

## RESERVOIR STORAGE

*October 2012*

At the end of the month, total storage in 109 of the state's major water supply reservoirs was at 20.78 million acre-feet\*, or 67% of their total conservation storage capacity. This is 0.37 million acre-feet less than a month ago but 2.43 million acre-feet more than storage at this time last year.

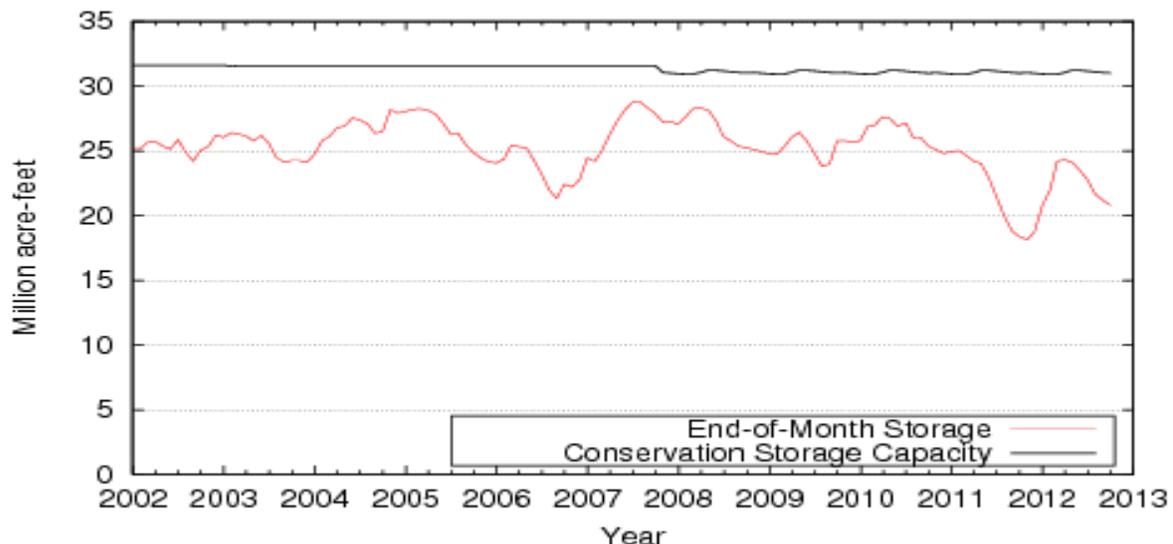
Only two reservoirs, Lake Houston and Wright Patman Lake, held 100% of conservation storage capacity. Fourteen (14) reservoirs were at or below 10% full: O. C. Fisher, Electra and Meredith were effectively empty, Twin Buttes and J. B. Thomas were at 1%, Palo Duro was at 3%, Hords Creek Lake was at 5%, E.V. Spence and White River were at 6%, North Fork Buffalo Creek and Mackenzie at 7%, Red Bluff and Champion Creek Reservoir were at 9%, and Lake Abilene was at 10% full.

Total combined storage was greater than 70% in the North Central (77%), East (87%), and Upper Coast (97%) regions. The regions with the lowest percentage storage were the High Plains (1%) and Trans-Pecos regions (9%). Storage over the last month declined in 4 regions and increased in 5 regions.

Elephant Butte reservoir held 114,310 acre-feet, or 6% of storage capacity. This is 1,622 acft more than a month ago.

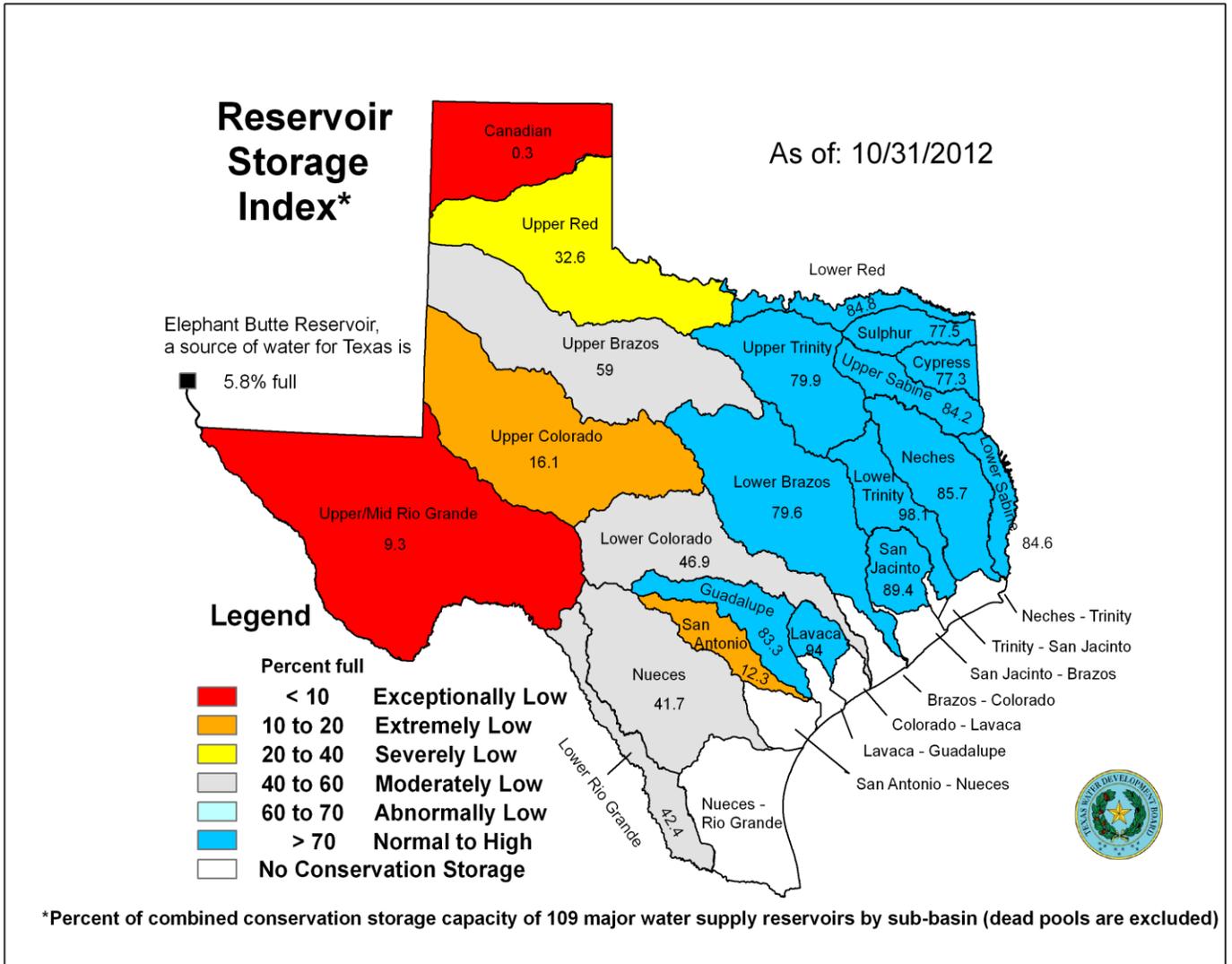
\* Only the Texas share of storage in border reservoirs is counted.

