

## RESERVOIR STORAGE

*April 2014*

At the end of the month, total storage in 114 of the state's major water supply reservoirs was at 20.3 million acre-feet\*, or 64% of their total conservation storage capacity. This is 90,345 acre-feet more than a month ago but 566,228 acre-feet less than the storage at this time last year. No data was reported for Electra, North Fork Buffalo Creek, and Twin Buttes. Electra has been empty since the end of October, 2012, and Twin Buttes has been empty since mid-November, 2013.

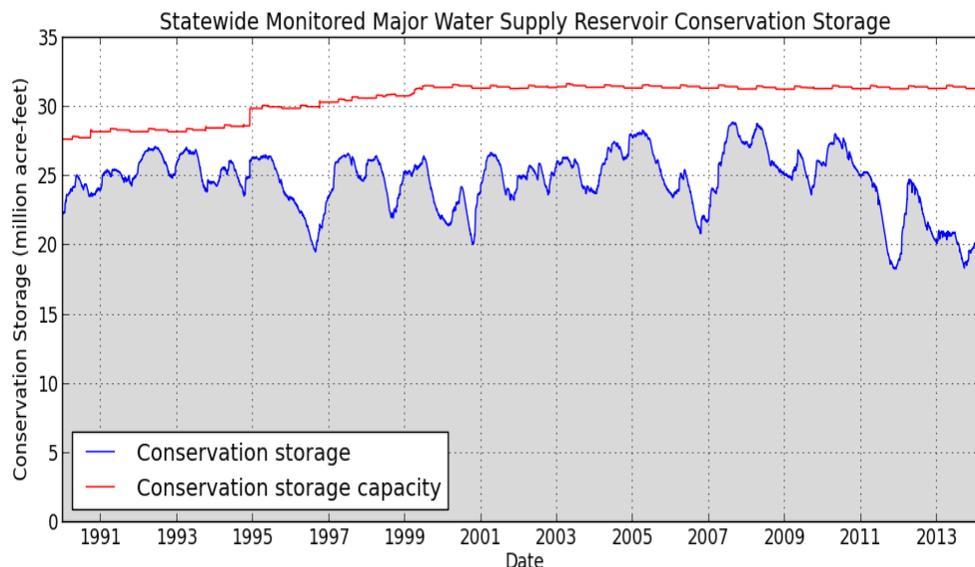
Fourteen reservoirs, most in the East region, held 100% of conservation storage capacity. Thirteen (13) reservoirs were at or below 10% full: Meredith (0%), North Fork Buffalo Creek (0%), White River (0%), Electra (0%), Twin Buttes (0%), J. B. Thomas (1%), O. C. Fisher (1%), E.V. Spence (2%), Medina (3%), Palo Duro (3%), Abilene (3%), Mackenzie (5%), and Champion Creek (6%).

Total combined storage was greater than 70% in the Upper Coast (89%) and East (94%) regions. The regions with the lowest percentage storage were the High Plains (1%) and Low Rolling Plains regions (21%). Storage declined in 8 regions and increased in 1 region over the past month.

Elephant Butte reservoir held 363,574 acre-feet, or 18% of storage capacity. This is 2,050 acre-feet more than a month ago.

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

### CONSERVATION STORAGE DATA FOR



Figures are based on the end of the month data at 114 major reservoirs that represent 96 percent of the total conservation storage capacity of the 188 major water supply reservoirs in Texas. Major reservoirs are defined as having a conservation storage capacity of 5,000 acre-feet or greater.

**CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS**

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Apr		Change since end of Mar 2014		Change since end of Apr 2013		
		2014 (acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)	
<b>HIGH PLAINS</b>								
Palo Duro Reservoir	61,066	1,975	3	-226	-0	718	1	
Meredith, Lake (Texas)	500,000	0	0	0	0	0	0	
Meredith, Lake (Texas & Oklahoma)	779,556	0	0	0	0	0	0	
MacKenzie Reservoir	46,450	2,270	5	-82	-0	-618	-1	
White River Lake	29,880	0	0	0	0	-564	-2	
<b>TOTAL</b>	<b>637,396</b>	<b>4,245</b>	<b>1</b>	<b>-308</b>	<b>-0</b>	<b>-464</b>	<b>-0</b>	
<b>LOW ROLLING PLAINS</b>								
Greenbelt Lake	59,968	8,229	14	-289	-0	930	2	
*Electra, Lake	5,626	No Data						
N. Fork Buffalo Crk Reservoir	15,400	No Data						
Kemp, Lake	268,811	58,130	22	-495	-0	2,710	1	
Millers Creek Reservoir	26,768	3,429	13	-353	-1	-2,784	-10	
Alan Henry Reservoir	94,808	58,096	61	-1,635	-2	-7,832	-8	
Stamford, Lake	51,570	6,423	12	-674	-1	-5,380	-10	
J B Thomas, Lake	199,931	1,813	1	-454	-0	1,371	1	
Fort Phantom Hill, Lake	70,030	28,485	41	-1,384	-2	-4,619	-7	
Sweetwater, Lake	12,267	2,280	19	-95	-1	-1,048	-9	
Colorado City, Lake	30,758	7,670	25	-309	-1	-2,143	-7	
Champion Creek Reservoir	41,580	2,671	6	-167	-0	-427	-1	
Abilene, Lake	7,900	276	3	-47	-1	-729	-9	
Coleman, Lake	38,075	14,296	38	-413	-1	-2,126	-6	
Hords Creek Lake	8,443	2,402	28	-77	-1	-337	-4	
<b>TOTAL</b>	<b>931,935</b>	<b>194,200</b>	<b>21</b>	<b>-6,392</b>	<b>-1</b>	<b>-14,185</b>	<b>-2</b>	
<b>NORTH CENTRAL</b>								
Nocona, Lake (Farmers Crk)	21,444	8,463	39	-230	-1	-1,881	-9	
Hubert H Moss Lake	24,058	20,777	86	-71	-0	-343	-1	
Texoma, Lake (Texas)	1,258,113	984,312	78	7,407	1	-127,923	-10	
Texoma, Lake (Texas & Oklahoma)	2,525,281	984,312	39	7,407	0	-127,923	-5	
*Pat Mayse Lake	113,683	84,897	75	-1,166	-1	-8,414	-7	
Kickapoo, Lake	86,345	26,406	31	-137	-0	-7,387	-9	
Arrowhead, Lake	230,359	54,008	23	-2,255	-1	-37,782	-16	
Bonham, Lake	11,027	8,832	80	-144	-1	-365	-3	
Crook, Lake	9,195	9,049	98	291	3	927	10	
Amon G Carter, Lake	19,266	8,610	45	-276	-1	-2,933	-15	
Ray Roberts, Lake	788,167	577,119	73	-2,547	-0	-98,996	-13	
Jim Chapman Lake (Cooper)	260,332	103,196	40	18,928	7	-32,548	-13	
Graham, Lake	45,288	21,570	48	-1,111	-2	-9,967	-22	
*Lost Creek Reservoir	11,950	8,231	69	-128	-1	-1,729	-14	
Bridgeport, Lake	366,236	155,852	43	-2,242	-1	-45,620	-12	
Lewisville Lake	563,228	376,833	67	6,523	1	-64,976	-12	
Lavon Lake	406,388	204,058	50	8,951	2	-60,742	-15	
Hubbard Creek Reservoir	318,067	67,297	21	-3,451	-1	-16,530	-5	
Possum Kingdom Lake	540,340	337,561	62	-7,417	-1	-47,594	-9	
*Mineral Wells, Lake	6,760	3,896	58	-41	-1	-1,059	-16	
Weatherford, Lake	17,812	11,375	64	931	5	394	2	
Eagle Mountain Lake	179,880	122,727	68	72	0	-17,988	-10	
Worth, Lake	33,495	22,405	67	29	0	-1,643	-5	
Grapevine Lake	164,703	105,325	64	-615	-0	-25,206	-15	
Ray Hubbard, Lake	452,040	304,928	67	-2,044	-0	-76,402	-17	
New Terrell City Lake	8,583	6,837	80	392	5	-63	-1	

**CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS**

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Apr 2014 (acre-feet)	(%)	Change since end of Mar 2014 (acre-feet)	(%)	Change since end of Apr 2013 (acre-feet)	(%)
<b>(North Central Continue)</b>							
Palo Pinto, Lake	26,827	6,490	24	-637	-2	-10,904	-41
Benbrook Lake	85,648	68,521	80	1,199	1	-6,276	-7
Arlington, Lake	40,188	35,662	89	2,062	5	-1,935	-5
Joe Pool Lake	175,358	164,450	94	-648	-0	-6,923	-4
*Cisco, Lake	25,895	13,963	54	-268	-1	4,422	17
Leon, Lake	26,476	20,414	77	-689	-3	1,380	5
Granbury, Lake	128,046	66,049	52	-2,825	-2	-21,144	-17
Pat Cleburne, Lake	26,008	15,374	59	-497	-2	-3,172	-12
Waxahachie, Lake	10,780	9,178	85	29	0	-390	-4
Bardwell Lake	46,122	36,403	79	-85	-0	-2,697	-6
Proctor Lake	55,457	23,747	43	-1,390	-3	-15,696	-28
Whitney, Lake	553,344	327,627	59	-3,345	-1	-53,974	-10
Aquilla Lake	44,460	31,368	71	-734	-2	-685	-2
Navarro Mills Lake	49,827	48,656	98	-1,170	-2	2,165	4
*Halbert, Lake	6,033	4,792	79	-249	-4	79	1
Richland-Chambers Reservoir	1,087,839	772,181	71	-18,883	-2	-88,784	-8
*Brownwood, Lake	128,839	67,901	53	-2,019	-2	783	1
Waco, Lake	189,567	167,590	88	-2,678	-1	8,596	5
Limestone, Lake	208,014	204,201	98	-3,444	-2	33,806	16
Belton Lake	435,225	323,055	74	-4,389	-1	-23,355	-5
Stillhouse Hollow Lake	227,771	162,244	71	-2,427	-1	-23,297	-10
Georgetown, Lake	36,823	20,725	56	-343	-1	-1,857	-5
Granger Lake	50,779	49,880	98	-899	-2	-899	-2
Tawakoni, Lake	871,685	548,749	63	-1,118	-0	-137,599	-16
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0
Squaw Creek, Lake	151,250	148,984	99	1,652	1	-2,266	-1
<b>TOTAL</b>	<b>10,647,870</b>	<b>6,995,618</b>	<b>66</b>	<b>-24,146</b>	<b>-0</b>	<b>-1,037,392</b>	<b>-10</b>
<b>EAST</b>							
Wright Patman Lake	310,382	281,223	91	158,630	51	52,917	17
*Sulphur Springs, Lake	17,747	17,747	100	0	0	2,686	15
Cypress Springs, Lake	66,756	66,756	100	0	0	5,080	8
Bob Sandlin, Lake	190,822	176,522	93	9,808	5	25,161	13
Caddo, Lake	29,898	29,898	100	0	0	0	0
Martin, Lake	75,116	73,937	98	-1,179	-2	6,277	8
Monticello, Lake	34,740	34,740	100	0	0	0	0
Fork Reservoir, Lake	605,061	516,777	85	17,061	3	22,222	4
O the Pines, Lake	241,363	241,363	100	0	0	35,689	15
Cedar Creek Reservoir in Trinity	644,686	519,983	81	-2,315	-0	-23,113	-4
Athens, Lake	29,435	29,435	100	0	0	4,000	14
Palestine, Lake	373,199	373,199	100	0	0	5,259	1
Tyler, Lake	73,161	73,161	100	1,131	2	14,894	20
Murvaul, Lake	38,285	38,285	100	0	0	0	0
Jacksonville, Lake	25,670	25,670	100	0	0	93	0
Nacogdoches, Lake	39,522	38,548	98	-908	-2	363	1
Houston County Lake	17,113	17,100	100	-13	-0	103	1
Sam Rayburn Reservoir	2,857,077	2,649,871	93	91,387	3	-4,288	-0
Toledo Bend Reservoir (Texas)	2,245,752	2,139,773	95	62,358	3	28,609	1
Toledo Bend Reservoir (TX & LA)	4,472,900	2,139,773	48	62,358	1	28,609	1
*Livingston, Lake	1,785,348	1,785,348	100	0	0	0	0
B A Steinhagen Lake	66,961	62,392	93	-3,308	-5	306	0
Conroe, Lake	416,177	406,326	98	389	0	47,094	11
<b>TOTAL</b>	<b>10,184,271</b>	<b>9,598,054</b>	<b>94</b>	<b>333,041</b>	<b>3</b>	<b>223,352</b>	<b>2</b>

**CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS**

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Apr 2014 (acre-feet)	(%)	Change since end of Mar 2014 (acre-feet)	(%)	Change since end of Apr 2013 (acre-feet)	(%)
<b>TRANS-PECOS</b>							
Red Bluff Reservoir	151,110	68,245	45	-603	-0	41,600	28
<b>TOTAL</b>	151,110	68,245	45	-603	-0	41,600	28
<b>EDWARDS PLATEAU</b>							
Oak Creek Reservoir	39,210	7,209	18	-419	-1	-3,163	-8
E V Spence Reservoir	517,272	12,329	2	-2,166	-0	-12,670	-2
O C Fisher Lake	119,445	749	1	0	0		
*O H Ivie Reservoir	554,340	63,287	11	-4,042	-1	-43,876	-8
Twin Buttes Reservoir	182,454	No Data					
Brady Creek Reservoir	28,808	8,533	30	-342	-1	1,516	5
Buchanan, Lake	860,607	311,460	36	-10,766	-1	-36,744	-4
Inks, Lake	13,962	12,982	93	60	0	45	0
Lyndon B Johnson, Lake	115,056	110,635	96	-306	-0	122	0
*Amistad Reservoir (Texas)	1,840,849	832,606	45	-68,740	-4	128,141	7
*Amistad Reservoir (TX & Mexico)	3,275,532	832,606	25	-68,740	-2	128,141	4
<b>TOTAL</b>	4,228,300	1,354,296	32	-86,721	-2	94,490	2
<b>SOUTH CENTRAL</b>							
Travis, Lake	1,113,348	384,514	35	-9,849	-1	-26,553	-2
*Austin, Lake	23,972	22,849	95	-139	-1	31	0
Somerville Lake	147,104	119,447	81	-1,992	-1	-5,729	-4
Canyon Lake	378,781	309,543	82	-3,826	-1	6,141	2
Medina Lake	254,823	7,342	3	-537	-0	-6,733	-3
*Coletto Creek Reservoir	31,040	21,841	70	-237	-1	-3,884	-13
<b>TOTAL</b>	1,949,068	865,536	44	-16,580	-1	-36,727	-2
<b>UPPER COAST</b>							
Houston, Lake	120,686	120,686	100	0	0	0	0
Texana, Lake	159,566	127,644	80	-7,757	-5	-28,538	-18
<b>TOTAL</b>	280,252	248,330	89	-7,757	-3	-28,538	-10
<b>SOUTHERN</b>							
Choke Canyon Reservoir	695,262	222,062	32	-6,350	-1	-64,565	-9
Corpus Christi, Lake	256,961	204,580	80	-10,176	-4	162,968	63
*Falcon Reservoir (Texas)	1,551,007	544,658	35	-83,647	-5	167,729	11
*Falcon Reservoir (TX & Mexico)	2,646,817	544,658	21	-83,647	-3	167,729	6
<b>TOTAL</b>	2,503,230	971,300	39	-100,173	-4	266,132	11
<b>STATE TOTAL</b>	31,566,650	20,307,519	64	90,345	0	-566,228	-2

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

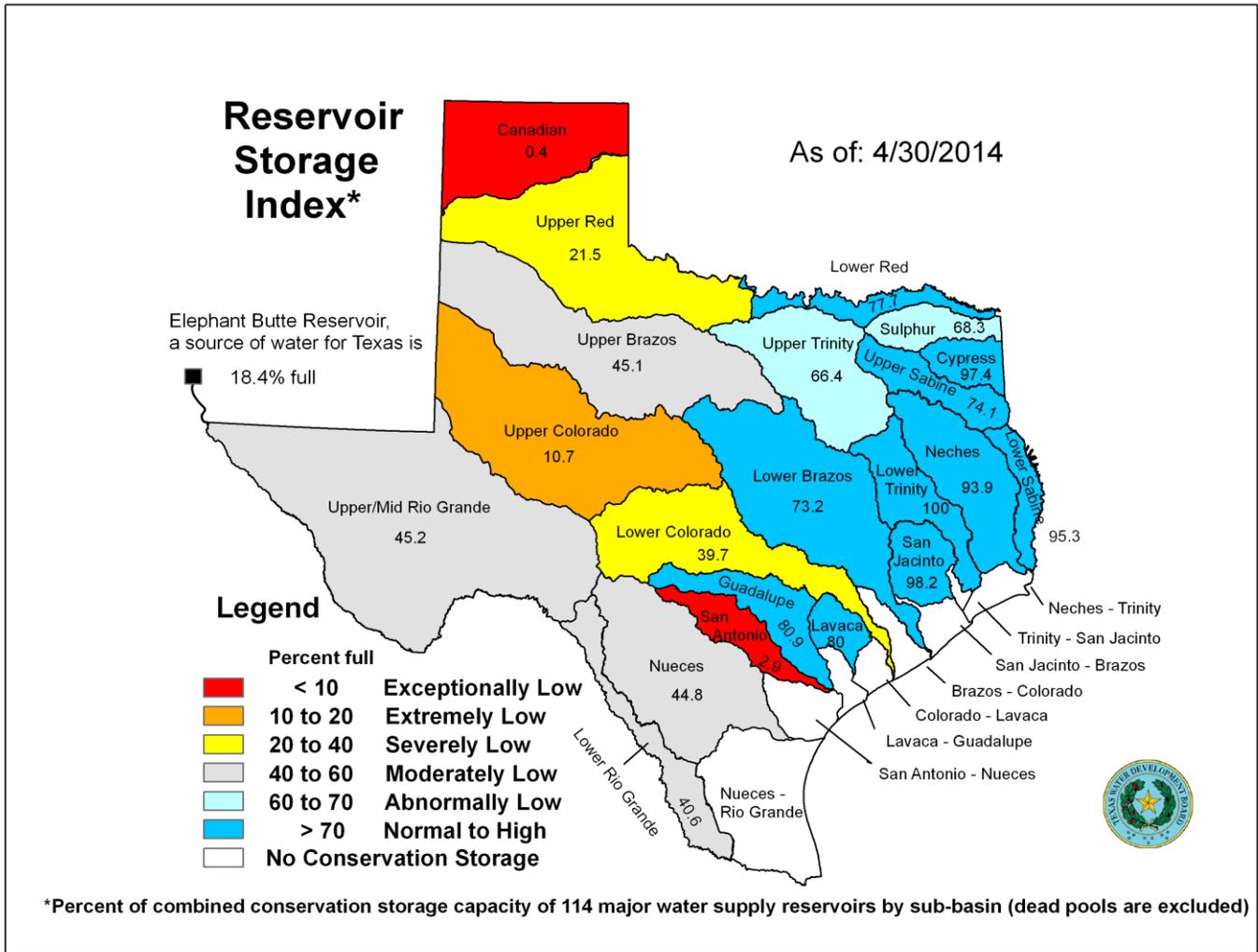
\*\* No reading available. Last valid reading was near empty. Percentage estimated assuming current storage is zero.

