

Texas Water Development Board



Water **Conditions**

RESERVOIR STORAGE

December 2011

At the end of December, total storage in 109 of the state's major reservoirs was at 18.74 million acre-feet*, or 61% of their total conservation storage capacity. This is 0.61 million acre-feet **more** than a month ago, 3% higher than the record lowest total storage (58%) set last month, and the lowest storage for this time of year found in records that extend back to 1978. The prior lowest storage for the end of December was in 1999 when storage was at 70% of total conservation storage capacity.

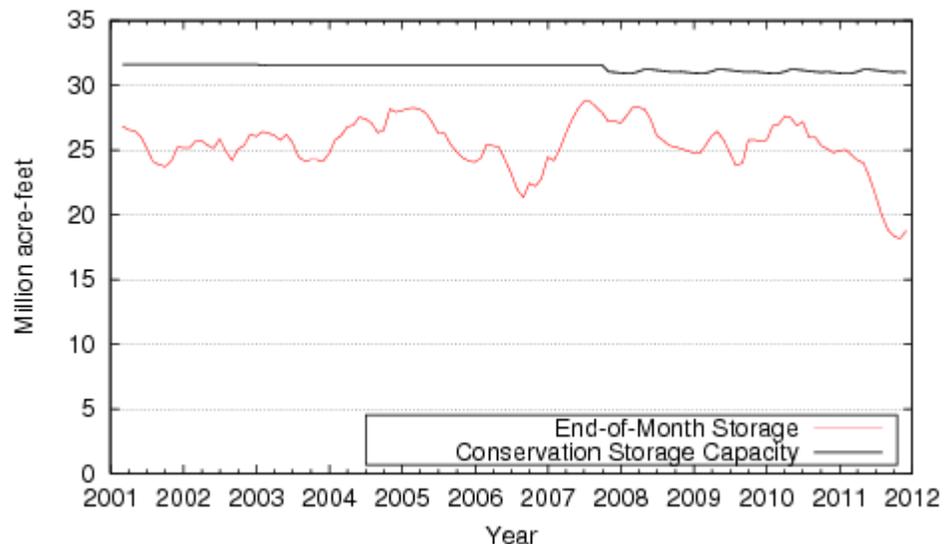
Only Lake Houston and Wright Patman Lake held 100% of conservation storage capacity. Ten reservoirs were at or below 10% full: E.V. Spence, O. C. Fisher, Twin Buttes, Hords Creek Lake, and Meredith were effectively empty, Electra and J. B. Thomas 1% full, Red Bluff 5%, Palo Duro 6%, and Mackenzie 9% full.

The climatic regions with the highest percent storage were the North Central (70%) and East (69%). The regions with the lowest percentage storage were the High Plains (2%) and Trans-Pecos regions (5%). Storage declined in five regions and inclined in four regions over the last month, but declined in all regions over the last year.

Elephant Butte reservoir held 291,044 acre-feet, or 15.0% of storage capacity. This is 51,885 acre-ft more than a month ago.

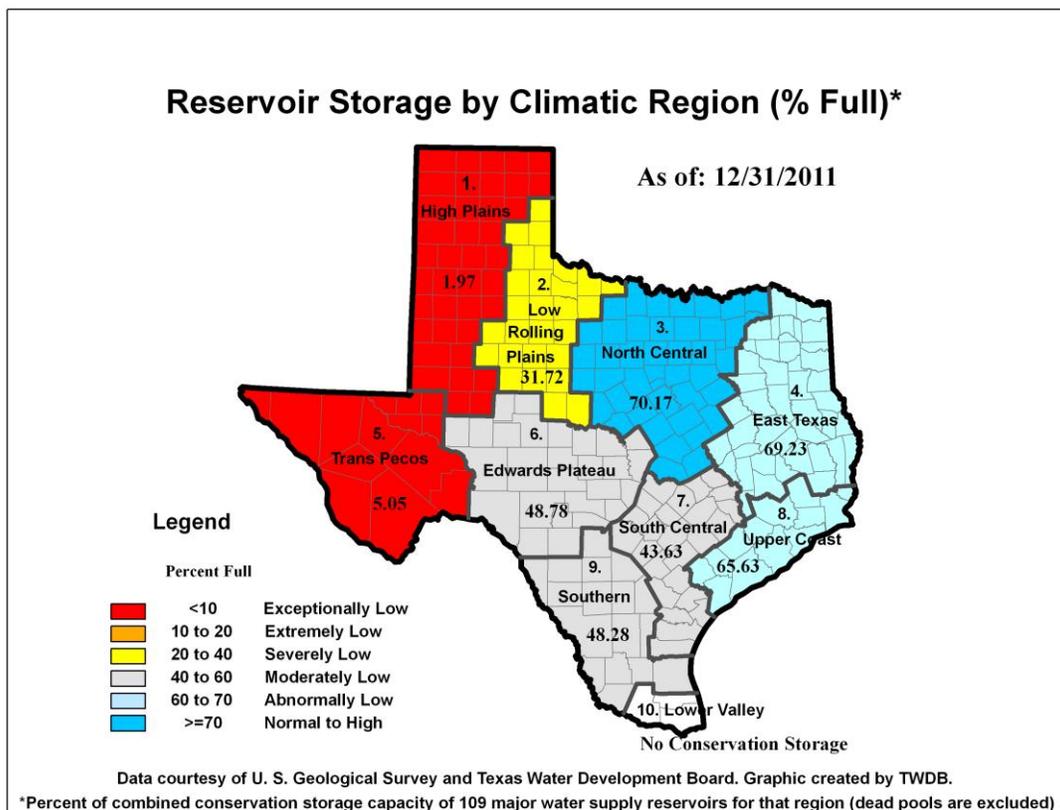
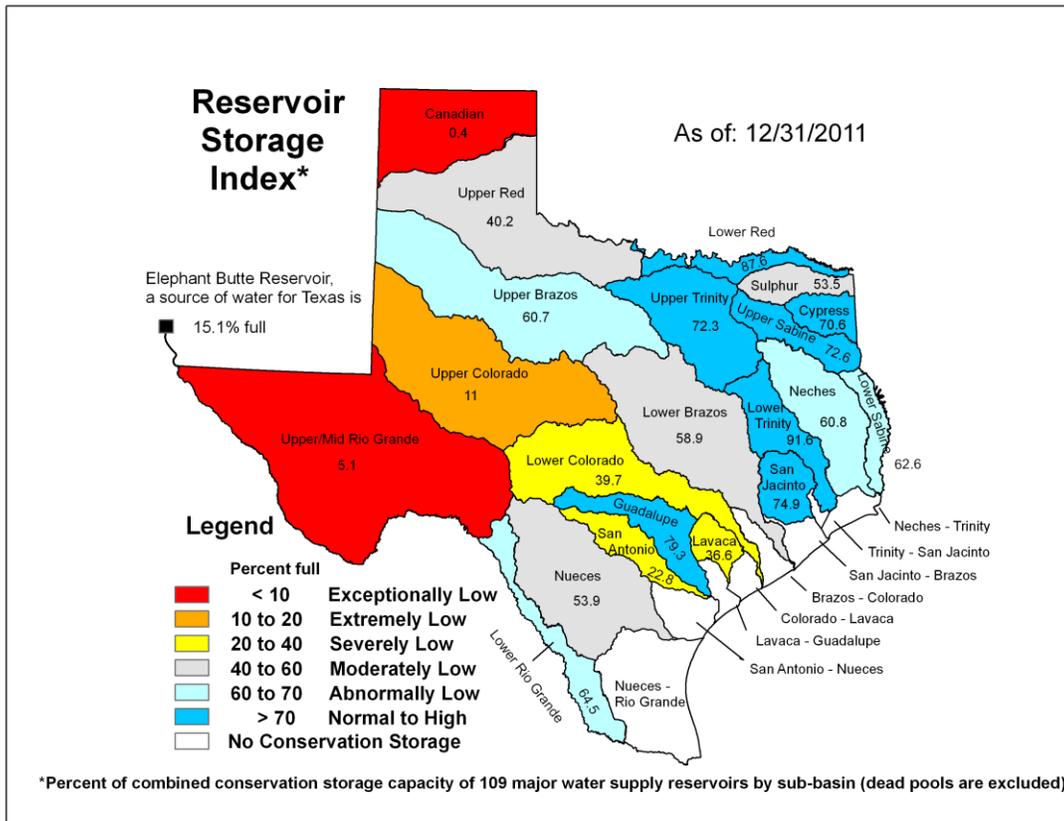
* Only the Texas share of storage in border reservoirs is counted.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



