

## RESERVOIR STORAGE

*October 2014*

At the end of the month, total storage in 114 of the state's major water supply reservoirs was at 19.64 million acre-feet\*, or 63% of their total conservation storage capacity. This is 418,089 acre-feet less than a month ago but 208,939 acre-feet more than the storage at this time last year.

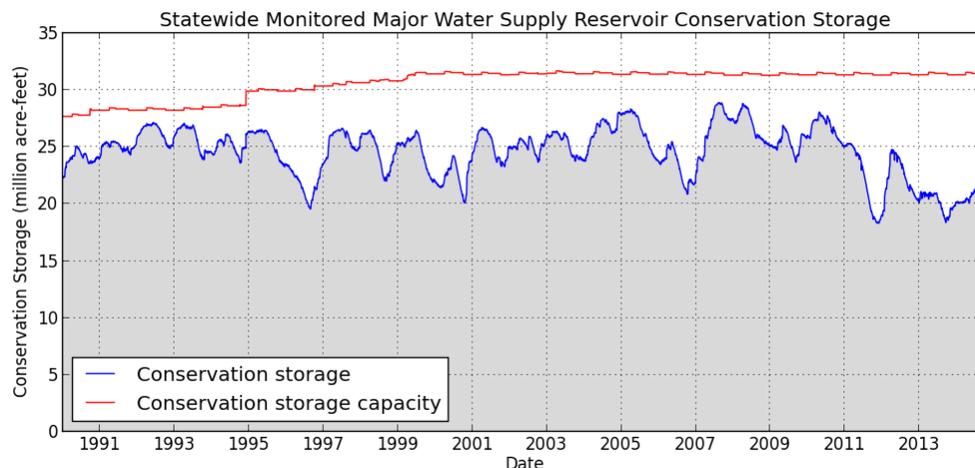
Four reservoirs held 100% of conservation storage capacity. Thirteen (13) reservoirs were below 10% full: Electra (0%), North Fork Buffalo Creek (0%), O. C. Fisher (1%), Palo Duro (2%), E.V. Spence (3%), Meredith (3%), Abilene (3%), Medina (3%), Twin Buttes (3%), White River (5%), Champion Creek (6%), Millers Creek (7%), and Mackenzie (7%).

Total combined storage was greater than 70% in the Trans-Pecos (85%), Upper Coast (88%) and East (90%) regions. The regions with the lowest percentage storage were the High Plains (5%) and Southern regions (28%). Storage declined in 7 regions and increased in 2 regions over the past month.

Elephant Butte reservoir held 183,422 acre-feet, or 9% of storage capacity. This is 11,463 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 Oct		Change since end of Sep 2014		Change since end of Oct 2013		
		2014 (acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)	
<b>HIGH PLAINS</b>								
Palo Duro Reservoir	61,066	1,180	2	-153	-0	-2,054	-3	
Meredith, Lake (Texas)	500,000	26,018	5	-79	-0	26,018	5	
Meredith, Lake (Texas & Oklahoma)	779,556	26,018	3	-79	-0	26,018	3	
MacKenzie Reservoir	46,450	3,437	7	-57	-0	902	2	
White River Lake	29,880	1,579	5	-303	-1	1,579	5	
<b>TOTAL</b>	<b>637,396</b>	<b>32,214</b>	<b>5</b>	<b>-592</b>	<b>-0</b>	<b>26,445</b>	<b>4</b>	
<b>LOW ROLLING PLAINS</b>								
Greenbelt Lake	59,968	7,269	12	-301	-1	-1,282	-2	
*Electra, Lake	5,626	no data	0					
N. Fork Buffalo Crk Reservoir	15,400	31	0	-30	-0	-101	-1	
Kemp, Lake	268,811	62,068	23	-8,978	-3	-2,153	-1	
Millers Creek Reservoir	26,768	1,983	7	-115	-0	-2,808	-10	
Alan Henry Reservoir	94,808	71,242	75	-1,653	-2	7,903	8	
Stamford, Lake	51,570	5,556	11	-550	-1	-3,317	-6	
J B Thomas, Lake	199,931	93,559	47	0	0	90,706	45	
Fort Phantom Hill, Lake	70,030	22,039	31	-1,702	-2	-10,358	-15	
Sweetwater, Lake	12,267	1,671	14	-113	-1	-989	-8	
Colorado City, Lake	30,758	6,782	22	-882	-3	-1,590	-5	
Champion Creek Reservoir	41,580	2,489	6	-135	-0	-646	-2	
Abilene, Lake	7,900	267	3	-1	-0	-248	-3	
Coleman, Lake	38,075	12,317	32	-327	-1	-3,698	-10	
Hords Creek Lake	8,443	3,143	37	-106	-1	413	5	
<b>TOTAL</b>	<b>926,309</b>	<b>290,416</b>	<b>31</b>	<b>-14,893</b>	<b>-2</b>	<b>71,832</b>	<b>8</b>	
<b>NORTH CENTRAL</b>								
Nocona, Lake (Farmers Crk)	21,444	6,883	32	-524	-2	-2,469	-12	
Hubert H Moss Lake	24,058	20,008	83	-108	-0	-205	-1	
Texoma, Lake (Texas)	1,258,113	1,041,560	83	-14,903	-1	-43,282	-3	
Texoma, Lake (Texas & Oklahoma)	2,525,281	1,041,560	41	-14,903	-1	-43,282	-2	
*Pat Mayse Lake	113,683	104,639	92	4,264	4	18,185	16	
Kickapoo, Lake	86,345	23,253	27	-637	-1	-6,935	-8	
Arrowhead, Lake	230,359	43,738	19	-1,385	-1	-22,154	-10	
Bonham, Lake	11,027	8,107	74	0	0	-470	-4	
Crook, Lake	9,195	9,080	99	31	0	1,060	12	
Amon G Carter, Lake	19,266	9,747	51	-244	-1	93	0	
Ray Roberts, Lake	788,167	593,948	75	-11,411	-1	-10,693	-1	
Jim Chapman Lake (Cooper)	260,332	91,241	35	-8,392	-3	15,052	6	
Graham, Lake	45,288	17,718	39	-446	-1	-7,180	-16	
*Lost Creek Reservoir	11,950	7,376	62	-116	-1	-1,486	-12	
Bridgeport, Lake	366,236	141,126	39	-1,774	-0	-26,360	-7	
Lewisville Lake	563,228	387,530	69	-10,720	-2	28,972	5	
Lavon Lake	406,388	191,119	47	411	0	-7,322	-2	
Hubbard Creek Reservoir	318,067	45,873	14	-2,853	-1	-37,698	-12	
Possum Kingdom Lake	540,340	331,716	61	6,093	1	-32,883	-6	
*Mineral Wells, Lake	6,760	3,353	50	-68	-1	-716	-11	
Weatherford, Lake	17,812	9,239	52	-412	-2	-1,117	-6	
Eagle Mountain Lake	179,880	99,734	55	-2,066	-1	-23,065	-13	
Worth, Lake	33,495	21,923	65	-510	-2	-682	-2	
Grapevine Lake	164,703	94,711	58	-4,119	-3	-14,906	-9	
Ray Hubbard, Lake	452,040	267,796	59	793	0	-53,905	-12	
New Terrell City Lake	8,583	6,667	78	-124	-1	806	9	

