TOTAL		31,145,453	25,062,546	80	-137,214	0	-2,660,759	-9

* Conservation volume is used as conservation storage capacity because the dead storage is unknown.

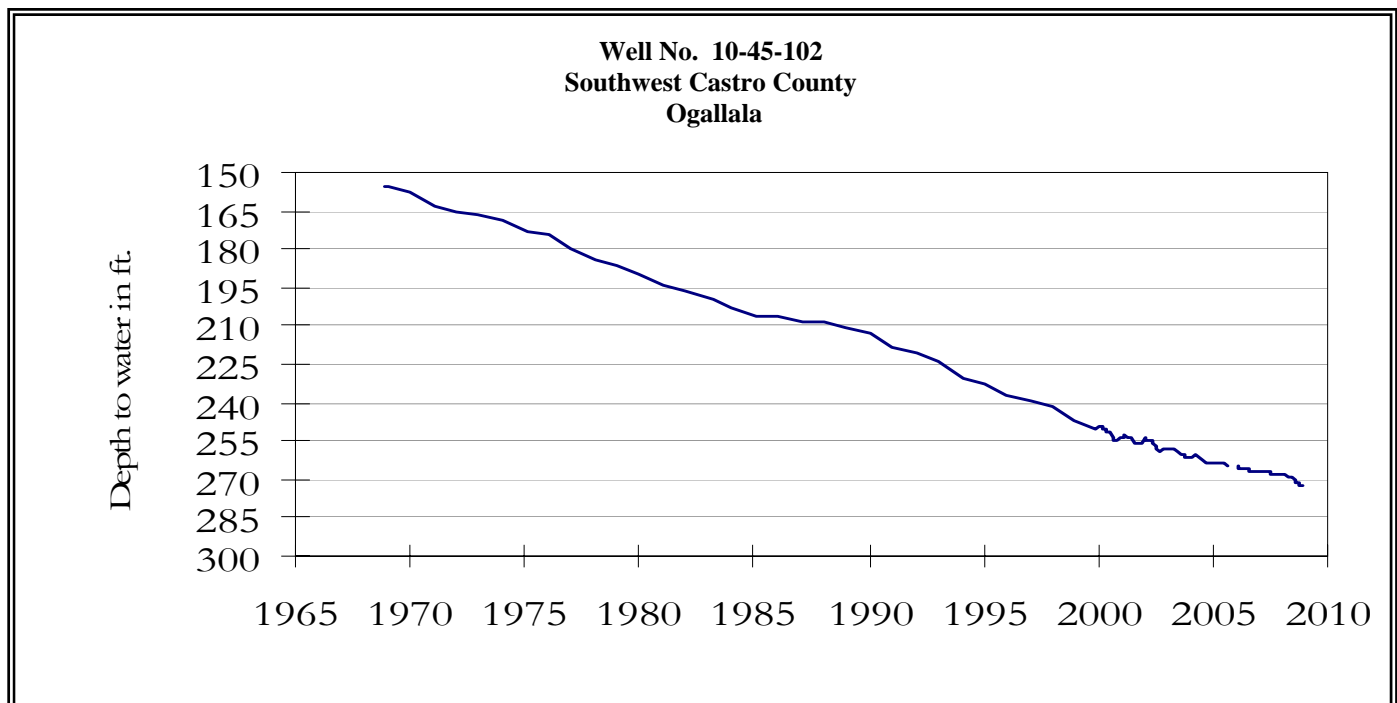
Note

Conservation storage capacity is the space available to store water above the lowest outlet and below the top of conservation pool, or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of conservation pool or normal maximum operating level), or any water in the dead storage. Conservation storage percentage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir on date shown. Percent change is given by $100 * (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$. Figures shown are for the Texas share of conservation storage in all reservoirs.