Figures are based on the end of the month data at 109 major reservoirs that represent 96 percent of the total conservation storage capacity of the 175 major water supply reservoirs in Texas. Major reservoirs are defined as having a conservation storage capacity of 5,000 acre-feet or greater.

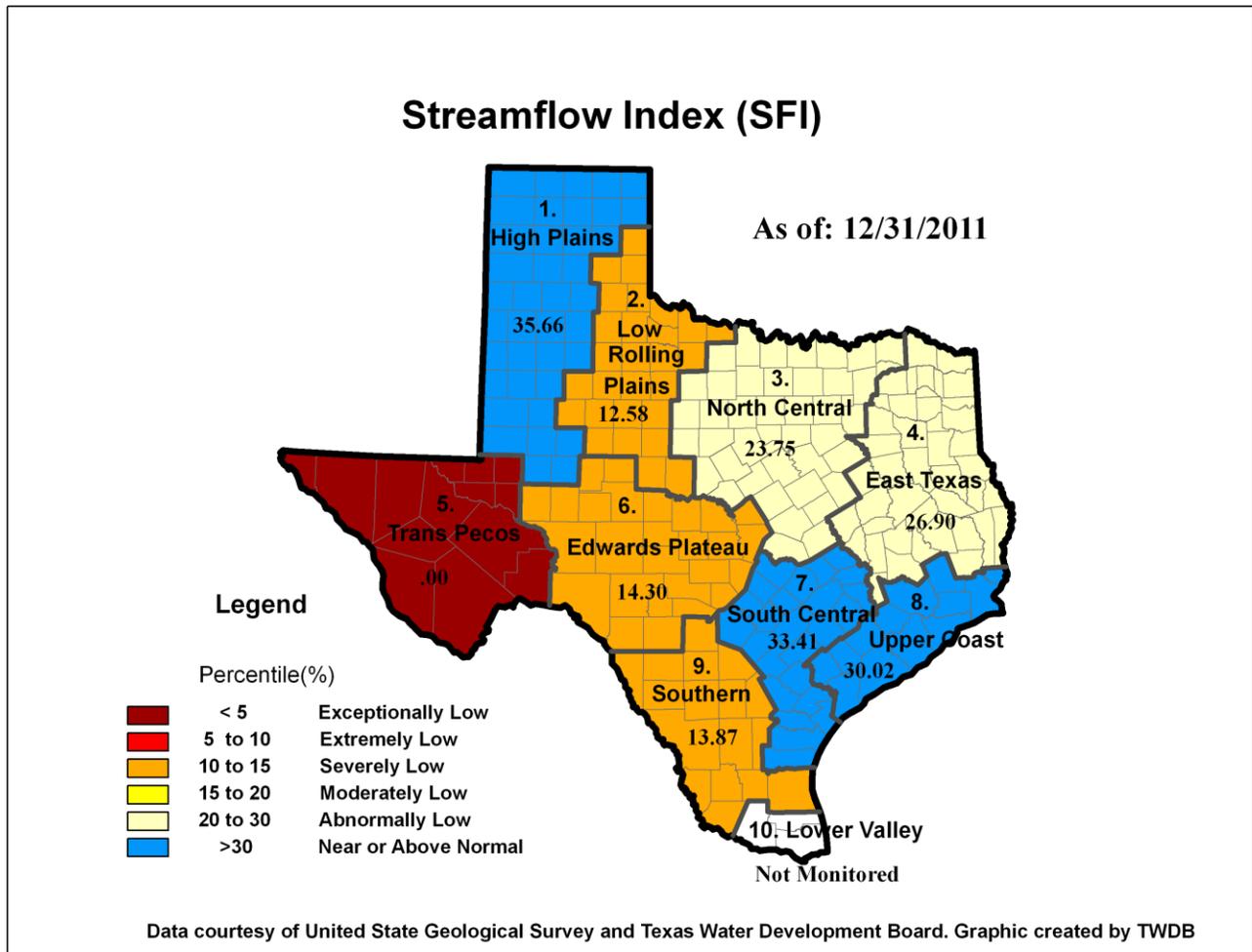
DECEMBER RESERVOIR CONDITIONS



DECEMBER STREAMFLOW CONDITIONS

Of 29 reporting index stations in December, computed 30-day mean flows were exceptionally low (<5%) at 4 stations, extremely low (5%-10%) at 2 stations, severely low (10-15%) at 5 stations, moderately low (15%-20%) at 4 stations, abnormally low at 2 stations (20% - 30%), and near normal (30% - 70%) at remaining 12 stations. Compared to November, flows have increased at 18 index stations and decreased at 7 stations.