Elephant Butte Reservoir	1,973,358	363,574	18	2,050	0	140,603	7
--------------------------	-----------	---------	----	-------	---	---------	---

**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.

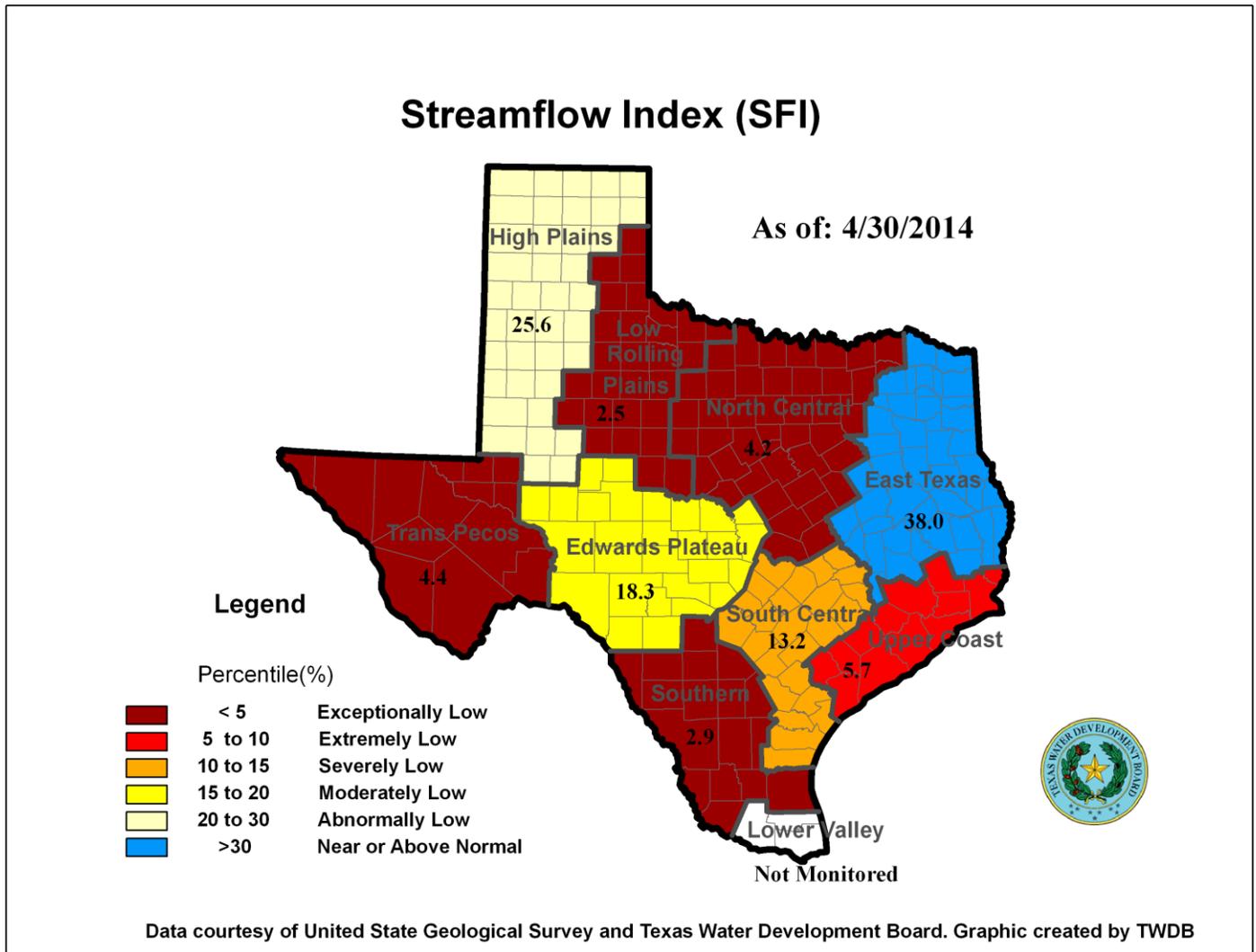
# APRIL RESERVOIR CONDITIONS



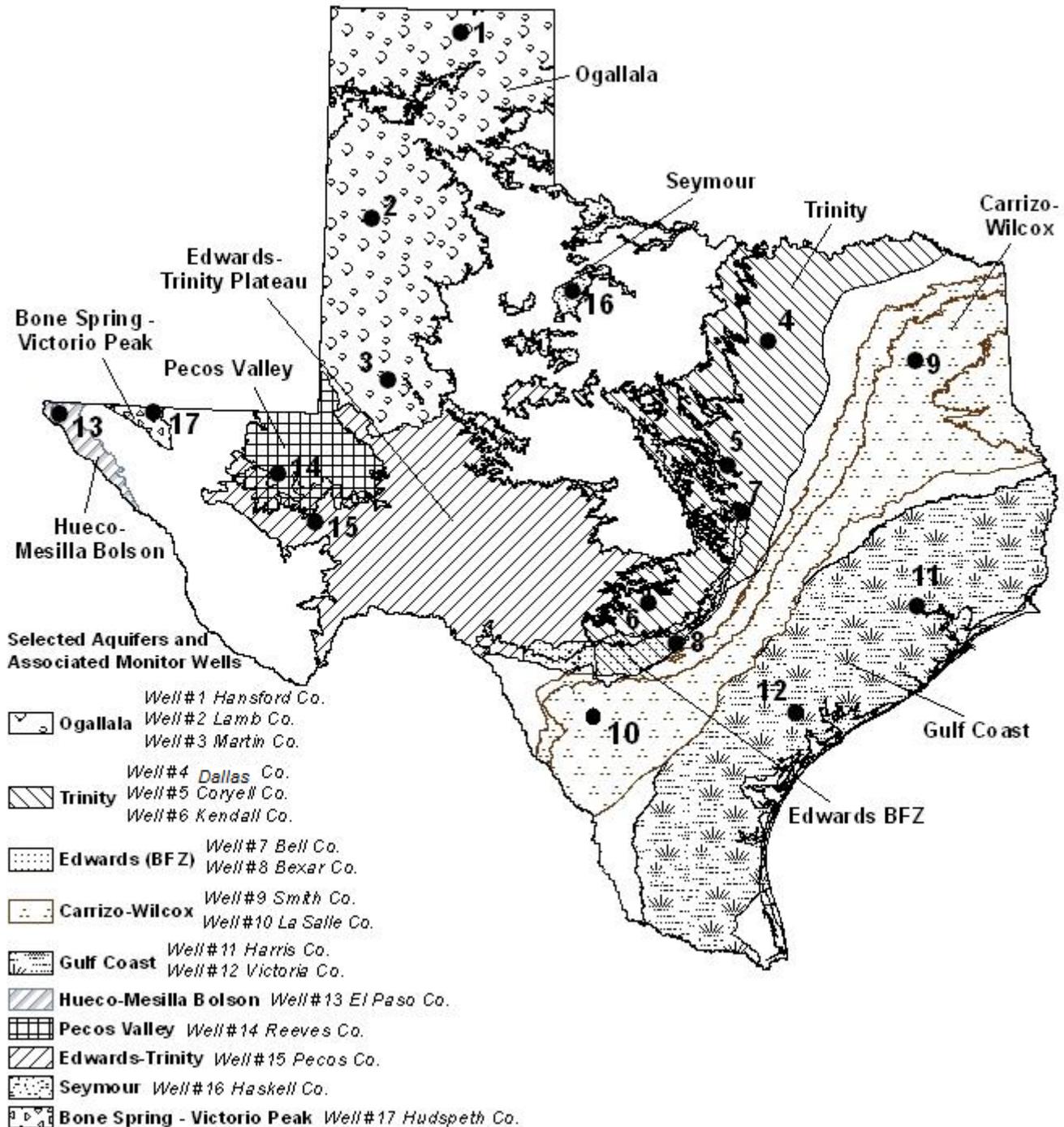
## *APRIL STREAMFLOW CONDITIONS*

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 15 stations, extremely low (5-10%) at 3 stations, moderately low (15-20%) at 2 stations, abnormally low (20-30%) at 4 stations, and near normal (30% - 70%) at the remaining 5 stations. Compared to last month, flows have increased at 3 index stations and decreased at 21 stations.