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

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Oct 2014 (acre-feet)	(%)	Change since end of Sep 2014 (acre-feet)	(%)	Change since end of Oct 2013 (acre-feet)	(%)
(North Central Continue)							
Palo Pinto, Lake	26,827	2,941	11	-522	-2	-6,633	-25
Benbrook Lake	85,648	58,120	68	-1,403	-2	-3,090	-4
Arlington, Lake	40,188	22,899	57	-3,912	-10	-7,694	-19
Joe Pool Lake	175,358	162,362	93	-1,512	-1	-576	-0
*Cisco, Lake	25,895	11,968	46	-256	-1	-3,200	-12
Leon, Lake	26,476	16,496	62	-344	-1	-6,210	-23
Granbury, Lake	128,046	69,477	54	-5,439	-4	-7,155	-6
Pat Cleburne, Lake	26,008	17,445	67	-572	-2	1,426	5
Waxahachie, Lake	10,780	7,553	70	-290	-3	-258	-2
Bardwell Lake	46,122	39,839	86	-714	-2	6,691	15
Proctor Lake	55,457	16,652	30	-334	-1	-10,962	-20
Whitney, Lake	553,344	361,020	65	-5,298	-1	16,754	3
Aquilla Lake	44,460	38,472	87	-1,338	-3	6,665	15
Navarro Mills Lake	49,827	41,837	84	-970	-2	-3,473	-7
*Halbert, Lake	6,033	3,980	66	131	2	-1,581	-26
Richland-Chambers Reservoir	1,087,839	706,653	65	-13,604	-1	-21,860	-2
*Brownwood, Lake	128,839	60,988	47	-1,078	-1	-15,416	-12
Waco, Lake	189,567	165,765	87	-1,673	-1	11,221	6
Limestone, Lake	208,014	181,832	87	-4,806	-2	-15,313	-7
Belton Lake	435,225	304,850	70	-5,239	-1	-14,052	-3
Stillhouse Hollow Lake	227,771	156,423	69	-4,361	-2	-16,375	-7
Georgetown, Lake	36,823	20,225	55	510	1	1,761	5
Granger Lake	50,779	50,779	100	0	0	0	0
Tawakoni, Lake	871,685	506,601	58	-9,320	-1	-68,531	-8
Mountain Creek, Lake	22,850	22,850	100	159	1	0	0
Squaw Creek, Lake	151,250	149,329	99	1,126	1	-1,921	-1
<b>TOTAL</b>	<b>10,647,870</b>	<b>6,775,441</b>	<b>64</b>	<b>-110,279</b>	<b>-1</b>	<b>-389,142</b>	<b>-4</b>
<b>EAST</b>							
Wright Patman Lake	135,069	135,069	100	-96,427	-71	0	0
*Sulphur Springs, Lake	17,747	15,933	90	115	1	741	4
Cypress Springs, Lake	66,756	65,180	98	255	0	5,272	8
Bob Sandlin, Lake	190,822	168,899	89	-649	-0	31,444	16
Caddo, Lake	29,898	25,334	85	7,213	24	-4,564	-15
Martin, Lake	75,116	65,006	87	-1,498	-2	1,609	2
Monticello, Lake	34,740	34,455	99	-162	-0	-285	-1
Fork Reservoir, Lake	605,061	449,739	74	-14,398	-2	-13,944	-2
O the Pines, Lake	241,363	238,550	99	-2,461	-1	44,204	18
Cedar Creek Reservoir in Trinity	644,686	478,769	74	-3,585	-1	14,425	2
Athens, Lake	29,435	26,479	90	-134	-0	2,104	7
Palestine, Lake	373,199	355,558	95	5,383	1	-10,418	-3
Tyler, Lake	73,161	69,333	95	1,783	2	15,452	21
Murvaul, Lake	38,285	36,583	96	772	2	1,870	5
Jacksonville, Lake	25,670	25,117	98	558	2	183	1
Nacogdoches, Lake	39,522	37,741	95	1,453	4	4,294	11
Houston County Lake	17,113	16,907	99	244	1	1,890	11
Sam Rayburn Reservoir	2,857,077	2,576,439	90	-50,978	-2	411,601	14
Toledo Bend Reservoir (Texas)	2,245,752	1,951,787	87	-106,399	-5	45,307	2
Toledo Bend Reservoir (TX & LA)	4,472,900	1,951,787	44	-106,399	-2	45,307	1
*Livingston, Lake	1,785,348	1,749,039	98	16,275	1	-17,603	-1
B A Steinhagen Lake	66,961	61,375	92	303	0	-5,586	-8
Conroe, Lake	416,177	403,609	97	-2,522	-1	35,920	9
<b>TOTAL</b>	<b>10,008,958</b>	<b>8,986,901</b>	<b>90</b>	<b>-244,859</b>	<b>-2</b>	<b>563,916</b>	<b>6</b>