On a regional basis, flows in December were exceptionally low in the Trans-Pecos region, severely low in the Low Rolling, Edwards Plateau and Southern regions; abnormally low in East and North Central regions, and near normal in Upper Coast, South Central and High Plains regions. Streamflow in the Lower Valley region is not monitored.



CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage		2011 (%)	Change since Late Nov. 2011		Change since Late Dec. 2010		
		Capacity (acre-feet)	Late Dec. (acre-feet)		(acre-feet)	(%)	(acre-feet)	(%)	
HIGH PLAINS									
Palo Duro Reservoir	1	60,897	3,708	6	-182	0	-9,886	-16	
Meredith, Lake (Texas)	2	500,000	0	0	0	0	-3,835	-1	
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	0	0	0	0	-3,835	0	
MacKenzie Reservoir	3	46,429	4,301	9	-14	0	-1,783	-4	
White River Lake	4	29,880	4,531	15	-92	0	-5,720	-19	
TOTAL		637,206	12,540	2	-288	0	-21,224	-3	
LOW ROLLING PLAINS									
Greenbelt Lake	5	59,500	10,610	18	51	0	-5,510	-9	
*Electra, Lake	6	5,626	60	1	7	0	-333	-6	
N. Fork Buffalo Crk Reservoir	7	15,400	2,461	16	38	0	-3,567	-23	
Kemp, Lake	8	245,308	86,216	35	1,053	0	-159,092	-65	
Millers Creek Reservoir	9	27,888	10,374	37	-10	0	-8,823	-32	
Alan Henry Reservoir	10	94,808	74,851	79	-139	0	-14,855	-16	
Stamford, Lake	11	51,570	27,297	53	429	1	-23,826	-46	
J B Thomas, Lake	12	199,931	2,187	1	-146	0	-9,043	-5	
Fort Phantom Hill, Lake	13	70,030	37,517	54	0	0	-22,073	-32	
Sweetwater, Lake	14	10,006	3,066	31	30	0	-2,477	-25	
Colorado City, Lake	15	31,793	9,955	31	0	0	-4,864	-15	
Champion Creek Reservoir	16	41,618	4,934	12	34	0	-1,949	-5	
Abilene, Lake	17	6,099	1,600	26	-84	-1	-3,280	-54	
Coleman, Lake	18	38,076	15,077	40	-81	0	-6,218	-16	
Hords Creek Lake	19	5,684	0	0	0	0	-378	-7	
TOTAL		903,337	286,205	32	1,182	0	-266,288	-29	
NORTH CENTRAL									
Nocona, Lake (Farmers Crk)	20	21,445	12,889	60	-166	-1	-5,709	-27	
Hubert H Moss Lake	21	24,058	20,641	86	-10	0	-3,085	-13	
Texoma, Lake (Texas)	22	1,262,640	1,117,791	89	25,853	2	-113,798	-9	
Texoma, Lake (Texas & Oklahoma)	(22)	2,525,281	2,235,583	89	51,707	2	-227,595	-9	
*Pat Mayse Lake	23	117,844	103,865	88	6,434	5	-1,738	-1	
Kickapoo, Lake	24	85,825	45,486	53	355	0	-24,999	-29	
Arrowhead, Lake	25	235,997	130,049	55	-416	0	-65,824	-28	
Bonham, Lake	26	11,026	7,591	69	585	5	-2,900	-26	
Crook, Lake	27	9,195	8,988	98	2,816	31	847	9	
Amon G Carter, Lake	28	19,903	12,552	63	76	0	-5,218	-26	
Ray Roberts, Lake	29	798,758	673,315	84	5,610	1	-92,070	-12	
Jim Chapman Lake (Cooper)	30	260,332	82,146	32	3,809	1	-66,010	-25	
Graham, Lake	31	45,260	36,401	80	-112	0	-6,371	-14	
*Lost Creek Reservoir	32	11,950	9,822	82	549	5	-1,261	-11	
Bridgeport, Lake	33	366,236	236,172	64	1,118	0	-94,946	-26	
Lewisville Lake	34	563,228	412,135	73	22,836	4	-131,360	-23	
Lavon Lake	35	443,844	229,734	52	18,093	4	-105,750	-24	
Hubbard Creek Reservoir	36	318,067	138,379	44	-1,561	0	-54,869	-17	
Possum Kingdom Lake	37	540,340	380,066	70	986	0	-138,134	-26	
*Mineral Wells, Lake	38	7,065	5,091	72	22	0	-1,325	-19	
Weatherford, Lake	39	17,789	10,336	58	61	0	-4,388	-25	
Eagle Mountain Lake	40	179,880	132,549	74	6,972	4	-30,689	-17	
Worth, Lake	41	24,500	15,217	62	-1,209	-5	-3,738	-15	
Grapevine Lake	42	164,702	137,836	84	7,632	5	-16,106	-10	
Ray Hubbard, Lake	43	452,040	348,148	77	22,372	5	-38,745	-9	
New Terrell City Lake	44	8,583	5,629	66	280	3	-1,414	-16	
Daniel, Lake	45	9,435	3,296	35	18	0	-1,302	-14	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage		2011 (%)	Change since Late Nov. 2011		Change since Late Dec. 2010		
		Capacity (acre-feet)	Late Dec. (acre-feet)		(acre-feet)	(%)	(acre-feet)	(%)	
NORTH CENTRAL (Continue)									
Palo Pinto, Lake	46	26,827	18,727	70	-19	0	-4,103	-15	
Benbrook Lake	47	85,648	55,484	65	10,284	12	-25,285	-30	
Arlington, Lake	48	40,156	30,653	76	5,244	13	-6,461	-16	
Joe Pool Lake	49	142,861	125,966	88	7,774	5	-15,861	-11	
*Cisco, Lake	50	26,000	10,952	42	-28	0	-3,390	-13	
Leon, Lake	51	26,421	11,551	44	91	0	-4,846	-18	
Granbury, Lake	52	128,046	90,129	70	1,013	1	-29,708	-23	
Pat Cleburne, Lake	53	26,008	18,307	70	1,114	4	-6,185	-24	
Waxahachie, Lake	54	10,779	7,475	69	318	3	-1,333	-12	
Bardwell Lake	55	46,122	32,682	71	1,832	4	-12,418	-27	