On a regional basis, flows in this month at index stations were exceptionally low in the Low Rolling, North Central, Trans-Pecos, and Southern regions, extremely low in the Upper Coast region, severely low in the South Central region, moderately low in the Edwards Plateau region, abnormally low in the High Plains region, and near or above normal in the East Texas region. Streamflow in the Lower Valley region is not monitored.



# April 2014 GROUNDWATER LEVELS IN OBSERVATION WELLS



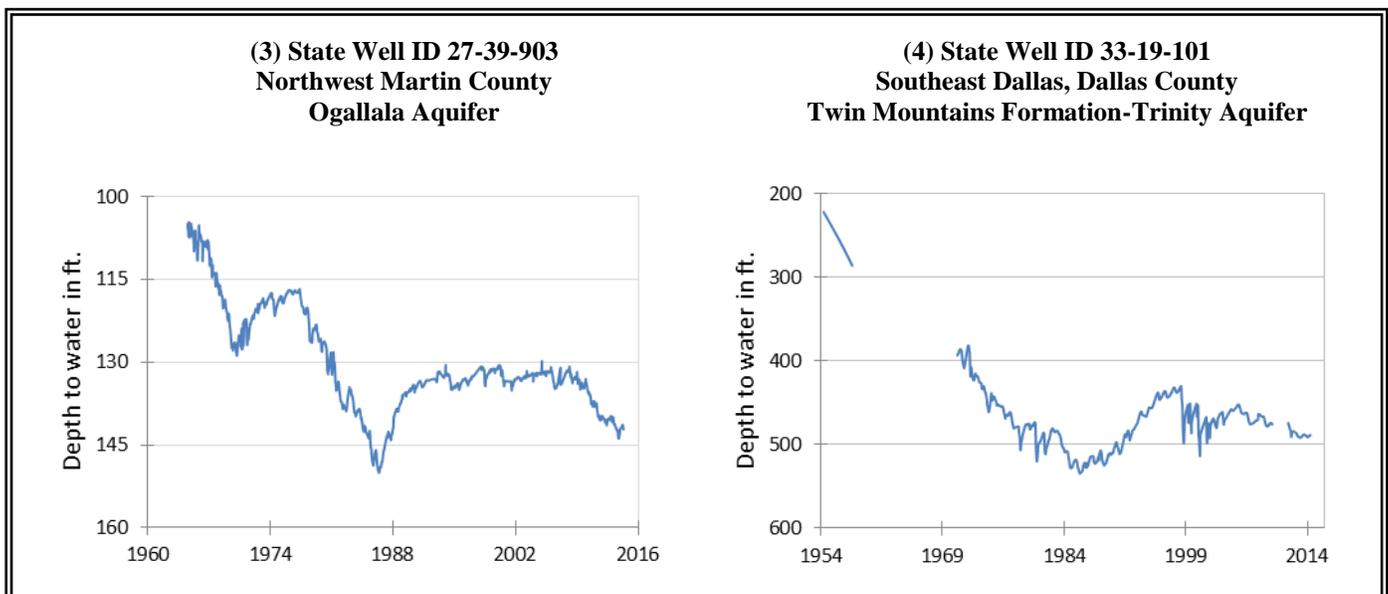
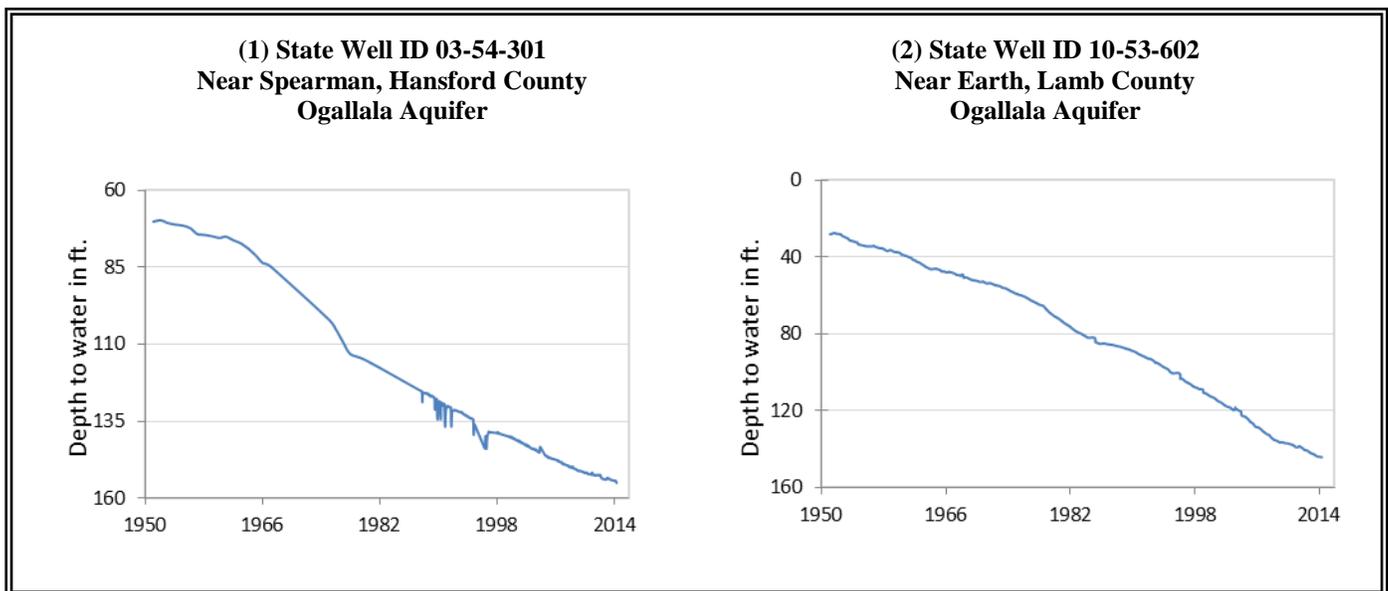
April, 2014