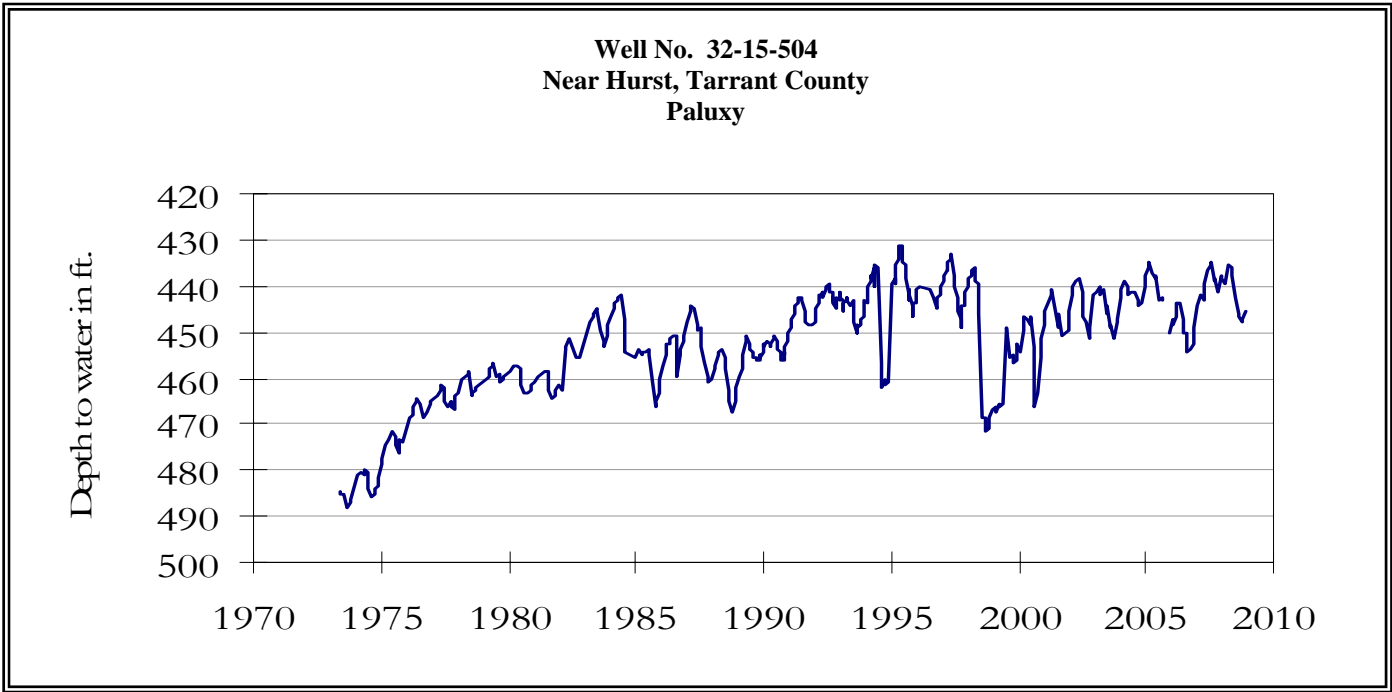
GROUND WATER LEVELS IN OBSERVATION WELLS