Proctor Lake	56	55,457	27,383	49	472	1	-5,297	-10	
Whitney, Lake	57	553,349	284,573	51	9,294	2	-92,092	-17	
Aquilla Lake	58	44,460	29,479	66	271	1	-12,159	-27	
Navarro Mills Lake	59	49,826	35,040	70	3,941	8	-10,744	-22	
*Halbert, Lake	60	6,033	5,450	90	1,985	33	2,035	34	
Richland-Chambers Reservoir	61	1,087,839	785,023	72	36,515	3	-195,436	-18	
*Brownwood, Lake	62	131,429	51,752	39	0	0	-28,059	-21	
Waco, Lake	62	198,943	151,191	76	4,526	2	-40,083	-20	
Limestone, Lake	64	208,015	109,458	53	6,269	3	-53,913	-26	
Belton Lake	65	435,225	303,968	70	1,951	0	-90,319	-21	
Stillhouse Hollow Lake	66	227,771	140,176	62	-966	0	-85,807	-38	
Georgetown, Lake	67	36,823	16,843	46	2,531	7	-18,620	-51	
Granger Lake	68	50,779	34,205	67	2,338	5	-10,145	-20	
Tawakoni, Lake	69	888,126	654,613	74	21,850	2	-123,994	-14	
TOTAL		10,532,885	7,347,204	70	241,603	2	-1,885,125	-18	
EAST									
Wright Patman Lake	70	122,593	122,593	100	0	0	0	0	
*Sulphur Springs, Lake	71	17,838	10,034	56	1,521	9	150	1	
Cypress Springs, Lake	72	66,756	55,741	83	2,109	3	-7,568	-11	
Bob Sandlin, Lake	73	200,579	130,081	65	3,920	2	-39,592	-20	
Fork Reservoir, Lake	74	604,927	428,566	71	8,821	1	-89,117	-15	
O the Pines, Lake	75	238,933	172,893	72	730	0	-55,282	-23	
Cedar Creek Reservoir in Trinity	76	644,686	438,472	68	18,119	3	-107,651	-17	
Athens, Lake	77	29,435	22,109	75	1,227	4	-4,319	-15	
Palestine, Lake	78	370,907	260,663	70	17,695	5	-55,526	-15	
Tyler, Lake	79	73,256	45,459	62	3,435	5	-17,417	-24	
Murvaul, Lake	80	38,284	28,771	75	4,696	12	-2,123	-6	
Jacksonville, Lake	81	25,670	20,455	80	685	3	-2,442	-10	
Nacogdoches, Lake	82	39,521	19,028	48	720	2	-9,965	-25	
Houston County Lake	83	17,113	12,904	75	674	4	-2,460	-14	
Sam Rayburn Reservoir	84	2,857,077	1,684,666	59	98,447	3	-298,714	-10	
Toledo Bend Reservoir (Texas)	85	2,236,450	1,401,470	63	95,532	4	-158,509	-7	
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	2,802,941	63	191,065	4	-317,017	-7	
*Livingston, Lake	86	1,741,867	1,600,000	92	158,000	9	-141,867	-8	
B A Steinhagen Lake	87	66,966	52,953	79	1,485	2	1,223	2	
Conroe, Lake	88	416,188	279,443	67	3,722	1	-103,486	-25	
TOTAL		9,809,046	6,786,301	69	421,538	4	-1,094,665	-11	
TRANS-PECOS									
Red Bluff Reservoir	89	130,170	6,561	5	2,443	2	-37,699	-29	
TOTAL		130,170	6,561	5	2,443	2	-37,699	-29	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity		2011 (%)	Change since Late Nov. 2011		Change since Late Dec. 2010		
		(acre-feet)	(acre-feet)		(acre-feet)	(%)	(acre-feet)	(%)	
EDWARDS PLATEAU									
Oak Creek Reservoir	90	39,260	14,710	37	-136	0	-8,442	-22	
E V Spence Reservoir	91	517,272	2,196	0	17	0	-13,288	-3	
O C Fisher Lake	92	79,483	0	0	0	0	0	0	
*O H Ivie Reservoir	93	554,335	99,570	18	-2,942	-1	-81,289	-15	
Twin Buttes Reservoir	94	177,850	0	0	0	0	-19,728	-11	
Brady Creek Reservoir	95	29,110	7,235	25	117	0	-5,817	-20	
Buchanan, Lake	96	875,610	330,876	38	991	0	-332,595	-38	
Lyndon B Johnson, Lake	97	113,323	111,683	99	183	0	-1,154	-1	
*Amistad Reservoir (Texas)	98	1,840,849	1,493,000	81	-37,000	-2	-348,000	-19	
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	2,738,000	84	-42,000	-1	-537,532	-16	
TOTAL		4,227,092	2,059,270	49	-38,770	-1	-810,313	-19	
SOUTH CENTRAL									
Travis, Lake	99	1,113,255	386,538	35	1,313	0	-481,267	-43	
*Austin, Lake	100	21,804	20,851	96	272	1	-136	-1	
Somerville Lake	101	147,104	57,810	39	1,334	1	-68,282	-46	
Canyon Lake	102	378,781	299,810	79	-491	0	-69,824	-18	
Medina Lake	103	254,823	58,041	23	-3,075	-1	-111,198	-44	
*Coleto Creek Reservoir	104	31,040	25,173	81	322	1	-4,342	-14	
TOTAL		1,946,807	848,223	44	-325	0	-735,049	-38	
UPPER COAST									
Houston, Lake	105	128,863	128,863	100	363	0	0	0	
Texana, Lake	106	153,246	56,839	37	-4,799	-3	-69,505	-45	
TOTAL		282,109	185,702	66	-4,436	-2	-69,505	-25	
SOUTHERN									
Choke Canyon Reservoir	107	695,262	427,385	61	-3,703	-1	-130,043	-19	
Corpus Christi, Lake	108	256,961	86,886	34	-3,968	-2	-138,209	-54	
*Falcon Reservoir (Texas)	109	1,551,034	695,000	45	-1,000	0	-969,000	-62	
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	1,111,000	42	-5,000	0	-1,535,817	-58	
TOTAL		2,503,257	1,209,271	48	-8,671	0	-1,237,252	-49	
STATE TOTAL		30,971,909	18,741,277	61	614,276	2	-6,157,120	-20	