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

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Oct 2014 (acre-feet)	(%)	Change since end of Sep 2014 (acre-feet)	(%)	Change since end of Oct 2013 (acre-feet)	(%)
<b>TRANS-PECOS</b>							
Red Bluff Reservoir	151,110	128,684	85	-22,426	-15	65,523	43
<b>TOTAL</b>	151,110	128,684	85	-22,426	-15	65,523	43
<b>EDWARDS PLATEAU</b>							
Oak Creek Reservoir	39,210	6,225	16	-279	-1	-2,479	-6
E V Spence Reservoir	517,272	13,786	3	-1,087	-0	-11,584	-2
O C Fisher Lake	119,445	1,469	1	-207	-0	-3,025	-3
*O H Ivie Reservoir	554,340	85,755	15	-7,047	-1	2,405	0
Twin Buttes Reservoir	182,454	5,858	3	-1,975	-1	5,858	3
Brady Creek Reservoir	28,808	7,954	28	-343	-1	-1,494	-5
Buchanan, Lake	816,904	290,384	36	-4,274	-1	-20,708	-3
Inks, Lake	13,962	12,990	93	90	1	113	1
Lyndon B Johnson, Lake	115,056	110,330	96	487	0	-122	-0
*Amistad Reservoir (Texas)	1,840,849	1,116,047	61	16,042	1	229,554	12
*Amistad Reservoir (TX & Mexico)	3,275,532	1,116,047	34	16,042	0	229,554	7
<b>TOTAL</b>	4,228,300	1,650,798	39	1,407	0	198,518	5
<b>SOUTH CENTRAL</b>							
Travis, Lake	1,113,348	354,557	32	-16,672	-1	-15,309	-1
*Austin, Lake	23,972	22,757	95	-185	-1	-916	-4
Somerville Lake	147,104	136,226	93	-3,374	-2	45,818	31
Canyon Lake	378,781	288,466	76	-6,989	-2	-27,447	-7
Medina Lake	254,823	8,897	3	-636	-0	-1,500	-1
*Coledo Creek Reservoir	31,040	21,255	68	-888	-3	-463	-1
<b>TOTAL</b>	1,949,068	832,158	43	-28,744	-1	183	0
<b>UPPER COAST</b>							
Houston, Lake	120,686	120,686	100	0	0	0	0
Texana, Lake	159,566	125,818	79	-8,560	-5	-5,091	-3
<b>TOTAL</b>	280,252	246,504	88	-8,560	-3	-5,091	-2
<b>SOUTHERN</b>							
Choke Canyon Reservoir	695,262	181,157	26	-6,528	-1	-69,555	-10
Corpus Christi, Lake	256,961	129,146	50	-6,471	-3	-127,268	-50
*Falcon Reservoir (Texas)	1,551,007	391,049	25	23,856	2	-126,422	-8
*Falcon Reservoir (TX & Mexico)	2,646,817	391,049	15	23,856	1	-126,422	-5
<b>TOTAL</b>	2,503,230	701,352	28	10,857	0	-323,245	-13
<b>STATE TOTAL</b>	31,332,493	19,644,468	63	-418,089	-1	208,939	1
* 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	183,422	9	11,463	1	-8,499	-0

**Note:**

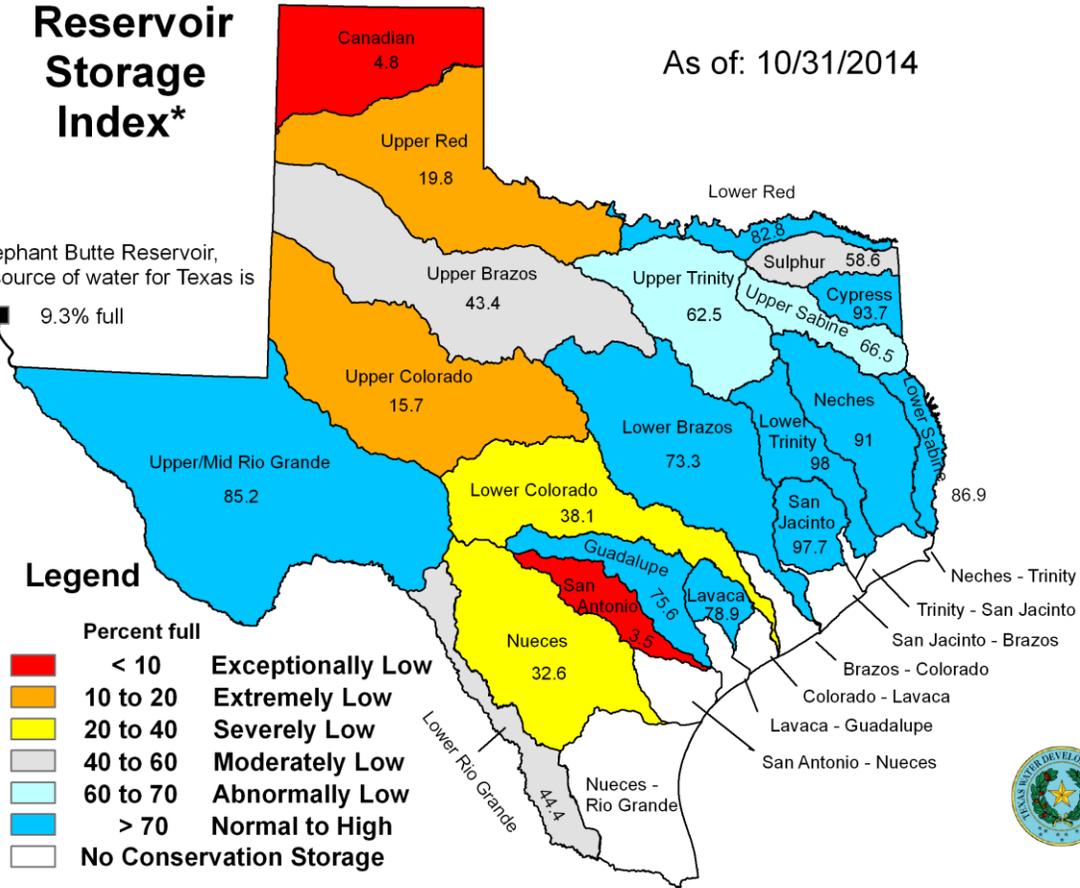
Conservation storage capacity is the space available to store water above the lowest outlet and below the top of conservation pool, or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control 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.