Water level measurements were available for all seventeen key monitoring wells in the state. Water levels rose in five of the monitoring wells since the beginning of April, ranging from 0.15 feet in the Haskell County Seymour Aquifer well to 0.98 feet in the Harris County Gulf Coast Aquifer well. Water levels declined in twelve monitoring wells, ranging from 0.05 feet in the Lamb County Ogallala Aquifer well to 21.21 feet in the La Salle County Carrizo-Wilcox Aquifer well. The J-17 well in San Antonio recorded a water level of 97.7 feet below land surface or 633.3 feet above mean sea level. This water level is 6.7 feet below the Stage III critical management level in that segment of the Edwards Aquifer. Stage III restrictions were declared by the EAA when the ten-day average fell below the 640-foot elevation, or 91 feet below land surface.

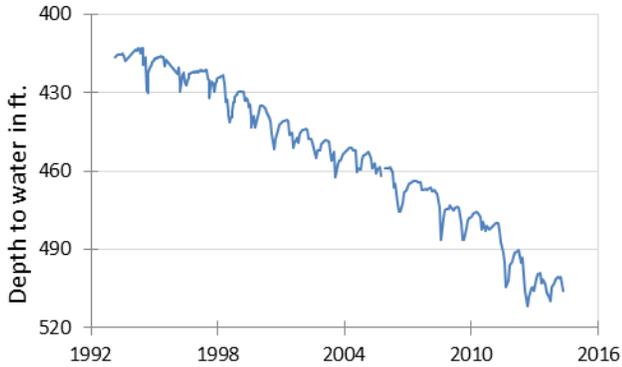
\* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

Monitoring Well	April	March	month change	year change	historical change	first measured
(1) Hansford 0354301	155.08	154.66	-0.42	-1.4	-84.96	1951
(2) Lamb 1053602	144.29	144.24	-0.05	-1.41	-116.14	1951
(3) Martin 2739903	142.2	141.38	-0.82	-1	-37.31	1964
(4) Dallas 3319101	488.52	489.22	0.7	1.31	-266.52	1954
(5) Coryell 4035404	505.75	500.34	-5.41	-2.76	-213.75	1955
(6) Kendall 6802609	136.27	132.75	-3.52	-4	-76.27	1975
(7) Bell 5804816	125.62	124.63	-0.99	1.05	-2.49	2008
(8) Bexar 6837203	97.7	90.21	-7.49	-14.7	-51.06	1932
(9) Smith 3430907	437.34	437.56	0.22	-0.22	-71.34	1987
(10) La Salle 7738103	489.18	467.97	-21.21	-29.19	-236.11	2003
(11) Harris 6514409	190.13	191.11	0.98	4.1	-54.63	1956
(12) Victoria 8017502	35.46	35.64	0.18	-1.17	-1.46	1958
(13) El Paso 4913301	296.04	295.32	-0.72	-2.31	-64.14	1967
(14) Reeves 4644501	154.94	152.58	-2.36	0.02	-62.85	1952
(15) Pecos 5216802	212.43	207.55	-4.88	-1.49	34.45	1976
(16) Haskell 2135748	48.69	48.84	0.15	-0.17	-7.36	2002
(17) Hudspeth 4807516	140.78	136.58	-4.2	0.59	-36.86	1964

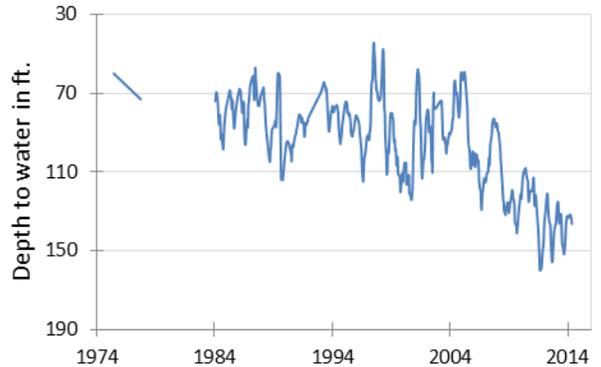
## APRIL GROUNDWATER LEVELS IN OBSERVATION WELLS



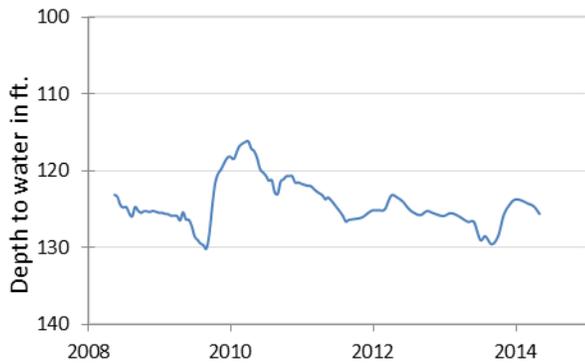
**(5) State Well ID 40-35-404  
Gatesville, Coryell County  
Hosston Formation-Trinity Aquifer**