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

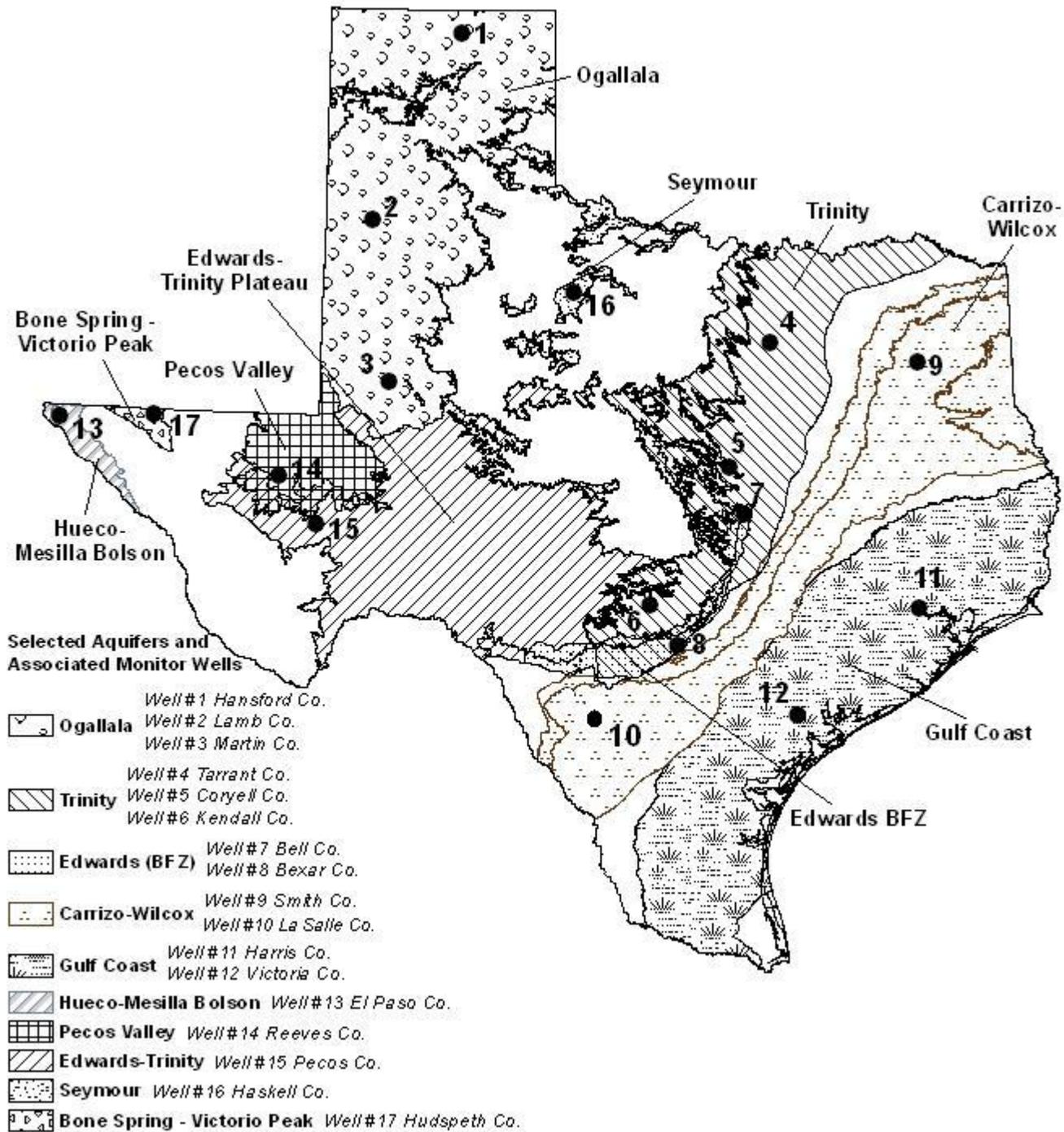
In Addition

Elephant Butte Reservoir		1,975,000	291,044	15	51,885	3	-146,126	-7
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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*(current conservation storage - past conservation storage)/conservation storage capacity. Figures shown are for the Texas share of conservation storage in all reservoirs.