# OCTOBER RESERVOIR CONDITIONS

As of: 10/31/2014

## Reservoir Storage Index\*

Elephant Butte Reservoir, a source of water for Texas is 9.3% full

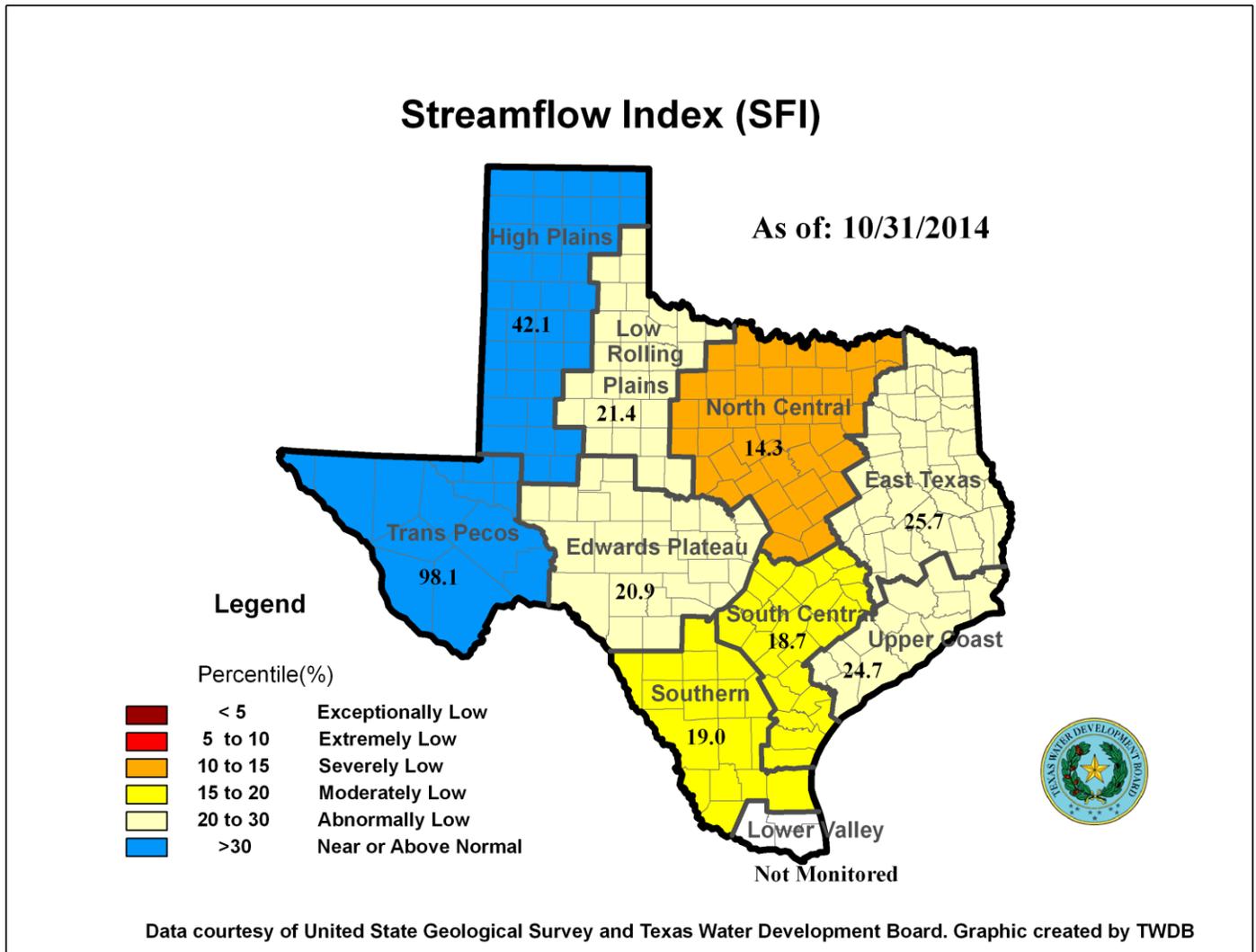


\*Percent of combined conservation storage capacity of 114 major water supply reservoirs by sub-basin (dead pools are excluded)