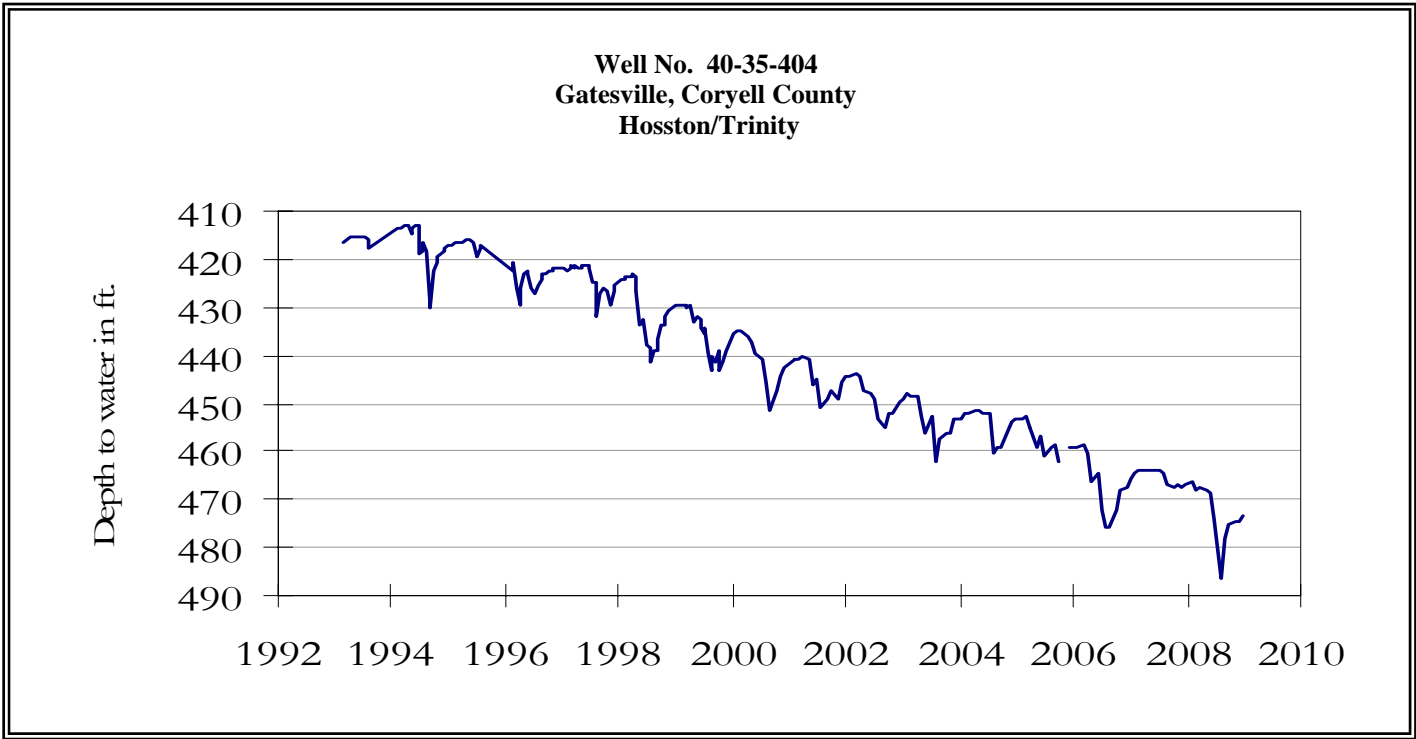
DECEMBER GROUNDWATER LEVELS IN OBSERVATION WELLS



The water-level measurement was not available for this Ogallala Aquifer well (recorder under repair). The graph presented is from last month's report.