DECEMBER 2011 GROUNDWATER LEVELS IN OBSERVATION WELLS



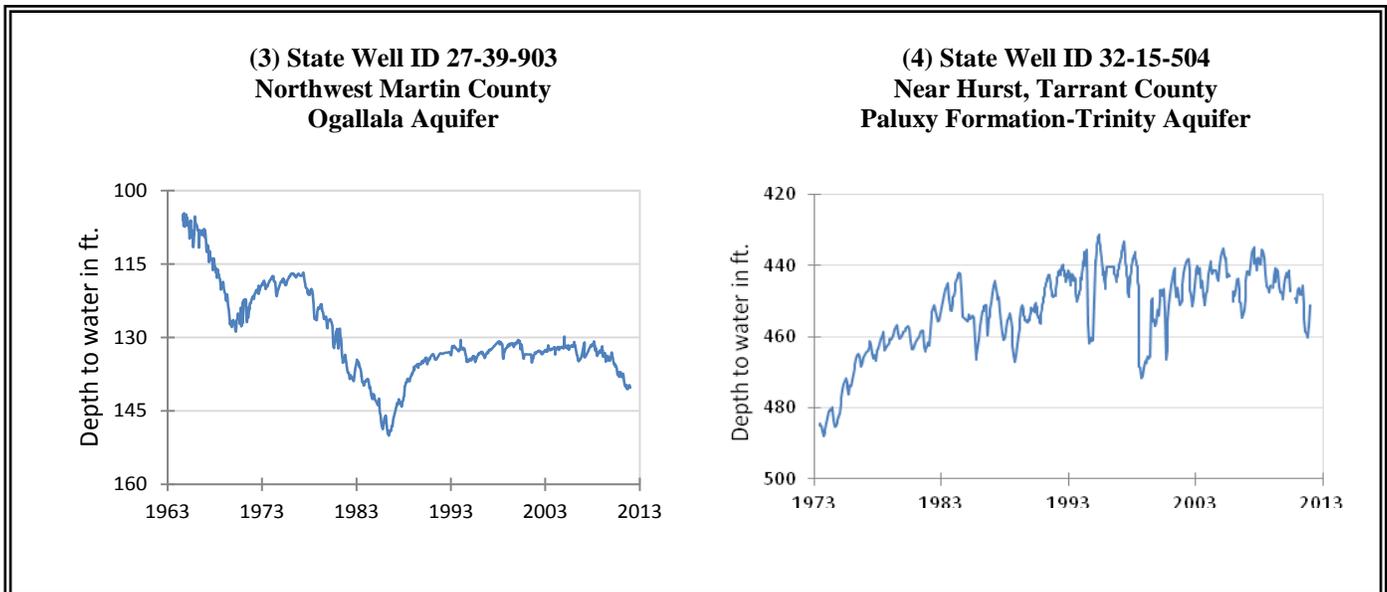
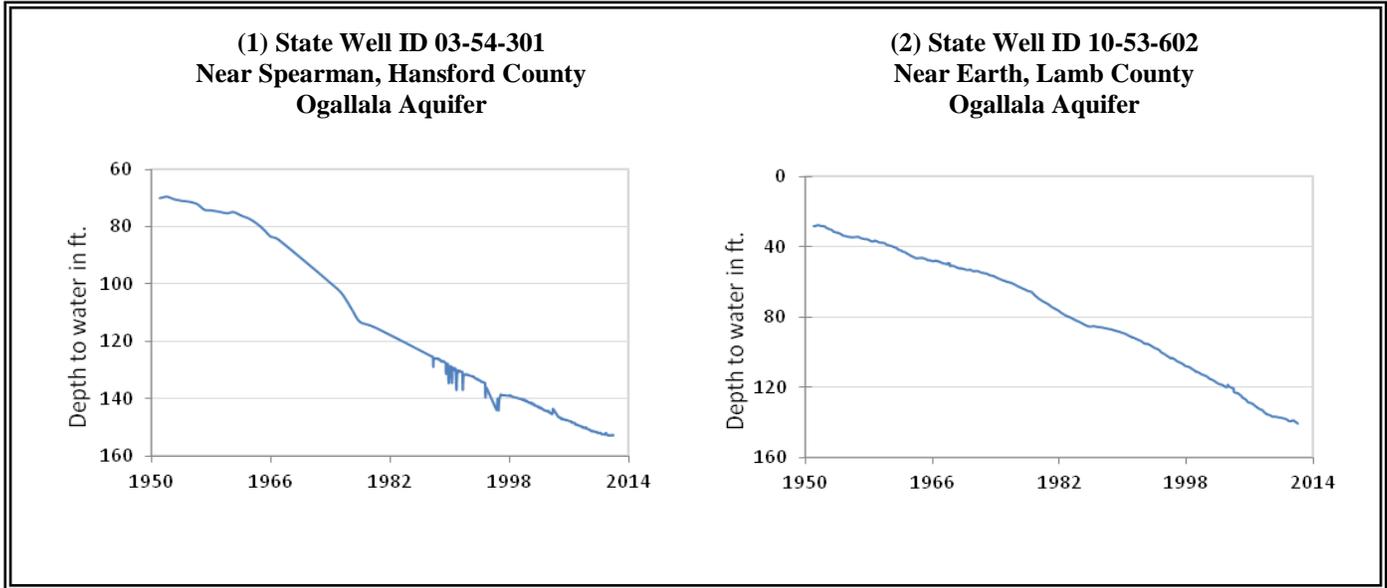
December, 2011

Water level measurements were available for all seventeen key monitoring wells in the state. Water levels rose in fourteen of the monitoring wells since the beginning of December, ranging from 0.15 feet in the Hansford County Ogallala Aquifer well to 13.95 feet in the Pecos County Edwards-Trinity Plateau Aquifer well. Water levels declined in the remaining three monitoring wells, ranging from 0.41 feet in the Lamb County Ogallala Aquifer well to 1.1 feet in the La Salle County Carrizo-Wilcox Aquifer well. The J-17 well in San Antonio recorded a water level of 78.06 feet below land surface. This water level is 2.94 feet above the Stage II critical management level in that segment of the Edwards Aquifer. Stage I restrictions remain in effect by the E.A.A. as long as the 10 day average of water levels is below 660 foot elevation or 71 feet below land surface.

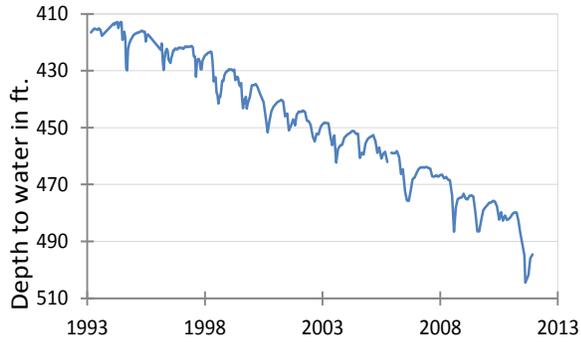
* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

Monitoring Well	Dec 2011	Nov 2011	Month Change	Year Change	Historical Change
(1) Hansford 0354301	152.53	152.68	0.15	-0.08	-82.41
(2) Lamb 1053602	140.48	140.07	-0.41	-1.36	-112.33
(3) Martin 2739903	140.26	139.75	-0.51	-3.16	-35.37
(4) Tarrant 3215504	451.2	456.65	5.45	-0.83	-73.2
(5) Coryell 4035404	492.77	494.54	1.77	-11.39	-200.77
(6) Kendall 6802609	136.01	146.10	10.09	-18.16	-76.01
(7) Bell 5804816	125.14	125.54	0.58	-4.00	-2.41
(8) Bexar 6837203	78.06	81.10	3.04	-18.4	-31.42
(9) Smith 3430907	436.18	437.81	1.63	-2.83	-70.18
(10) La Salle 7738103	389.03	387.93	-1.1	-76.51	-135.96
(11) Harris 6514409	207.43	209.36	1.93	-10.06	-71.93
(12) Victoria 8017502	38.95	39.85	0.9	-5.66	-4.95
(13) El Paso 4913301	289.6	290.33	0.73	0.56	-57.7
(14) Reeves 4644501	146.48	148.72	2.24	-2.63	-54.39
(15) Pecos 5216802	201.35	215.30	13.95	-5.22	45.53
(16) Haskell 2135748	46.09	46.27	0.18	-2.3	-4.76
(17) Hudspeth 4807516	135.53	139.47	3.94	-2.22	-31.61