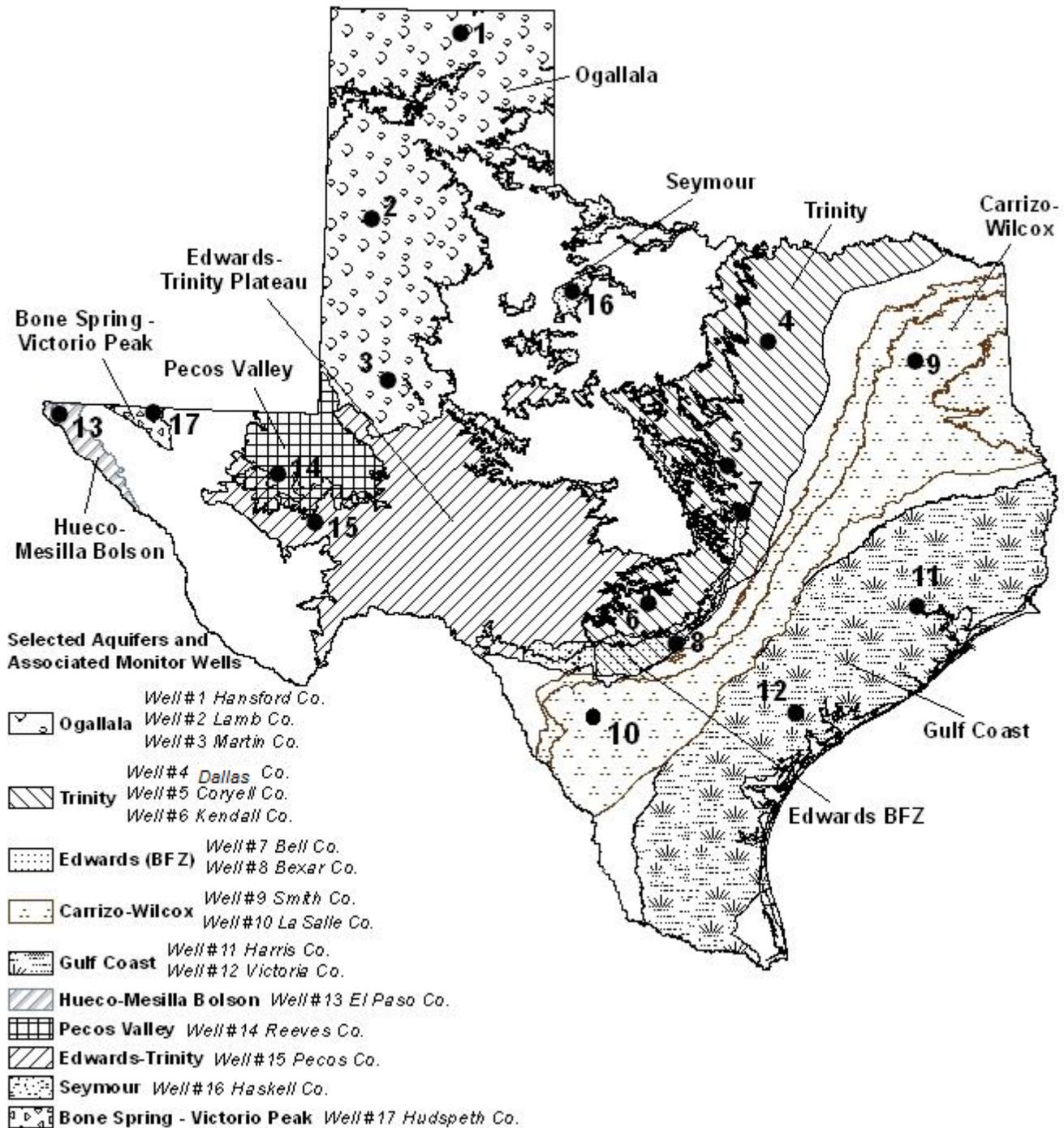
# OCTOBER STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 7 stations, extremely low (5-10%) at 2 stations, severely low (10-15%) at 5 stations, moderately low (15-20%) at 1 station, abnormally low (20-30%) at 4 stations, and near normal (30% - 70%) at the remaining 10 stations. Compared to last month, flows have increased at 7 index stations and decreased at 19 stations.

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



# OCTOBER 2014 GROUNDWATER LEVELS IN OBSERVATION WELLS



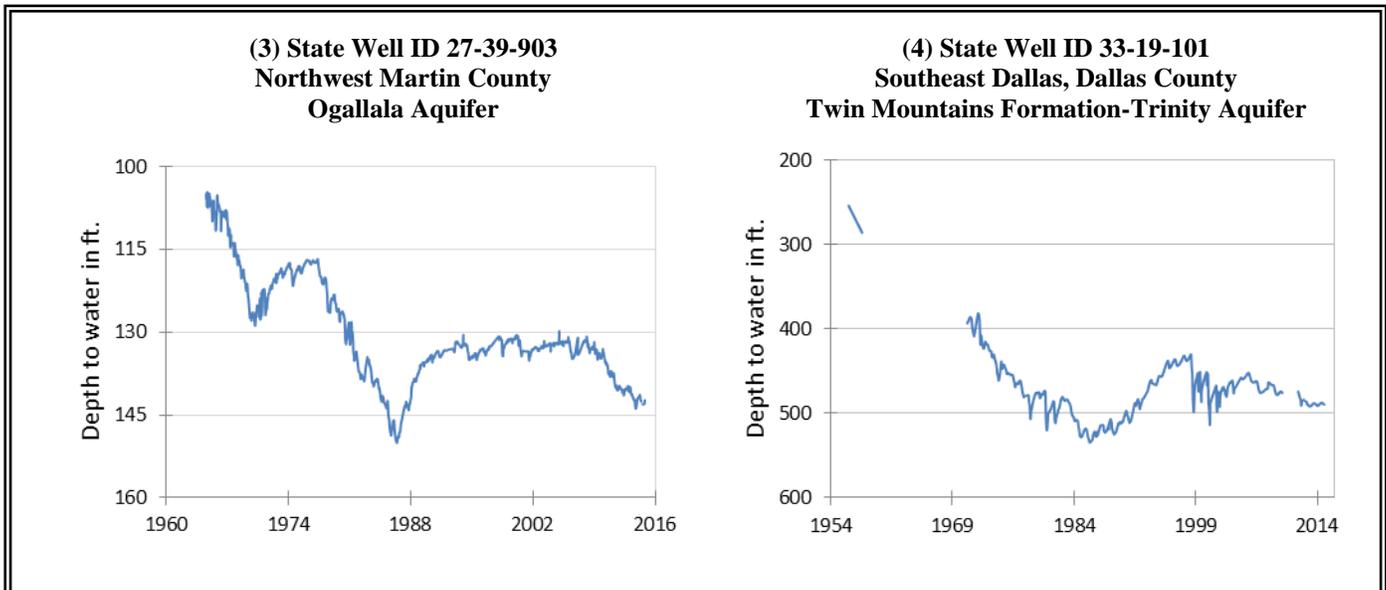
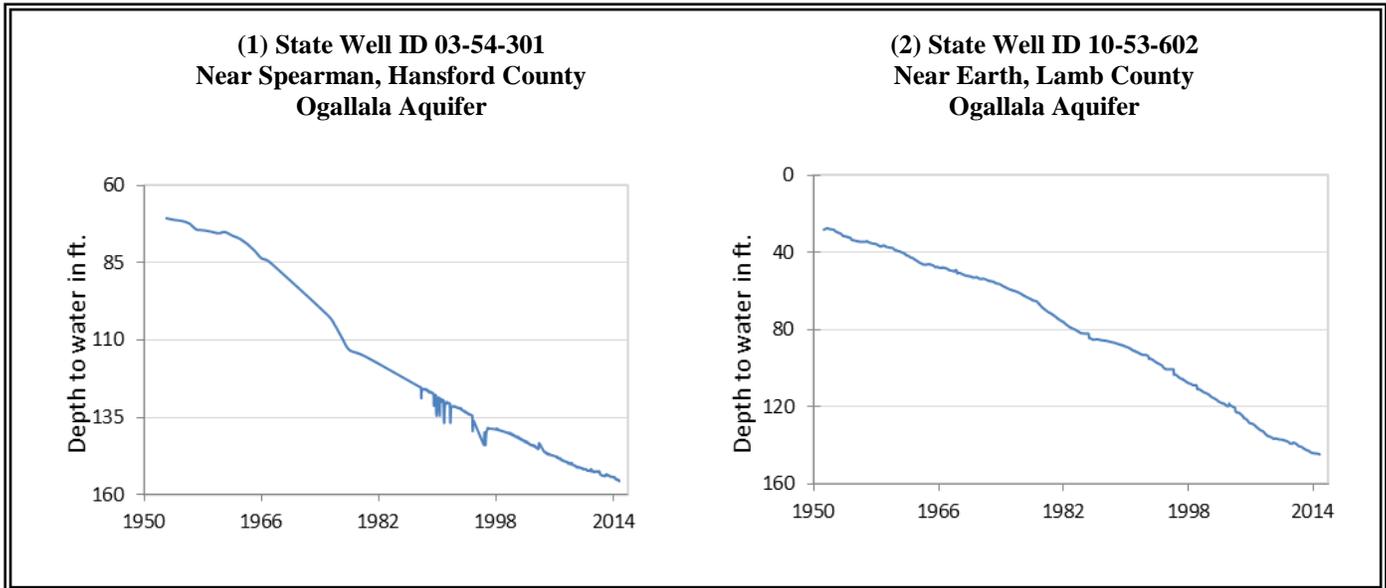
October, 2014