### 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.

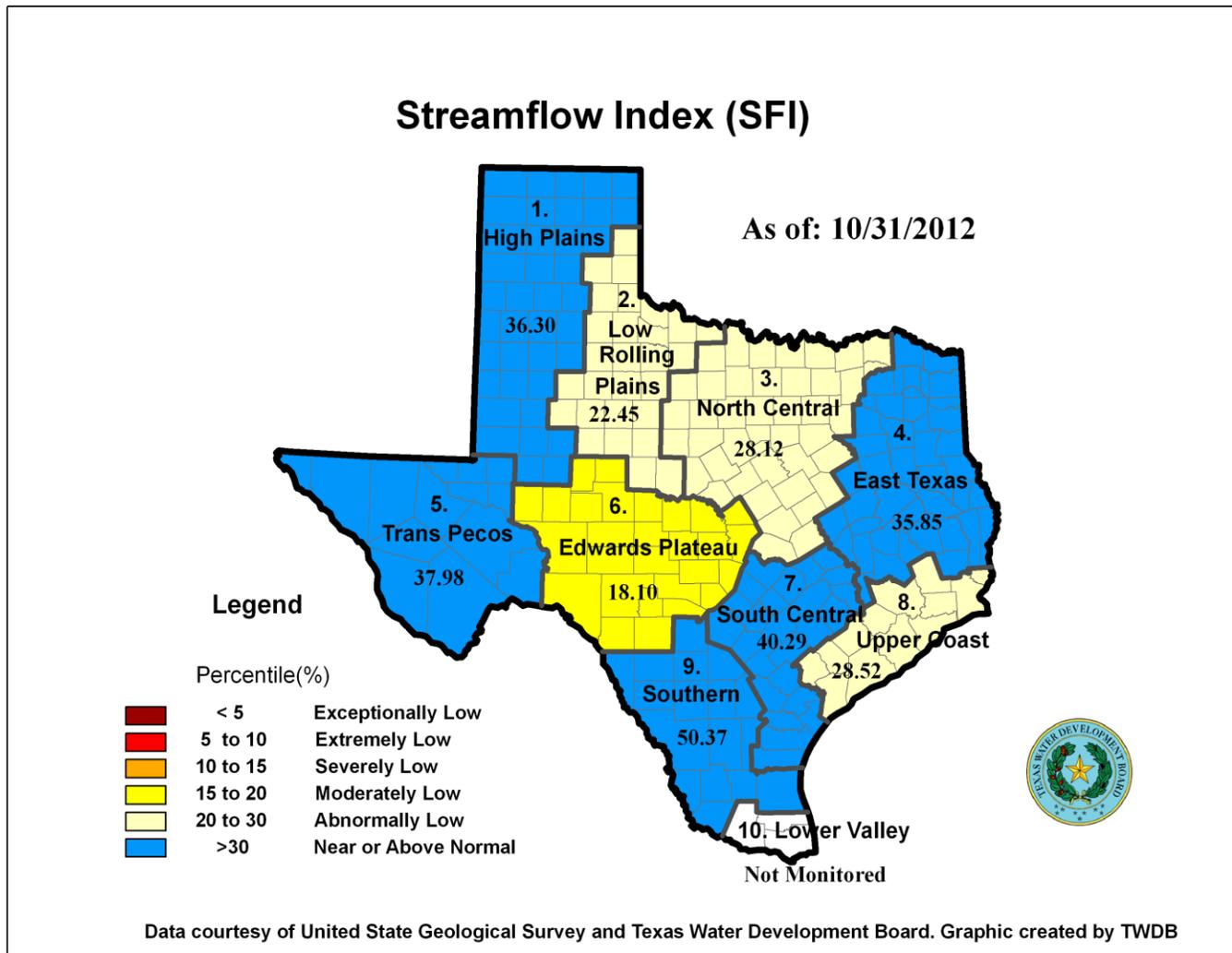
# OCTOBER RESERVOIR CONDITIONS



# OCTOBER STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 1 station, extremely low (5-10%) at 3 stations, severely low (10-15%) at 6 stations, moderately low (15-20%) at 1 station, abnormally low (20% - 30%) at 1 station, and near normal (30% - 70%) at the remaining 17 stations. Compared to last month, flows have increased at 14 index stations and decreased at 14 stations.