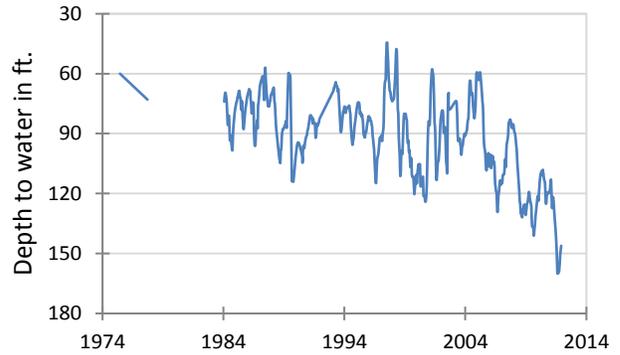
NOVEMBER GROUNDWATER LEVELS IN OBSERVATION WELLS



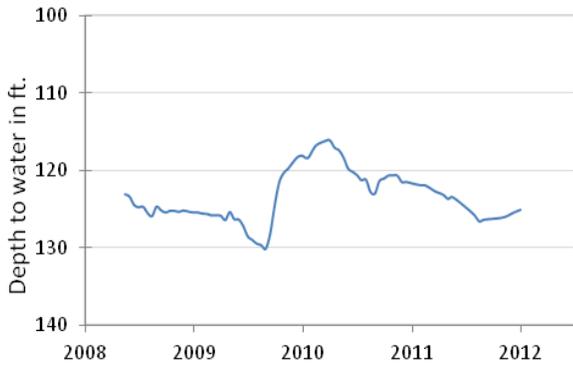
**(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



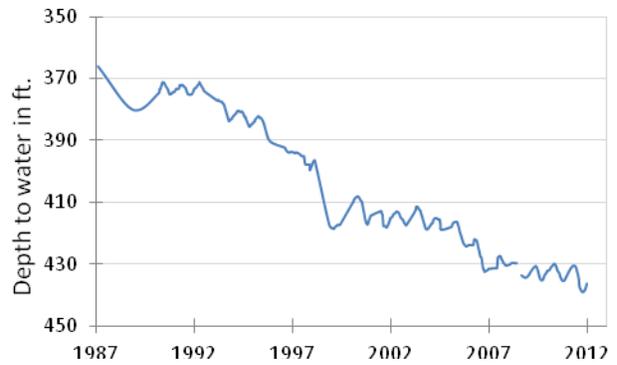
**(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



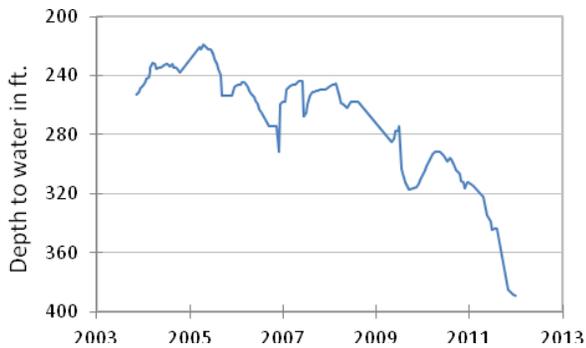
**(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (BFZ) Aquifer**



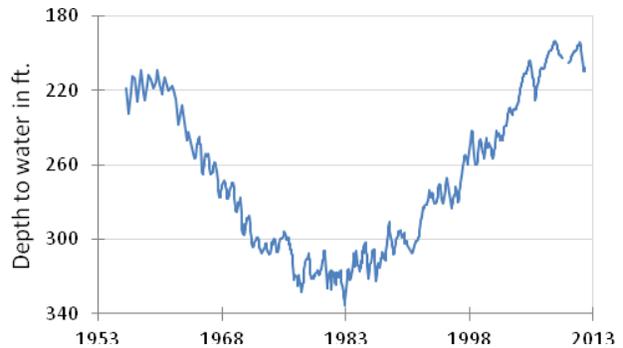
**(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



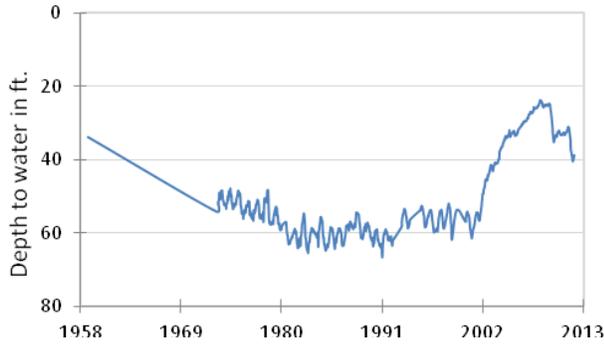
**(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



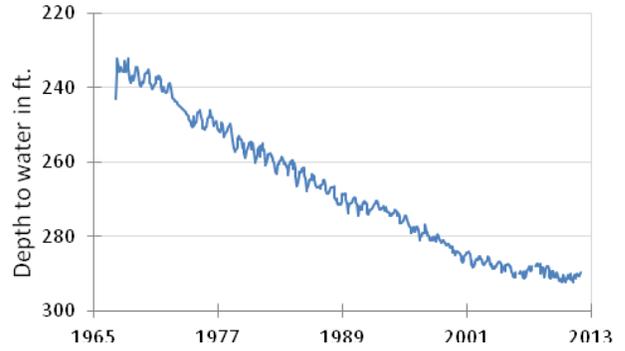
**(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



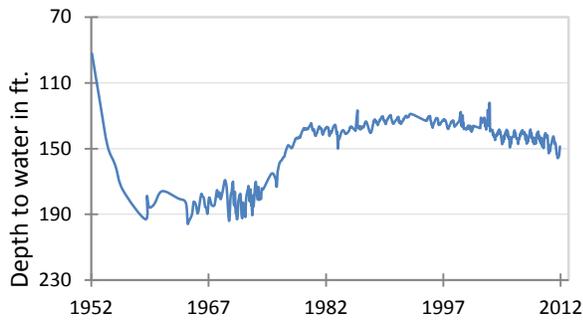
**(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer**