Water level measurements were available for all of the seventeen key monitoring wells in the state. Water levels rose in eight of the monitoring wells since the beginning of October, ranging from 0.09 feet in the Haskell County Seymour Aquifer well to 4.17 feet in the Kendall County Trinity Aquifer well. Water levels declined in nine monitoring wells, ranging from 0.11 feet in the Lamb County Ogallala Aquifer well to 2.53 feet in the Reeves County Pecos Valley Aquifer well. The J-17 well in San Antonio recorded a water level of 101.3 feet below land surface or 629.7 feet above mean sea level. This water level is 10.3 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.

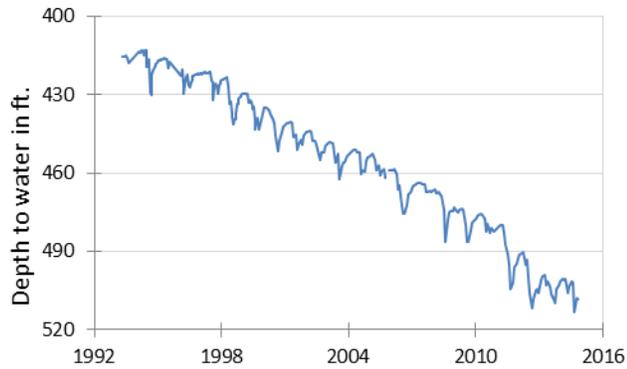
\* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

Monitoring Well	October	September	month change	year change	historical change	first measured
(1) Hansford 0354301	155.69	155.24	-0.45	-1.49	-85.57	1951
(2) Lamb 1053602	144.96	144.85	-0.11	-0.91	-116.81	1951
(3) Martin 2739903	142.34	143.06	0.72	1.34	-37.45	1964
(4) Dallas 3319101	489.57	488.96	-0.61	-0.12	-267.57	1954
(5) Coryell 4035404	508.39	507.88	-0.51	-3.71	-216.39	1955
(6) Kendall 6802609	155.78	159.95	4.17	-19.47	-95.78	1975
(7) Bell 5804816	127.21	128.73	1.52	-1.47	-4.08	2008
(8) Bexar 6837203	101.3	100.4	-0.9	-12.7	-54.66	1932
(9) Smith 3430907	440.06	440.65	0.59	1.84	-74.06	1987
(10) La Salle 7738103	510.8	510.46	-0.34	-21.25	-257.73	2003
(11) Harris 6514409	194.05	194.55	0.5	4.33	-58.55	1956
(12) Victoria 8017502	39.32	37.84	-1.48	-0.05	-5.32	1958
(13) El Paso 4913301	296.32	295.18	-1.14	-1.6	-64.42	1967
(14) Reeves 4644501	159.64	157.11	-2.53	-5.01	-67.55	1952
(15) Pecos 5216802	227.08	227.82	0.74	1.23	19.8	1976
(16) Haskell 2135748	49.14	49.23	0.09	-0.67	-7.81	2002
(17) Hudspeth 4807516	144.27	148.17	3.9	-0.61	-40.35	1964

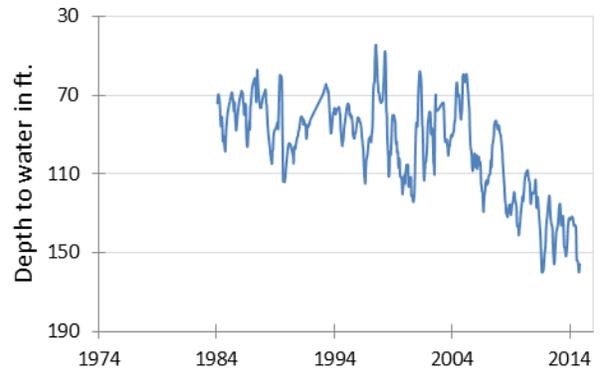
## OCTOBER GROUNDWATER LEVELS IN OBSERVATION WELLS