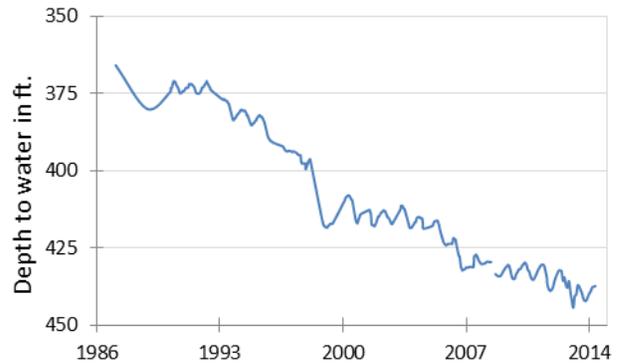
**(6) State Well ID 68-02-609  
Waring, Kendall County  
Cow Creek Formation-Trinity Aquifer**



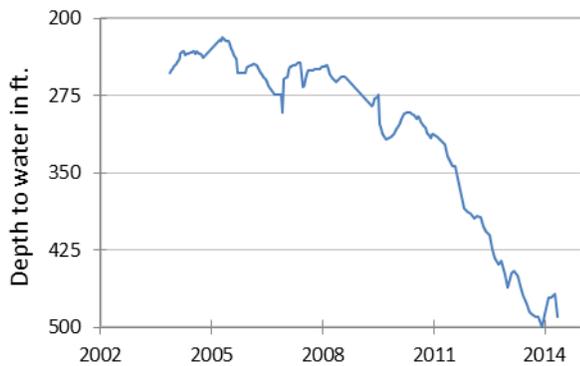
**(7) State Well ID 58-04-816  
Near Salado, Bell County  
Edwards (BFZ) Aquifer**



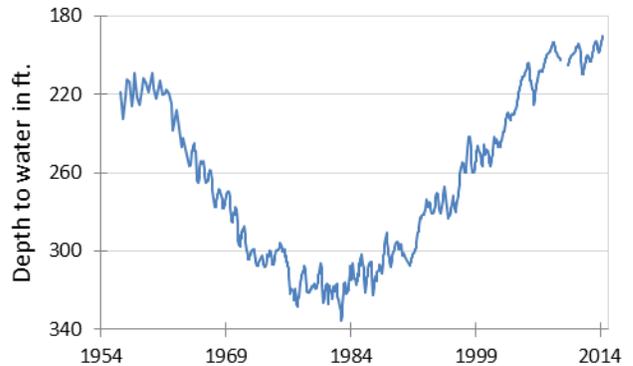
**(9) State Well ID 34-30-907  
Red Springs, Smith County  
Carrizo-Wilcox Aquifer**



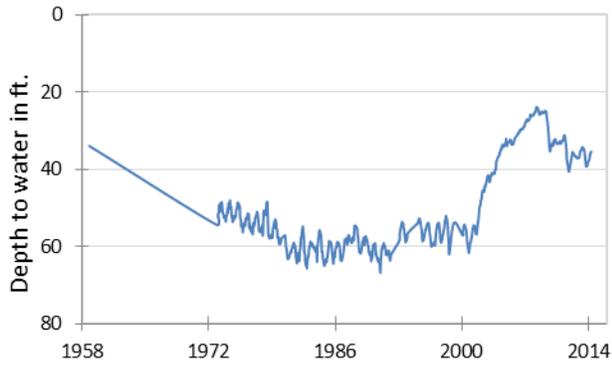
**(10) State Well ID 77-38-103  
Near Cotulla, La Salle County  
Carrizo-Wilcox Aquifer**



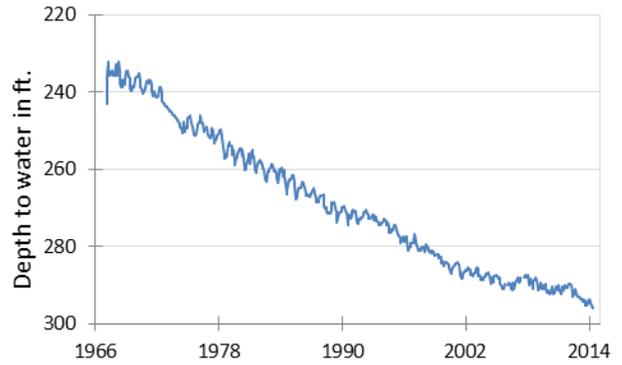
**(11) State Well ID 65-14-409  
Alief, Harris County  
Evangeline Formation-Gulf Coast Aquifer**



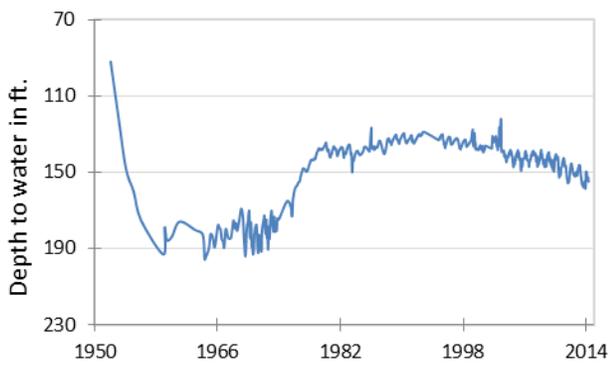
**(12) State Well ID 80-17-502**  
Near Bloomington, Victoria County  
Lissie Formation-Gulf Coast Aquifer



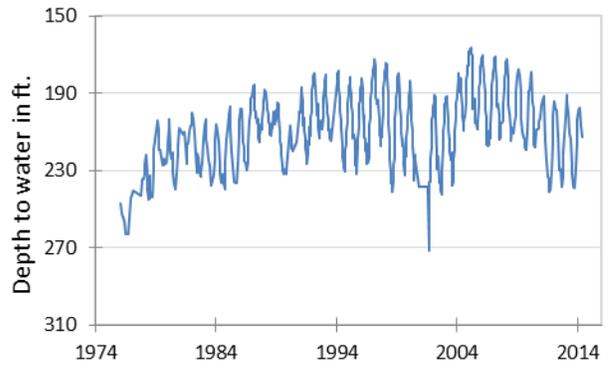
**(13) State Well ID 49-13-301**  
El Paso, El Paso County  
Hueco-Mesilla Bolson Aquifer