On a regional basis, flows in this month were moderately low in Edwards Plateau, abnormally low in Low Rolling Plains, North Central, and Upper Coast, and near normal in all other 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		Change since Late Sep.		Change since Late Oct.		
		Capacity (acre-feet)	Late Oct. (acre-feet)	2012 (%)	2012 (%)	2011 (acre-feet)	2011 (%)	
<b>HIGH PLAINS</b>								
Palo Duro Reservoir	1	60,897	1,553	3	-257	0	-2,653	-4
Meredith, Lake (Texas)	2	500,000	0	0	0	0	0	0
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	0	0	0	0	0	0
MacKenzie Reservoir	3	46,429	3,218	7	-147	0	-1,177	-3
White River Lake	4	29,880	1,889	6	-332	-1	-2,979	-10
TOTAL		637,206	6,660	1	-736	0	-6,809	-1
<b>LOW ROLLING PLAINS</b>								
Greenbelt Lake	5	59,500	8,126	14	-466	-1	-2,778	-5
*Electra, Lake	6	5,626	3	0	-9	0	-28	0
N. Fork Buffalo Crk Reservoir	7	15,400	1,120	7	-280	-2	-1,434	-9
Kemp, Lake	8	245,308	72,937	30	-424	0	-12,801	-5
Millers Creek Reservoir	9	27,888	7,789	28	-369	-1	-2,930	-11
Alan Henry Reservoir	10	94,808	71,536	75	-1,271	-1	-4,314	-5
Stamford, Lake	11	51,570	15,143	29	-1,101	-2	-12,591	-24
J B Thomas, Lake	12	199,931	1,304	1	986	0	-1,320	-1
Fort Phantom Hill, Lake	13	70,030	36,420	52	2,372	3	-2,093	-3
Sweetwater, Lake	14	10,006	1,846	18	-127	-1	-1,355	-14
Colorado City, Lake	15	31,793	11,582	36	3,158	10	1,373	4
Champion Creek Reservoir	16	41,618	3,946	9	-187	0	-1,086	-3
Abilene, Lake	17	6,099	635	10	-94	-2	-1,232	-20
Coleman, Lake	18	38,076	18,720	49	1,447	4	3,050	8
Hords Creek Lake	19	5,684	303	5	-66	-1	303	5
TOTAL		903,337	251,410	28	3,569	0	-39,236	-4
<b>NORTH CENTRAL</b>								
Nocona, Lake (Farmers Crk)	20	21,445	11,216	52	-432	-2	-1,985	-9
Hubert H Moss Lake	21	24,058	21,539	90	-460	-2	1,155	5
Texoma, Lake (Texas)	22	1,315,070	1,126,758	86	-23,273	-2	104,821	8
Texoma, Lake (Texas & Oklahoma)	(22)	2,630,141	2,253,517	86	-46,545	-2	209,643	8
*Pat Mayse Lake	23	117,844	101,187	86	-2,415	-2	4,219	4
Kickapoo, Lake	24	85,825	37,211	43	-857	-1	-8,354	-10
Arrowhead, Lake	25	235,997	103,291	44	-861	0	-26,758	-11
Bonham, Lake	26	11,026	7,936	72	-340	-3	887	8
Crook, Lake	27	9,195	6,989	76	-182	-2	860	9
Amon G Carter, Lake	28	19,903	13,126	66	-413	-2	437	2
Ray Roberts, Lake	29	798,758	708,860	89	-15,631	-2	40,136	5
Jim Chapman Lake (Cooper)	30	260,332	171,475	66	-12,935	-5	86,216	33
Graham, Lake	31	45,260	35,803	79	-1,157	-3	43	0
*Lost Creek Reservoir	32	11,950	10,564	88	-171	-1	1,280	11
Bridgeport, Lake	33	366,236	219,587	60	-13,509	-4	-17,517	-5
Lewisville Lake	34	563,228	426,658	76	-13,545	-2	28,091	5
Lavon Lake	35	443,844	287,243	65	-18,468	-4	70,802	16
Hubbard Creek Reservoir	36	318,067	105,674	33	-2,360	-1	-38,493	-12
Possum Kingdom Lake	37	540,340	410,934	76	-7,509	-1	25,117	5
*Mineral Wells, Lake	38	7,065	5,236	74	-185	-3	88	1
Weatherford, Lake	39	17,789	11,525	65	-842	-5	690	4
Eagle Mountain Lake	40	179,880	142,469	79	-2,375	-1	11,216	6
Worth, Lake	41	24,500	14,938	61	-2,356	-10	355	1
Grapevine Lake	42	164,702	126,388	77	-7,326	-4	-7,385	-4
Ray Hubbard, Lake	43	452,040	386,496	86	-16,116	-4	51,519	11
New Terrell City Lake	44	8,583	7,051	82	-274	-3	1,622	19
Daniel, Lake	45	9,435	3,204	34	-207	-2	-230	-2
Palo Pinto, Lake	46	26,827	18,510	69	-1,500	-6	-1,302	-5
Benbrook Lake	47	85,648	56,135	66	-1,296	-2	16,536	19
Arlington, Lake	48	40,156	29,041	72	1,269	3	3,059	8

## 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 Sep. 2012		Change since Late Oct. 2011		
			Late Oct. (acre-feet)	2012 (%)	(acre-feet)	(%)	(acre-feet)	(%)	
<b>NORTH CENTRAL (Continue)</b>									
Joe Pool Lake	49	142,861	127,228	89	-2,204	-2	7,807	5	
*Cisco, Lake	50	26,000	10,418	40	-227	-1	-819	-3	
Leon, Lake	51	26,421	18,548	70	-496	-2	6,680	25	
Granbury, Lake	52	128,046	94,509	74	-3,613	-3	-5,058	-4	
Pat Cleburne, Lake	53	26,008	19,680	76	-774	-3	2,148	8	
Waxahachie, Lake	54	10,779	9,147	85	-198	-2	2,021	19	
Bardwell Lake	55	46,122	37,936	82	-1,114	-2	6,374	14	
Proctor Lake	56	55,457	36,685	66	-1,748	-3	9,178	17	
Whitney, Lake	57	553,349	389,187	70	-12,319	-2	109,040	20	
Aquilla Lake	58	44,460	34,154	77	-1,978	-4	3,918	9	
Navarro Mills Lake	59	49,826	40,110	81	-1,960	-4	8,699	17	
*Halbert, Lake	60	6,033	4,414	73	-223	-4	1,747	29	
Richland-Chambers Reservoir	61	1,087,839	929,374	85	-27,424	-3	158,608	15	
*Brownwood, Lake	62	131,429	77,175	59	13,544	10	23,751	18	
Waco, Lake	62	198,943	172,629	87	-6,685	-3	22,825	11	
Limestone, Lake	64	208,015	158,648	76	-6,930	-3	50,796	24	
Belton Lake	65	435,225	375,632	86	-11,122	-3	66,612	15	
Stillhouse Hollow Lake	66	227,771	203,363	89	-5,638	-2	57,362	25	
Georgetown, Lake	67	36,823	19,857	54	-255	-1	7,116	19	
Granger Lake	68	50,779	47,158	93	-278	-1	14,938	29	
Tawakoni, Lake	69	888,126	750,490	85	-19,098	-2	104,186	12	
TOTAL		10,585,315	8,163,386	77	-236,466	-2	1,005,054	9	
<b>EAST</b>									
Wright Patman Lake	70	135,249	135,249	100	-76,441	-57	0	0	
*Sulphur Springs, Lake	71	17,838	14,206	80	-279	-2	5,604	31	
Cypress Springs, Lake	72	66,756	60,776	91	-376	-1	6,887	10	
Bob Sandlin, Lake	73	200,579	156,922	78	-1,917	-1	27,540	14	
Fork Reservoir, Lake	74	604,927	500,465	83	-10,392	-2	75,341	12	
O the Pines, Lake	75	238,933	175,228	73	-8,765	-4	2,627	1	
Cedar Creek Reservoir in Trinity	76	644,686	546,711	85	-18,033	-3	119,468	19	
Athens, Lake	77	29,435	23,790	81	-367	-1	2,795	9	
Palestine, Lake	78	370,907	337,063	91	-6,799	-2	91,598	25	
Tyler, Lake	79	73,256	54,913	75	-1,819	-2	12,889	18	
Murvaul, Lake	80	38,284	35,357	92	-334	-1	12,048	31	
Jacksonville, Lake	81	25,670	24,290	95	-201	-1	4,350	17	
Nacogdoches, Lake	82	39,521	33,762	85	2,257	6	15,208	38	
Houston County Lake	83	17,113	17,011	99	-102	-1	4,738	28	
Sam Rayburn Reservoir	84	2,857,077	2,436,817	85	-12,355	0	853,620	30	
Toledo Bend Reservoir (Texas)	85	2,236,450	1,889,996	85	-87,398	-4	579,678	26	
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	3,779,993	85	-174,796	-4	1,159,356	26	
*Livingston, Lake	86	1,741,867	1,708,000	98	46,000	3	270,000	16	
B A Steinhagen Lake	87	66,966	56,274	84	-5,954	-9	1,486	2	
Conroe, Lake	88	416,188	358,551	86	-4,308	-1	69,667	17	
TOTAL		9,821,702	8,565,381	87	-187,583	-2	2,155,544	22	
<b>TRANS-PECOS</b>									
Red Bluff Reservoir	89	130,170	12,125	9	743	1	9,198	7	
TOTAL		130,170	12,125	9	743	1	9,198	7	