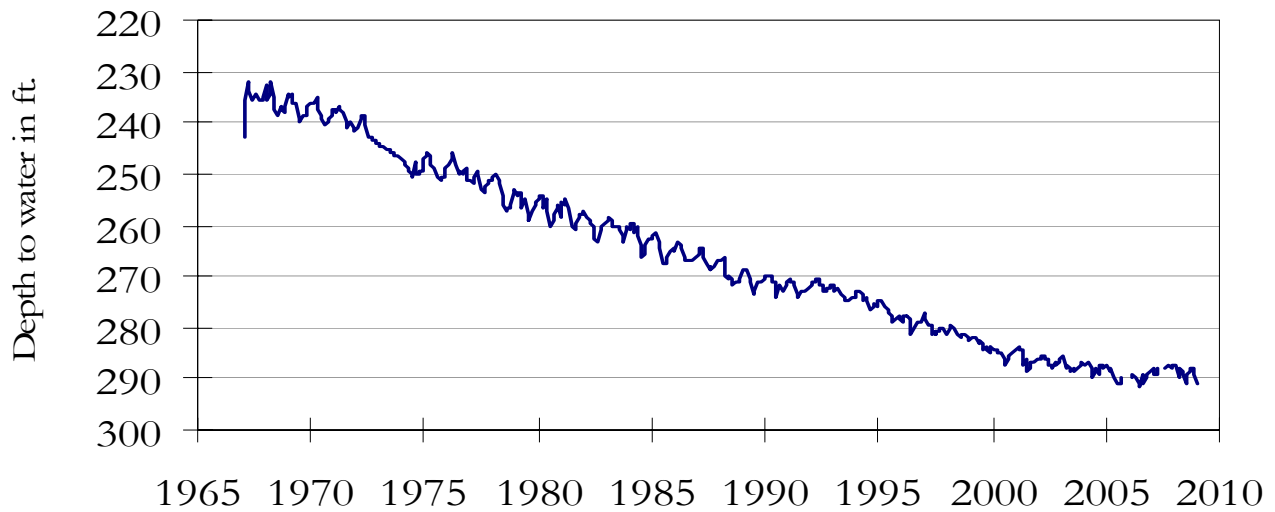


The water-level measurement was not available for this Trinity Aquifer well (recorder under repair). The graph presented is from last month's report.



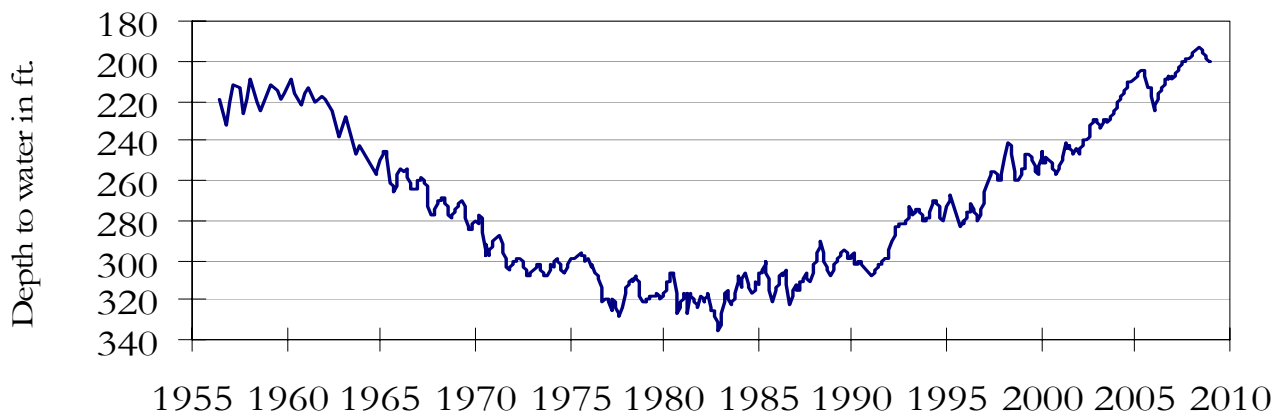
The late December water level measurement in this Hosston Formation Trinity Aquifer well, elevation 823 feet above sea level, was 473.26 feet below land surface. This water level was 1.33 feet above last month's measurement, 6.47 feet below last year's measurement, and 181.26 feet below the initial measurement recorded in 1955. No water level measurement was recorded for October 2005.