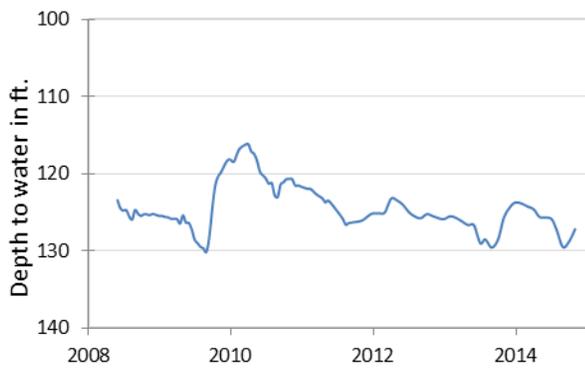
**(5) State Well ID 40-35-404  
Gatesville, Coryell County  
Hosston Formation-Trinity Aquifer**



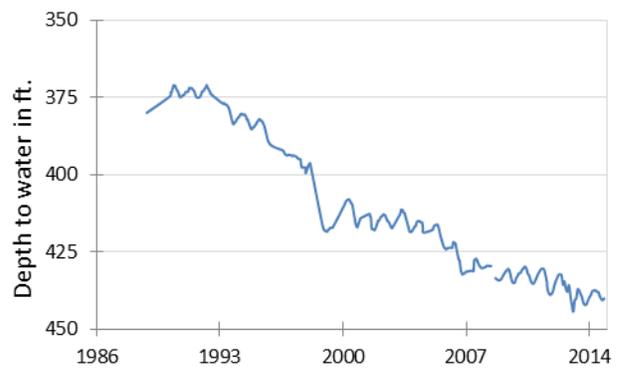
**(6) State Well ID 68-02-609  
Waring, Kendall County  
Cow Creek Formation-Trinity Aquifer**



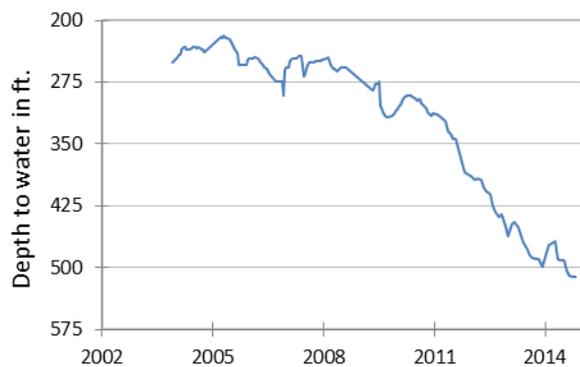
**(7) State Well ID 58-04-816  
Near Salado, Bell County  
Edwards (BFZ) Aquifer**



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



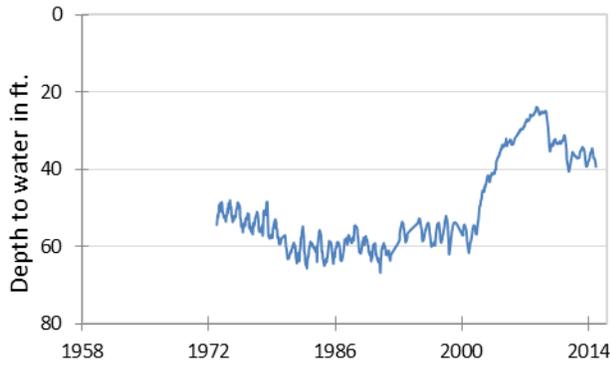
**(10) State Well ID 77-38-103  
Near Cotulla, La Salle County  
Carrizo-Wilcox Aquifer**



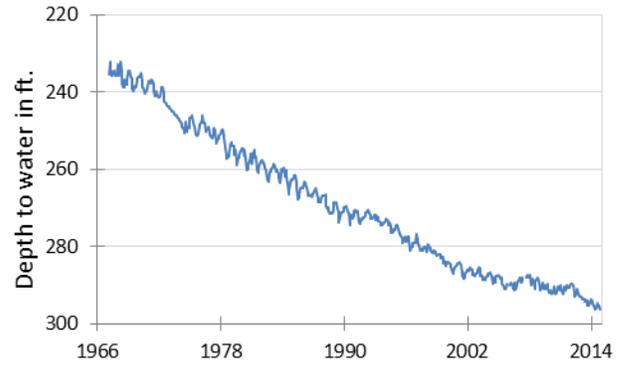
**(11) State Well ID 65-14-409  
Alief, Harris County  
Evangeline Formation-Gulf Coast Aquifer**



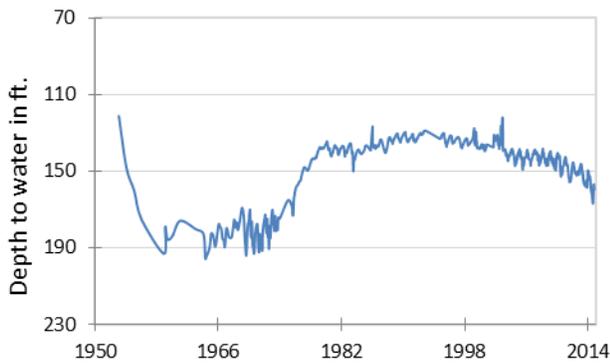
**(12) State Well ID 80-17-502**  
Near Bloomington, Victoria County  
Lissie Formation-Gulf Coast Aquifer



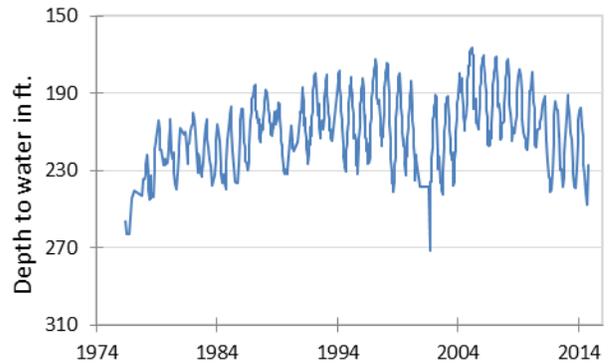
**(13) State Well ID 49-13-301**  
El Paso, El Paso County  
Hueco-Mesilla Bolson Aquifer