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Name of Lake or Reservoir	No. on Map	Conservation Storage		Conservation Storage		Change since Late Sep.		Change since Late Oct.	
		Capacity (acre-feet)	Late Oct. (acre-feet)	2012 (%)	2012 (acre-feet)	2012 (%)	2011 (acre-feet)	2011 (%)	
<b>EDWARDS PLATEAU</b>									
Oak Creek Reservoir	90	39,260	12,548	32	-257	-1	-2,687	-7	
E V Spence Reservoir	91	517,272	29,027	6	26,827	5	26,704	5	
O C Fisher Lake	92	79,483	0	0	0	0	0	0	
*O H Ivie Reservoir	93	554,335	136,224	25	16,998	3	27,363	5	
Twin Buttes Reservoir	94	177,850	2,076	1	-287	0	2,076	1	
Brady Creek Reservoir	95	29,110	7,306	25	596	2	-8	0	
Buchanan, Lake	96	824,519	396,195	48	-959	0	54,865	7	
Lyndon B Johnson, Lake	97	113,323	111,318	98	546	0	-790	-1	
*Amistad Reservoir (Texas)	98	1,840,849	957,000	52	-41,000	-2	-612,000	-33	
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	1,612,000	49	-21,000	-1	-1,216,000	-37	
<b>TOTAL</b>		<b>4,176,001</b>	<b>1,651,694</b>	<b>40</b>	<b>2,464</b>	<b>0</b>	<b>-504,477</b>	<b>-12</b>	
<b>SOUTH CENTRAL</b>									
Travis, Lake	99	1,113,255	453,868	41	-12,249	-1	60,912	5	
*Austin, Lake	100	21,804	20,730	95	210	1	-75	0	
Somerville Lake	101	147,104	125,692	85	-3,813	-3	68,416	47	
Canyon Lake	102	378,781	318,701	84	-4,853	-1	13,581	4	
Medina Lake	103	254,823	31,257	12	-2,855	-1	-35,290	-14	
*Coletto Creek Reservoir	104	31,040	22,962	74	-1,682	-5	-1,521	-5	
<b>TOTAL</b>		<b>1,946,807</b>	<b>973,210</b>	<b>50</b>	<b>-25,242</b>	<b>-1</b>	<b>106,023</b>	<b>5</b>	
<b>UPPER COAST</b>									
Houston, Lake	105	128,863	128,863	100	0	0	24,163	19	
Texana, Lake	106	159,640	150,124	94	4,260	3	83,332	52	
<b>TOTAL</b>		<b>288,503</b>	<b>278,987</b>	<b>97</b>	<b>4,260</b>	<b>1</b>	<b>107,495</b>	<b>37</b>	
<b>SOUTHERN</b>									
Choke Canyon Reservoir	107	695,262	353,804	51	-5,798	-1	-87,417	-13	
Corpus Christi, Lake	108	256,961	44,115	17	1,842	1	-58,136	-23	
*Falcon Reservoir (Texas)	109	1,551,034	482,000	31	71,000	5	-258,000	-17	
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	654,000	25	107,000	4	-519,000	-20	
<b>TOTAL</b>		<b>2,503,257</b>	<b>879,919</b>	<b>35</b>	<b>67,044</b>	<b>3</b>	<b>-403,553</b>	<b>-16</b>	
<b>STATE TOTAL</b>		<b>30,992,298</b>	<b>20,782,772</b>	<b>67</b>	<b>-371,947</b>	<b>-1</b>	<b>2,429,239</b>	<b>8</b>	