**Well No. 49-13-301
El Paso, El Paso County
Bolson Deposits**



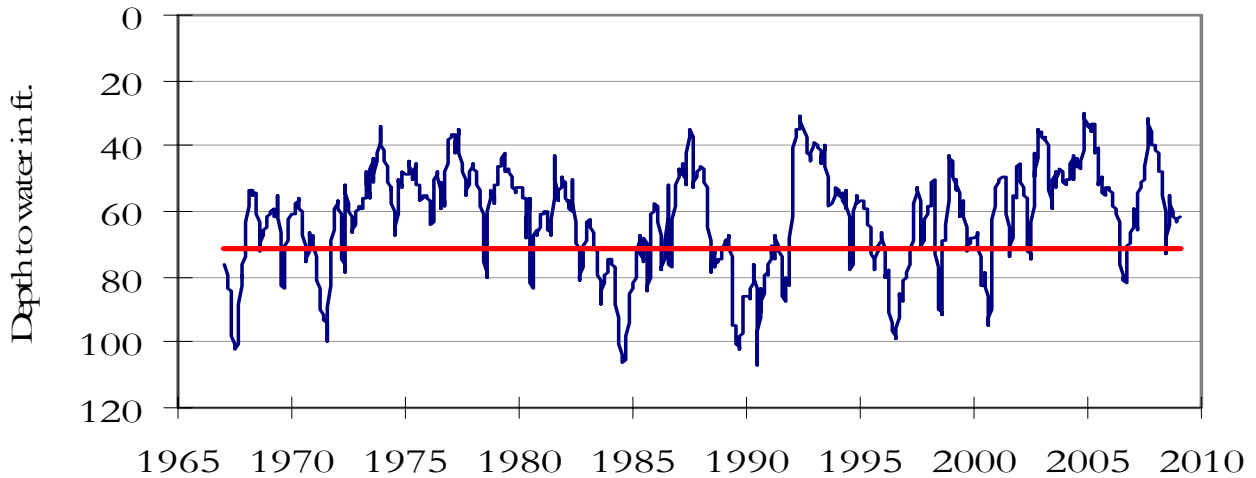
The late Decemberr water level measurement in this Hueco Bolson Aquifer well, elevation 3,882 feet above sea level, was 291.13 feet below land surface. This water level was 2.19 feet below last month's measurement, 3.48 feet below last year's measurement, and 59.23 feet below the initial measurement in 1964. No water level measurements were recorded for May through July 2007, and October or December 2005.

**Well No. 65-14-409
Alief, Harris County
Evangeline**



The late December water level measurement in this Evangeline Formation Gulf Coast Aquifer well, elevation 66 feet above sea level, was 201.08 feet below land surface. This was 0.38 feet below last month's measurement, 3.92 feet below last year's measurement, and 65.58 feet below the initial measurement recorded in 1947.

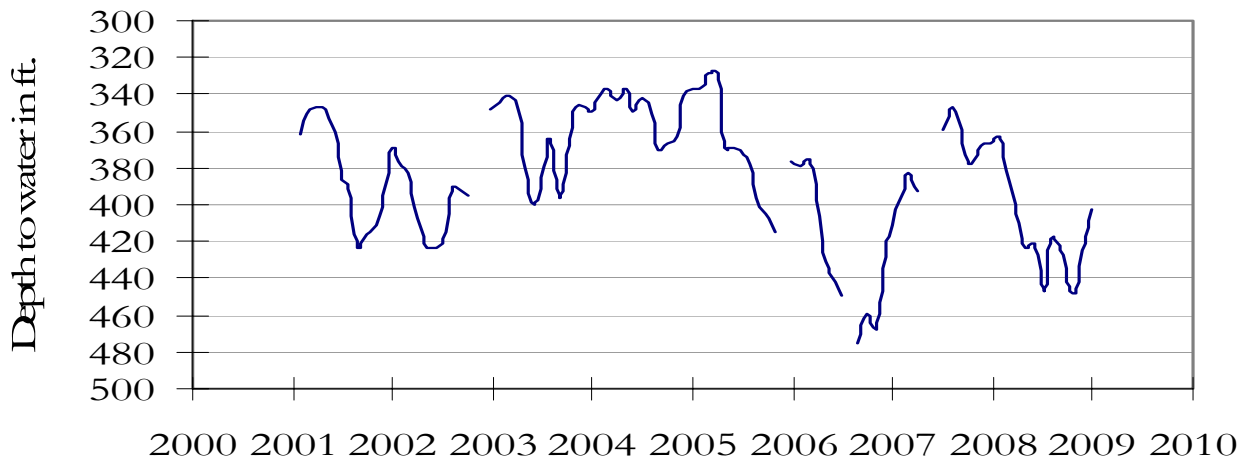
**Well No. 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards and Associated Limestones**



The late December water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 61.38 feet below land surface. This was 1.03 feet above last month's measurement, 20.58 feet below last year's measurement, and 14.74 feet below the initial measurement recorded in 1962.