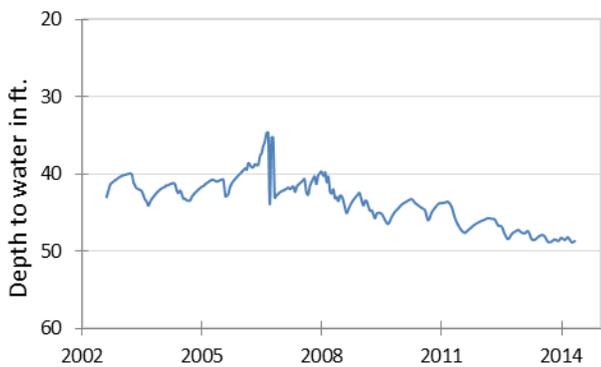
**(14) State Well ID 46-44-501**  
Near Pecos, Reeves County  
Pecos Valley Aquifer



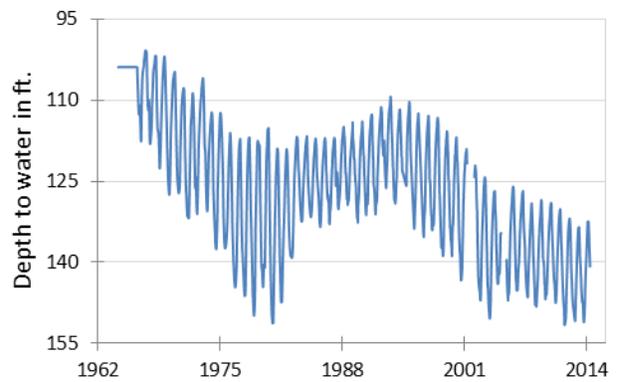
**(15) State Well ID 52-16-802**  
Fort Stockton, Pecos County  
Edwards-Trinity (Plateau) Aquifer



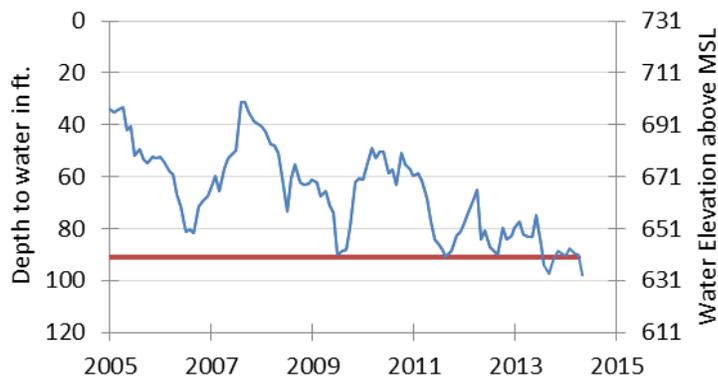
**(16) State Well ID 21-35-748**  
Near O'Brien, Haskell County  
Seymour Aquifer



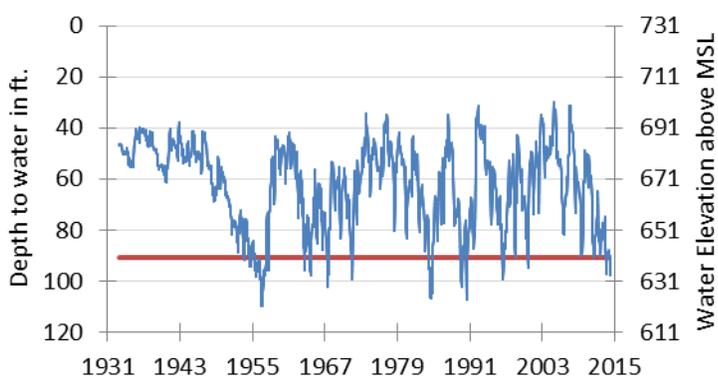
**(17) State Well ID 48-07-516**  
Dell City, Hudspeth County  
Bone Spring - Victorio Peak Aquifer



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

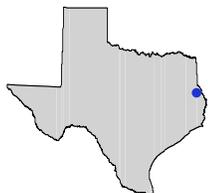


The late April water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above mean sea level, was 97.7 feet below land surface, or 633.3 feet above mean sea level. This was 7.49 feet below last month's measurement, 14.7 feet below last year's measurement, and 51.06 feet below the initial measurement recorded in 1932.



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

***HYDROGRAPH OF THE MONTH***

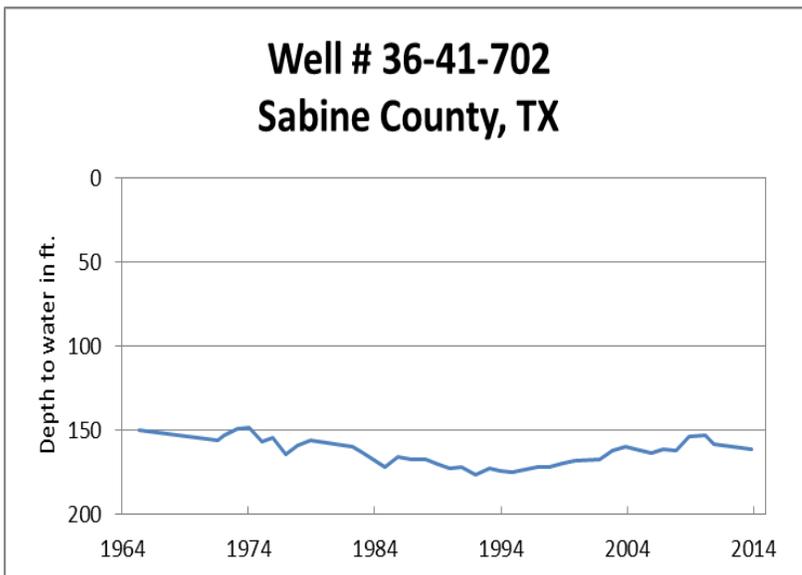


Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

**Yegua-Jackson Aquifer**

The Yegua-Jackson is a minor aquifer stretching in a narrow band across 34 counties in the coastal part of the state from the Rio Grande in the southwest to the Sabine River in the northeast. It includes parts of the Yegua Formation of the upper Claiborne Group and the Jackson Group formations. These strata consist of alternating layers of clay, sand, and silt with some thin seams of lignite (a young form of coal) that were deposited in the Eocene between 33 and 38 million years ago. Water quality varies greatly due to the composition of the water bearing formations, and in all areas the aquifer becomes highly mineralized at depth. Near the surface, waters are less than 50 to 1,000 milligrams per liter of total dissolved solids, and range from 1,000 to 10,000 milligrams per liter in deep portions. There are currently more than 1,450 wells producing from the Yegua-Jackson aquifer. A few small cities but mainly rural property owners use water from the aquifer for municipal and domestic purposes. No significant water-level declines have occurred in Yegua-Jackson wells measured by the TWDB.

**Well # 36-41-702  
Sabine County, TX**



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