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

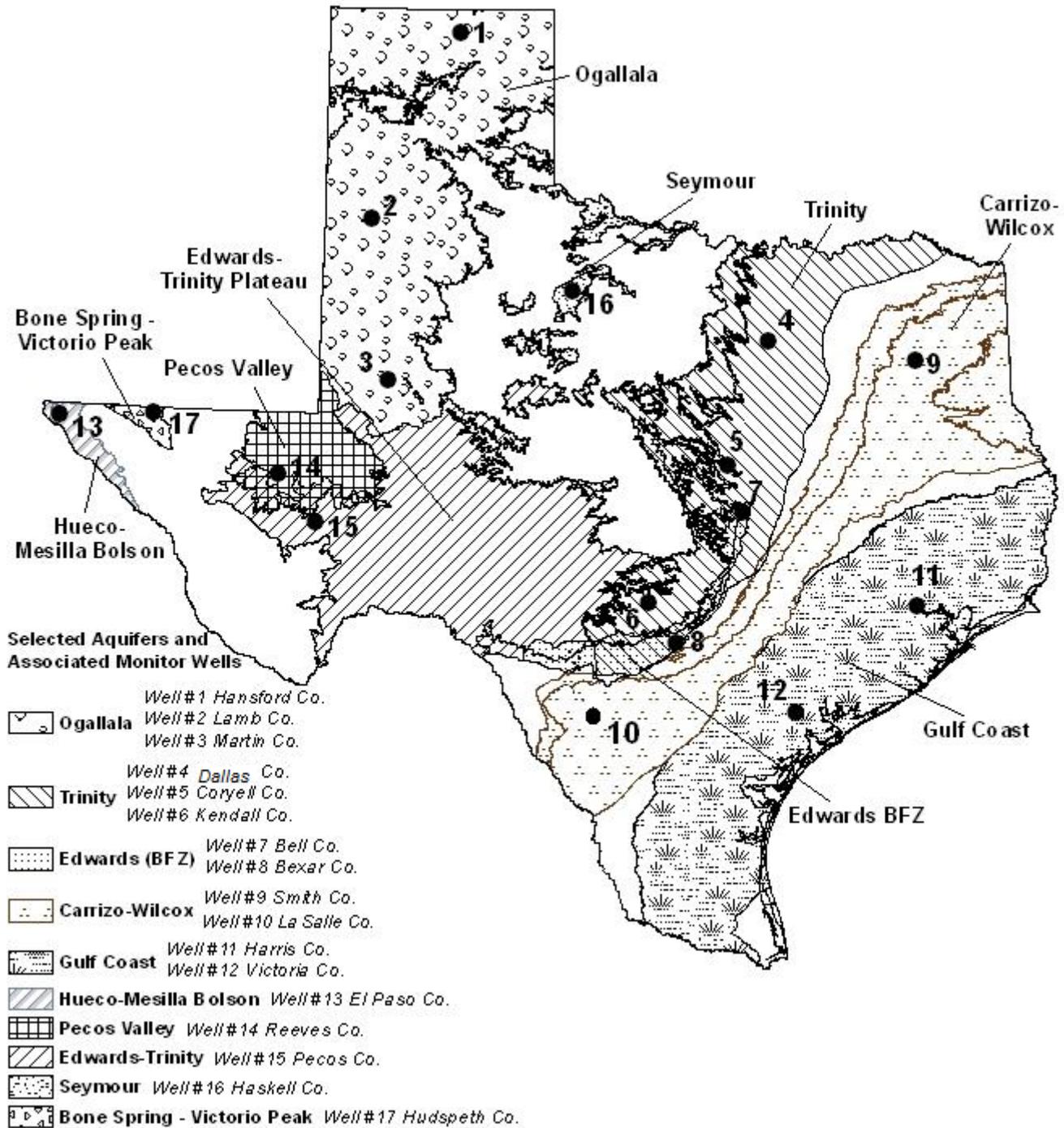
In Addition

Elephant Butte Reservoir	1,975,000	114,310	6	1,622	0	-93,231	-5
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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  $100 \times (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$ . Figures shown are for the Texas share of conservation storage in all reservoirs.

# OCTOBER 2012 GROUNDWATER LEVELS IN OBSERVATION WELLS



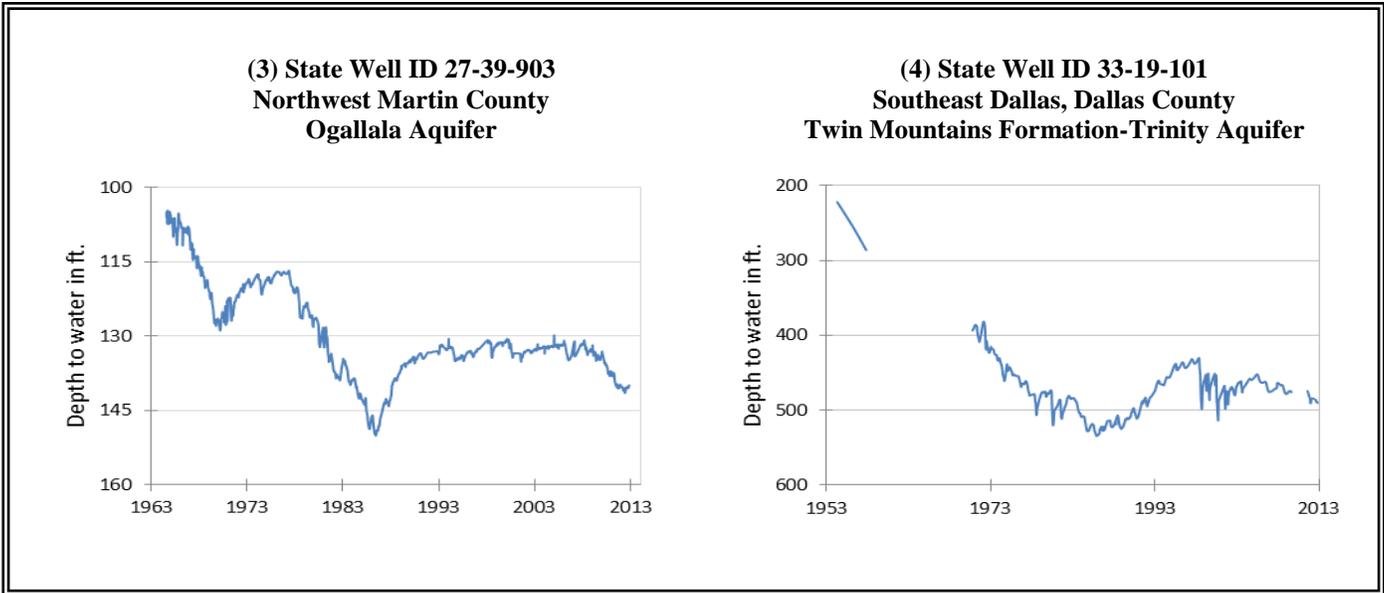
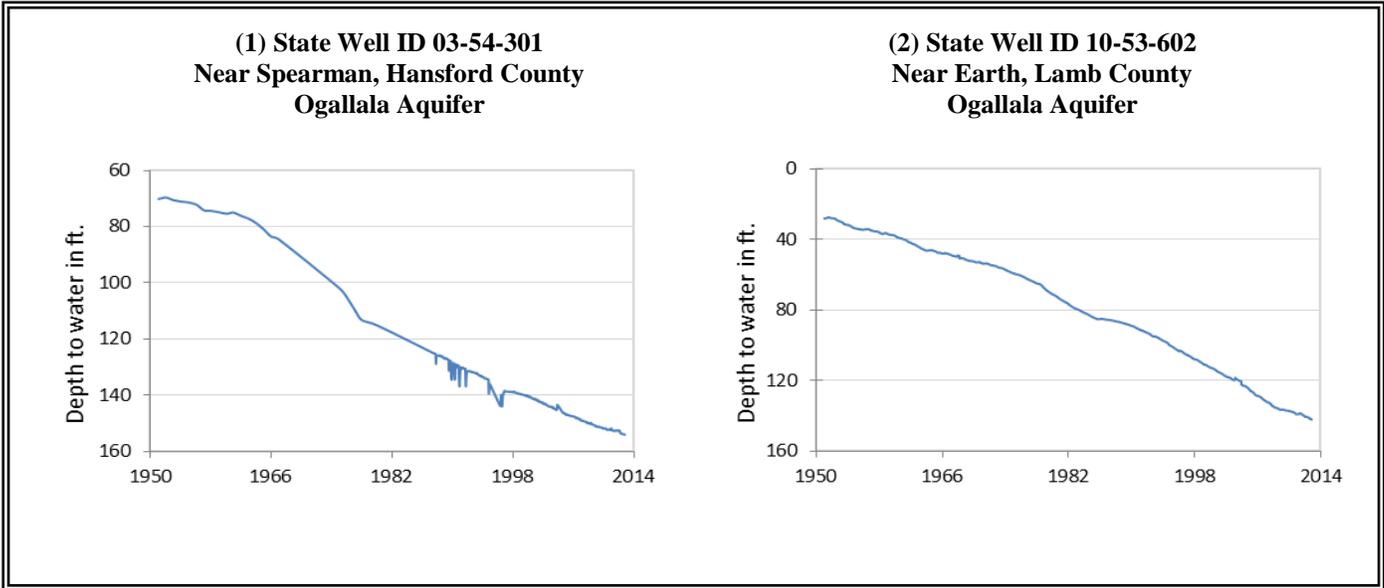
October, 2012