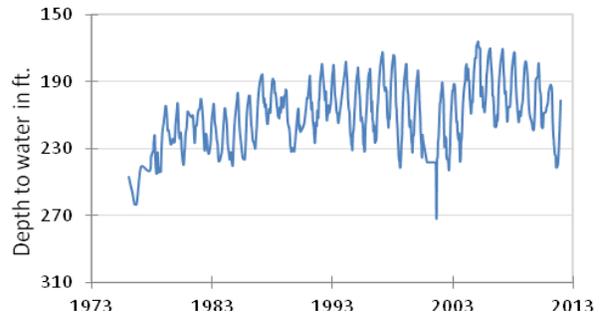
**(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer**



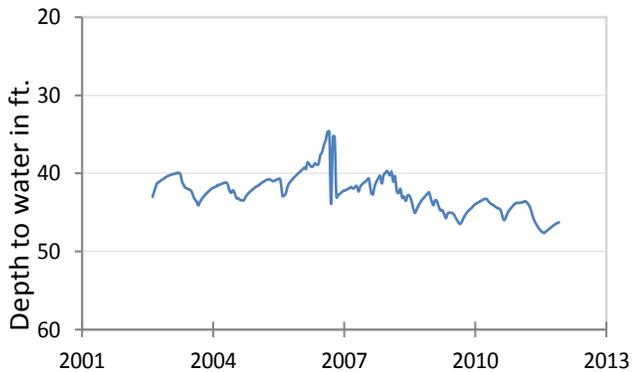
**(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer**



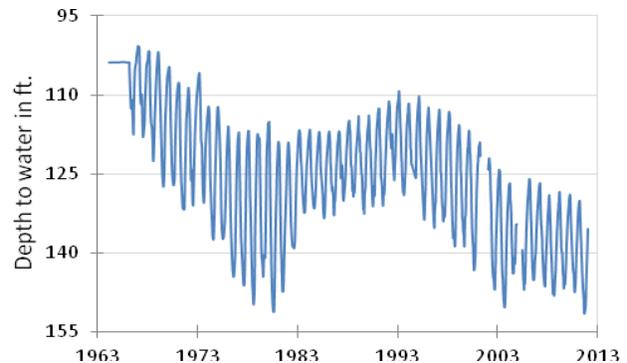
**(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer**



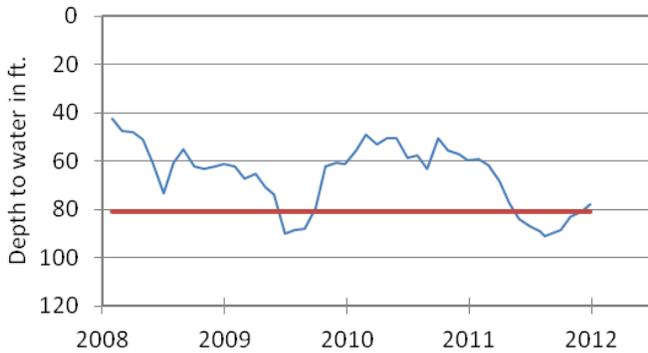
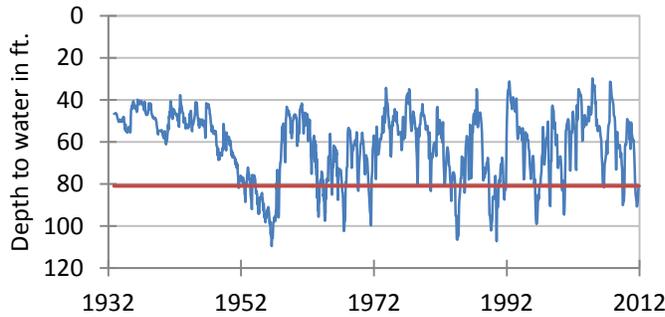
**(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer**



**(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer**



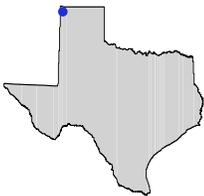
**(8) State Well ID 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (BFZ) Aquifer**



The late December water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 78.06 feet below land surface. This was 3.04 feet above last month's measurement, 18.4 feet below last year's measurement, and 31.42 feet below the initial measurement recorded in 1932.

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

HYDROGRAPH OF THE MONTH

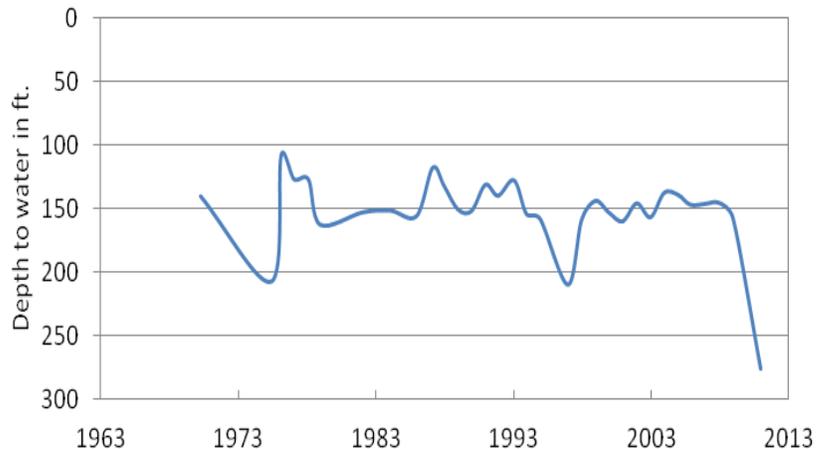


Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

Rita Blanca Aquifer

The Rita Blanca aquifer is composed of Cretaceous and Jurassic sands and gravels deposited in alternating aeolian and fluvial paleoenvironments that extended across Colorado, New Mexico, Oklahoma, and Texas. However only a small portion of the Rita Blanca is located within Texas in Dallam and Hartley Counties in the northwestern Texas Panhandle. The Rita Blanca is divided into the Exeter, Morrison, Lytle and Dakota formations. Most of the groundwater produced from the Rita Blanca is used for irrigation with the City of Texline the sole municipal supply drawing from it. Movement of groundwater is typically to the east-southeast. Water levels have declined with increased irrigation since the 1950s, especially in the southern part of Dallam County. Well depths in the aquifer range from 100 feet to over 700 feet, but average less than 300 feet. The water quality of groundwater produced from the Rita Blanca is typically fresh but very hard. Slightly-saline water has been noted at one location in Dallam County.

**Well # 02-41-502
Dallam County**



*TEXAS WATER DEVELOPMENT BOARD
1700 N. CONGRESS AVE.
P.O. BOX 13231
AUSTIN TX 78711-3231*