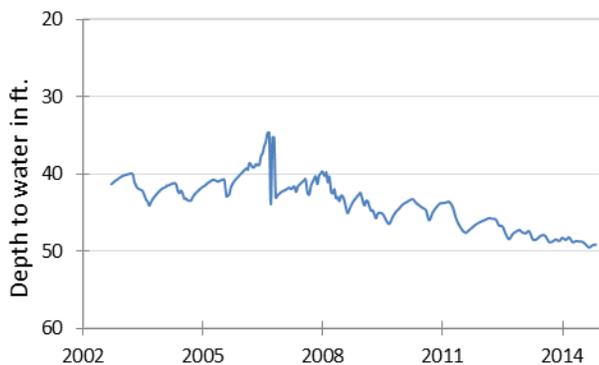
**(14) State Well ID 46-44-501**  
Near Pecos, Reeves County  
Pecos Valley Aquifer



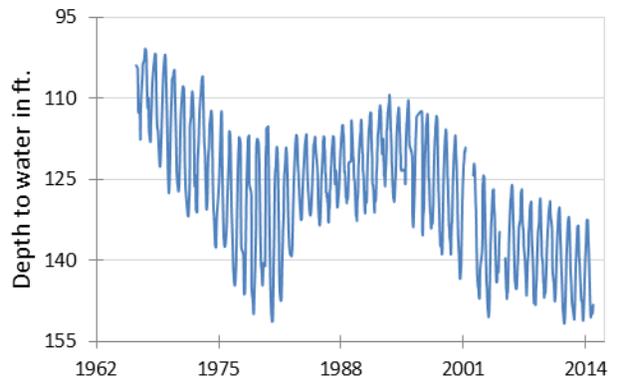
**(15) State Well ID 52-16-802**  
Fort Stockton, Pecos County  
Edwards-Trinity (Plateau) Aquifer



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



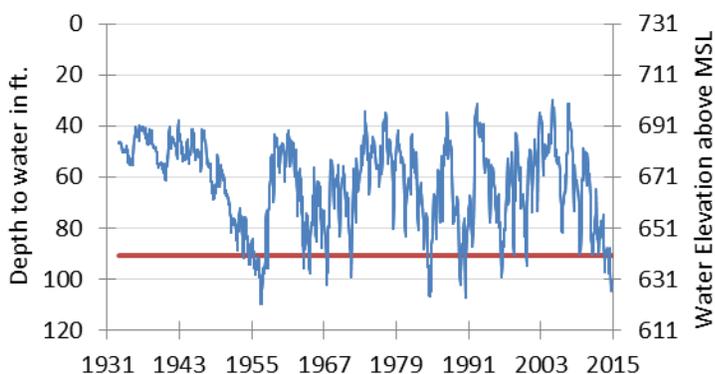
**(17) State Well ID 48-07-516**  
Dell City, Hudspeth County  
Bone Spring - Victorio Peak Aquifer



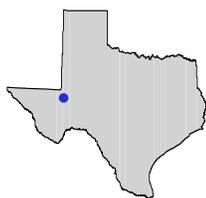
**(8) State Well ID 68-37-203 (J-17)  
In San Antonio, Bexar County  
Edwards (BFZ) Aquifer**



The late October water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above mean sea level, was 101.3 feet below land surface, or 629.7 feet above mean sea level. This was 0.9 feet below last month's measurement, 12.7 feet below last year's measurement, and 54.66 feet below the initial measurement recorded in 1932.



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



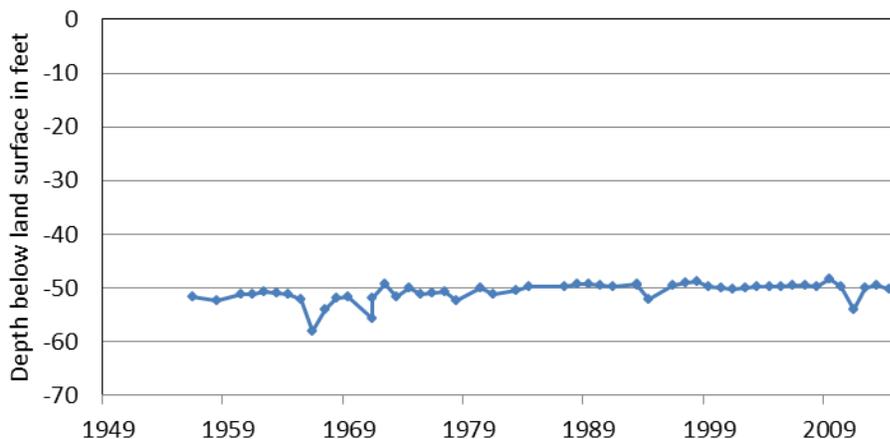
***HYDROGRAPH OF THE MONTH***

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

**Pecos Valley Aquifer**

The Pecos Valley Aquifer is a major aquifer that underlies 6,829 square miles in far west Texas. Water-bearing sediments include alluvial and windblown deposits in the Pecos River Valley. These sediments fill several structural basins, the largest of which are the Pecos Trough in the west and Monument Draw Trough in the east. Thickness of the alluvial fill reaches 1,500 feet, and the freshwater saturated thickness averages about 250 feet. The water quality is highly variable, the water being typically hard, and can be characterized by high levels of chloride and sulfate in excess of secondary drinking water standards, resulting from previous oil field activities. In addition, arsenic and radionuclides occur in excess of primary drinking water standards. More than 80 percent of groundwater pumped from the aquifer is used for irrigation.

Well # 4624301, 101 feet deep  
unused, southern Winkler County



This unused well was previously used for livestock. The TWDB has measured depth-to-water in it since 1960. The water level has remained relatively stable over time, with some marked declines, most recently in the dry summer of 2011.

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