Water level measurements were available for all seventeen key monitoring wells in the state. Water levels rose in eight of the monitoring wells since the beginning of October, ranging from 0.01 feet in the Victoria County Gulf Coast Aquifer well to 11.86 foot in the Pecos County Edwards Trinity Aquifer well. Water levels declined in eight monitoring wells, ranging from 0.02 feet in the Dallas County Trinity Aquifer well to 8.24 feet in the Kendall County Trinity Aquifer well. The J-17 well in San Antonio recorded a water level of 84.1 feet below land surface or 646.9 feet above mean sea level. This water level is 3.1 feet below the Stage II critical management level in that segment of the Edwards Aquifer. Stage II restrictions were declared by the EAA on September 18th when the ten-day average fell below 650-foot elevation or 81 feet below land surface.

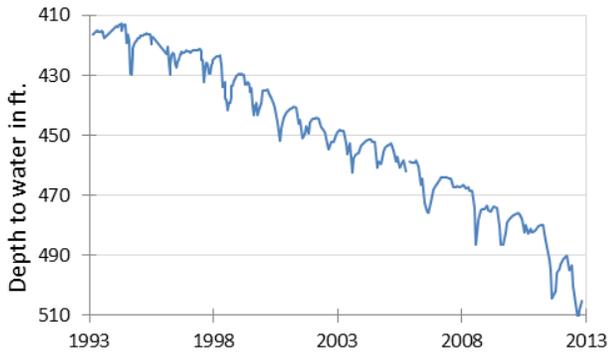
\* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

Monitoring Well	Oct	Sep 2012	Month Change	Year Change	Historical Change
(1) Hansford 0354301	154	154.00	0	-1.45	-83.88
(2) Lamb 1053602	142.15	141.78	-0.37	-2.3	-114
(3) Martin 2739903	139.89	140.46	0.57	0.01	-35.
(4) Dallas 3319101	489.72	489.7	-0.02	-7.93	-267.72
(5) Coryell 4035404	505.1	508.33	3.23	-9.19	-213.1
(6) Kendall 6802609	139.61	147.85	-8.24	11.41	-79.61
(7) Bell 5804816	125.49	125.25	-0.24	0.63	-2.36
(8) Bexar 6837203	84.1	79.9	-4.2	-1.39	-37.46
(9) Smith 3430907	435.77	437.85	2.08	2.93	-69.77
(10) La Salle 7738103	435.49	438.51	3.02	NA	-182.42
(11) Harris 6514409	201.53	201.4	-0.13	8.22	-66.03
(12) Victoria 8017502	37.16	37.17	0.01	3.46	-3.16
(13) El Paso 4913301	292.9	292.47	-0.43	-2.33	-61
(14) Reeves 4644501	151.81	149.9	-1.91	1.65	-59.72
(15) Pecos 5216802	221.55	233.41	11.86	9.01	25.33
(16) Haskell 2135748	47.47	47.78	0.31	-0.94	-6.14
(17) Hudspeth 4807516	145.34	150.8	5.46	-0.44	-41.42

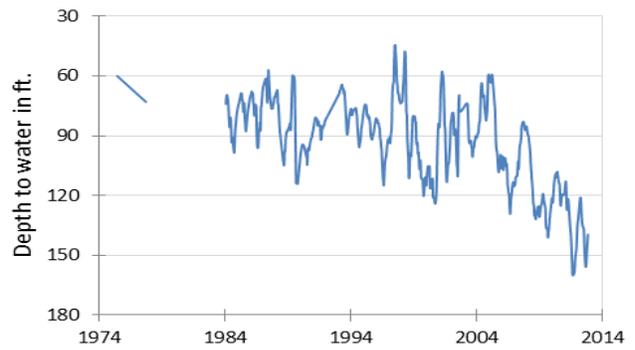
## OCTOBER GROUNDWATER LEVELS IN OBSERVATION WELLS



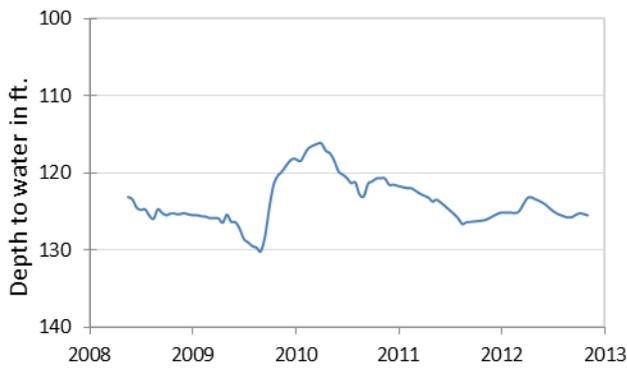
**(5) State Well ID 40-35-404  
Gatesville, Coryell County  
Hosston Formation-Trinity Aquifer**