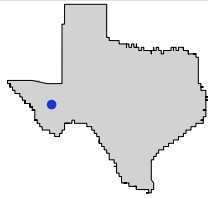
***** Water levels below the red line indicate Edwards Aquifer Authority Stage 1 drought restrictions. *****

**Well No. 77-08-803
Pearsall, Frio County
Carrizo**



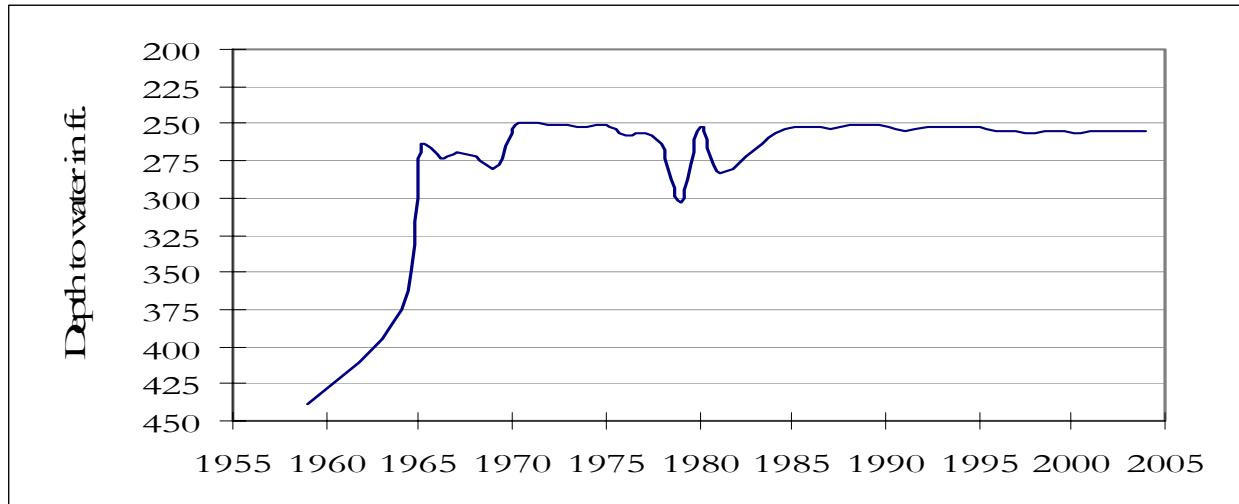
The late December water level measurement in this Carrizo-Wilcox Aquifer well, elevation 652 feet above sea level, was 402.35 feet below land surface. This was 15.21 feet above last month's measurement, 35.12 feet below last year's measurement, and 122.35 feet below the initial measurement recorded in 1963. No water level measurements were recorded for April and May 2007, July 2006, November 2005, and October through November 2002.

HYDROGRAPH OF THE MONTH



Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

Well No 46-60-902 Reeves County



This historical water level observation well, located 8 miles east of Saragosa, at an elevation of 2950 feet ASL, was completed in the Rustler aquifer. Water level fluctuations over time reflect long-term variations in water use patterns. Initial water level measurements were impacted by drought and heavy irrigation pumping.

December, 2008

Water level measurements were available for five of the seven key monitoring wells. Water levels rose in three of the reporting monitoring wells since the beginning of December, ranging from 1.03 feet in the Bexar Co. Edwards well to 15.21 feet in the Frio Co. Carrizo well. Water levels declined in the remaining monitoring wells, ranging from 0.38 feet in the Harris Co. Gulf Coast well to 2.19 feet in the El Paso Co. Hueco Bolson Well. The J-17 well in San Antonio recorded a water level of 61.38 feet below land surface, 1.03 feet above last month's measurement. This water level is 9.62 feet above the Stage 1 critical management level.

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