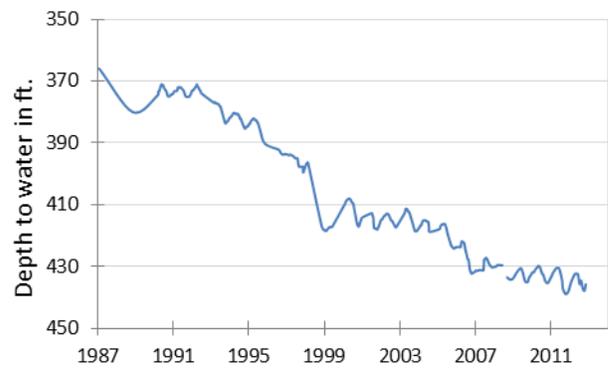
**(6) State Well ID 68-02-609  
Waring, Kendall County  
Cow Creek Formation-Trinity Aquifer**



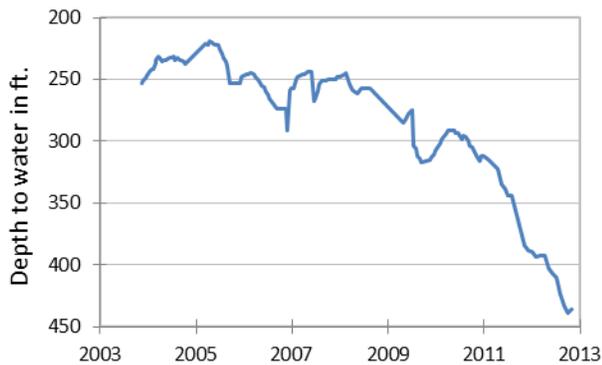
**(7) State Well ID 58-04-816  
Near Salado, Bell County  
Edwards (BFZ) Aquifer**



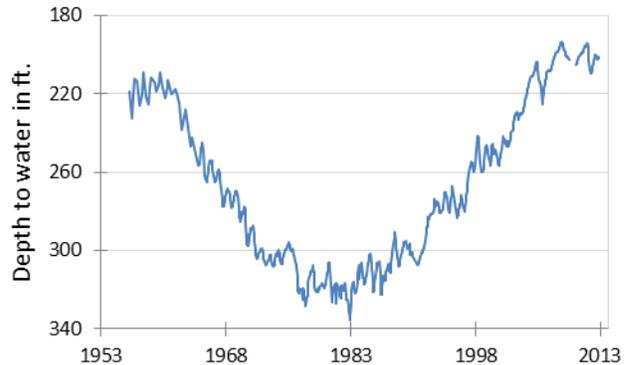
**(9) State Well ID 34-30-907  
Red Springs, Smith County  
Carrizo-Wilcox Aquifer**



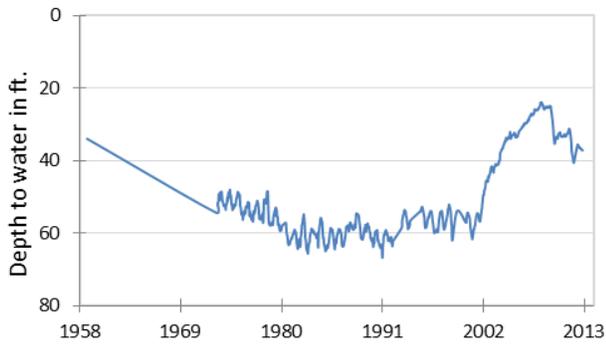
**(10) State Well ID 77-38-103  
Near Cotulla, La Salle County  
Carrizo-Wilcox Aquifer**



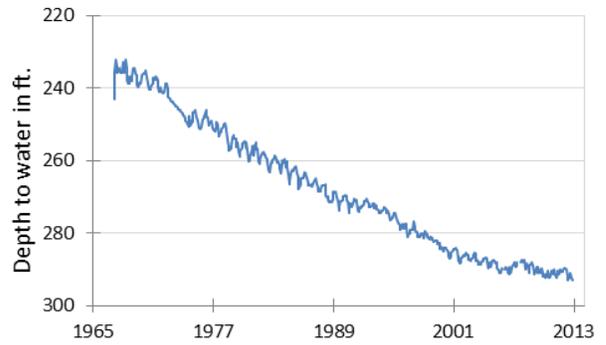
**(11) State Well ID 65-14-409  
Alief, Harris County  
Evangeline Formation-Gulf Coast Aquifer**



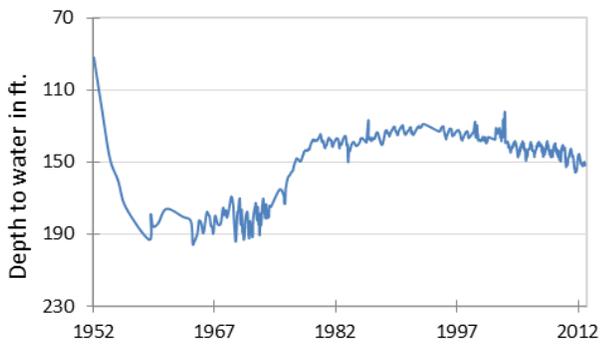
**(12) State Well ID 80-17-502**  
Near Bloomington, Victoria County  
Lissie Formation-Gulf Coast Aquifer



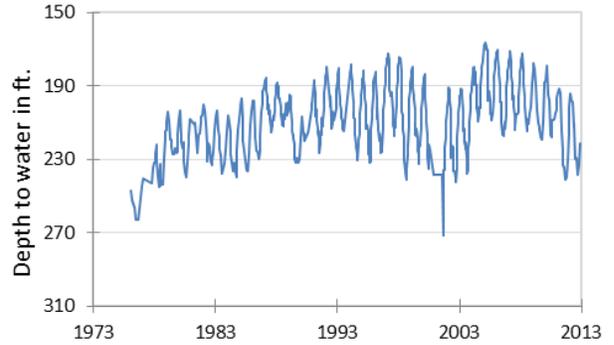
**(13) State Well ID 49-13-301**  
El Paso, El Paso County  
Hueco-Mesilla Bolson Aquifer



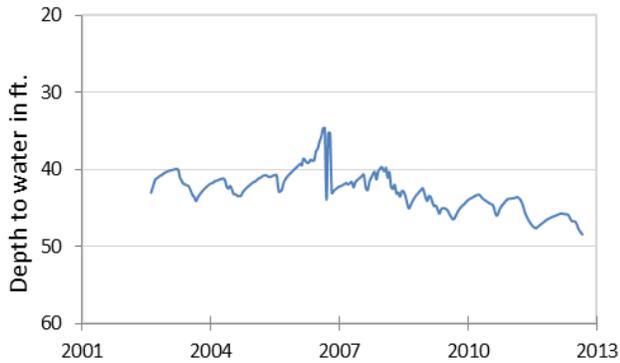
**(14) State Well ID 46-44-501**  
Near Pecos, Reeves County  
Pecos Valley Aquifer



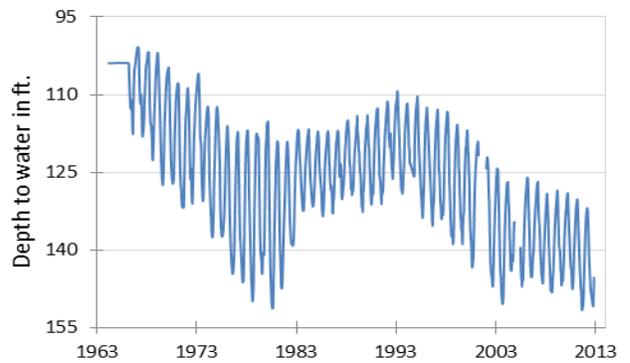
**(15) State Well ID 52-16-802**  
Fort Stockton, Pecos County  
Edwards-Trinity (Plateau) Aquifer



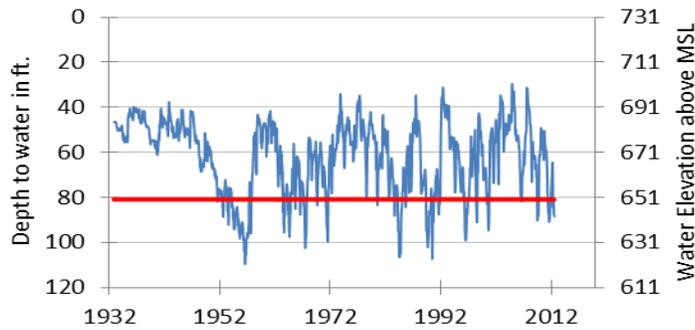
**(16) State Well ID 21-35-748**  
Near O'Brien, Haskell County  
Seymour Aquifer



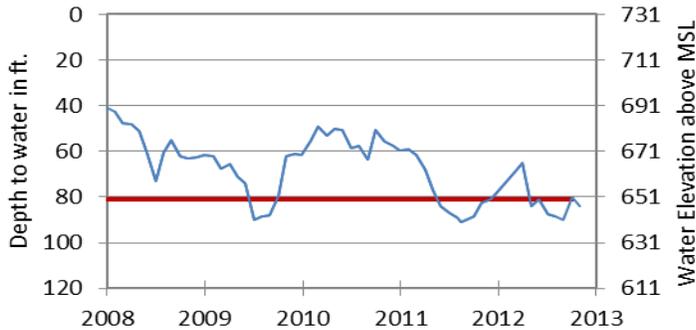
**(17) State Well ID 48-07-516**  
Dell City, Hudspeth County  
Bone Spring - Victorio Peak Aquifer



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

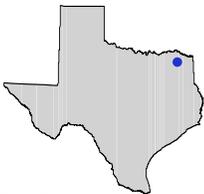


The late October water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 84.1 feet below land surface, or 646.9 feet above mean sea level. This was 4.2 feet below last month's measurement, 1.39 feet below last year's measurement, and 37.46 feet below the initial measurement recorded in 1932.



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

***HYDROGRAPH OF THE MONTH***

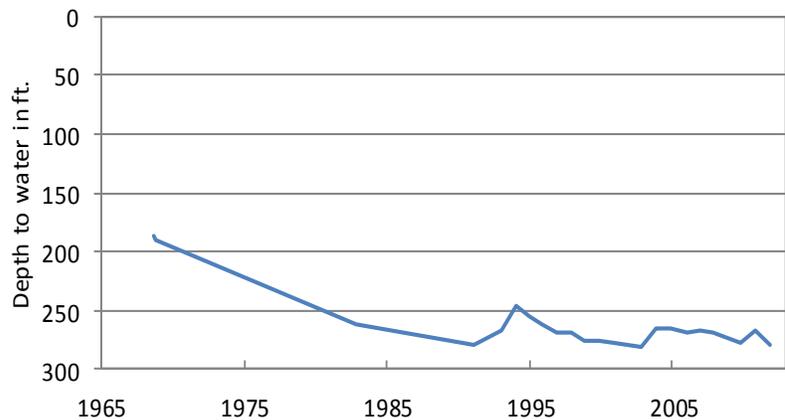


Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

**Blossom Aquifer**

The Blossom Aquifer is a minor aquifer located in Bowie, Red River, and Lamar counties in the northeast corner of Texas. The aquifer consists of the Blossom Sand Formation, composed of alternating sequences of sand clay and marl. The Blossom Sand was deposited in a fluvial-deltaic environment during minor regressive phases of the generally transgressive late Cretaceous Gulfian series. The Ouachita Mountains were the probable source area supplying the sediments deposited on the northern periphery of the East Texas Basin. The aquifer yields water of usable quality to wells located mostly in outcrop areas. Most water wells producing from the Blossom are shallow domestic or livestock wells, but are rapidly being abandoned due to greater accessibility to public water supply systems. Groundwater in the Blossom is generally soft, slightly alkaline, and, in some areas, high in sodium, bicarbonate, iron, and fluoride. Although water quality is not acceptable for irrigation, it is generally acceptable for nonindustrial uses. Municipal pumping accounts for a large percentage of pumpage from the aquifer.

**Well # 16-17-701  
Red River County TD-502'**



Total depth of this well is 502 ft. It is used to produce water for public supply and is measured annually by the TWDB. After other area public water suppliers shifted to greater use of surface water in the mid-eighties, groundwater levels essentially stabilized.

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