

RESERVOIR STORAGE

October 2013

At the end of the month, total storage in 115 of the state's major water supply reservoirs was at 19.46 million acre-feet*, or 62% of their total conservation storage capacity. This is 586 thousand acre-feet more than a month ago and 1.64 million acre-feet less than the storage at this time last year.

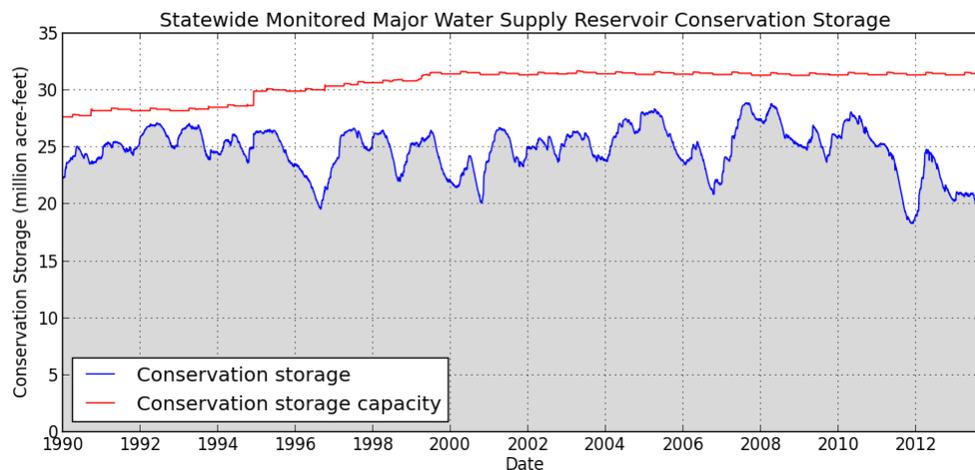
Nine reservoirs, most in North Central and East regions, held 100% of conservation storage capacity. Thirteen (13) reservoirs were at or below 10% full: Meredith, White River, Electra and Twin Buttes were effectively empty, North Fork Buffalo Creek and J. B. Thomas were at 1%, O. C. Fisher and Medina were at 4%, Palo Duro, Mackenzie and E.V. Spence were at 5%, Abilene was at 7%, and Champion Creek was at 8% full.

Total combined storage was greater than 70% in the Upper Coast (90%), and East (84%) regions. The regions with the lowest percentage storage were the High Plains (1%) and Low Rolling Plains regions (23%). Storage declined in 2 regions and increased in 7 regions over the past month.

Elephant Butte reservoir held 191,921 acre-feet, or 10% of storage capacity. This is 28,887 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 115 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			Change since		Change since	
		Storage end of Oct 2013 (acre-feet)	(%)	Change since end of Sep 2013 (acre-feet)	(%)	end of Oct 2012 (acre-feet)	(%)	
HIGH PLAINS								
Palo Duro Reservoir	61,066	3,234	5	-370	-1	1,339	2	
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	2,535	5	-74	-0	-656	-1	
White River Lake	29,880	0	0	0	0	-1,882	-6	
TOTAL	637,396	5,769	1	-444	-0	-1,199	-0	
LOW ROLLING PLAINS								
Greenbelt Lake	59,968	8,551	14	-270	-0	440	1	
*Electra, Lake	5,626	0	0					
N. Fork Buffalo Crk Reservoir	15,400	132	1	-77	-0	-828	-5	
Kemp, Lake	268,811	64,221	24	-6,178	-2	-8,599	-3	
Millers Creek Reservoir	26,768	4,791	18	-366	-1	-2,994	-11	
Alan Henry Reservoir	94,808	63,339	67	-426	-0	-8,214	-9	
Stamford, Lake	51,570	8,873	17	-570	-1	-6,221	-12	
J B Thomas, Lake	199,931	2,853	1	-155	-0	1,531	1	
Fort Phantom Hill, Lake	70,030	32,397	46	-1,423	-2	-4,004	-6	
Sweetwater, Lake	12,267	2,660	22	-90	-1	-1,211	-10	
Colorado City, Lake	30,758	8,372	27	-218	-1	-3,194	-10	
Champion Creek Reservoir	41,580	3,135	8	-57	-0	-635	-2	
Abilene, Lake	7,900	515	7	-49	-1	-1,275	-16	
Coleman, Lake	38,075	16,015	42	-321	-1	-2,715	-7	
Hords Creek Lake	8,443	2,730	32	-78	-1	-358	-4	
TOTAL	931,935	218,584	23	-10,278	-1	-38,277	-4	
NORTH CENTRAL								
Nocona, Lake (Farmers Crk)	21,444	9,352	44	137	1	-1,860	-9	
Hubert H Moss Lake	24,058	20,213	84	0	0	-1,323	-5	
Texoma, Lake (Texas)	1,258,113	1,084,842	86	-43,141	-3	-41,821	-3	
Texoma, Lake (Texas & Oklahoma)	2,525,281	1,084,842	43	-43,141	-2	-41,821	-2	
*Pat Mayse Lake	113,683	86,454	76	-343	-0	-10,570	-9	
Kickapoo, Lake	85,825	29,311	34	-1,436	-2	-8,014	-9	
Arrowhead, Lake	235,997	68,755	29	-1,778	-1	-34,554	-15	
Bonham, Lake	11,027	8,577	78	-208	-2	582	5	
Crook, Lake	9,195	8,020	87	432	5	1,074	12	
Amon G Carter, Lake	19,266	9,654	50	-104	-1	-3,267	-17	
Ray Roberts, Lake	788,167	604,641	77	-11,303	-1	-95,348	-12	
Jim Chapman Lake (Cooper)	260,332	76,189	29	-7,182	-3	-94,160	-36	
Graham, Lake	45,288	24,898	55	-888	-2	-10,952	-24	
*Lost Creek Reservoir	11,950	8,862	74	-71	-1	-1,702	-14	
Bridgeport, Lake	366,236	167,486	46	-623	-0	-51,826	-14	
Lewisville Lake	563,228	358,558	64	-4,292	-1	-67,993	-12	
Lavon Lake	406,388	198,441	49	-3,080	-1	-57,837	-14	
Hubbard Creek Reservoir	326,559	84,797	26	-4,502	-1	-20,806	-6	
Possum Kingdom Lake	540,340	364,599	67	-6,153	-1	-46,294	-9	
*Mineral Wells, Lake	6,760	4,069	60	-68	-1	-1,181	-17	
Weatherford, Lake	17,812	10,356	58	225	1	-1,190	-7	
Eagle Mountain Lake	179,880	122,799	68	-3,188	-2	-19,655	-11	
Worth, Lake	33,495	22,605	67	315	1	-1,293	-4	
Grapevine Lake	164,703	109,617	67	-839	-1	-16,758	-10	
Ray Hubbard, Lake	452,040	321,701	71	-4,064	-1	-64,744	-14	
New Terrell City Lake	8,583	5,861	68	123	1	-1,196	-14	
Daniel, Lake	9,515	2,357	25	-168	-2	-899	-9	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation			Change since		Change since	
		Storage end of Oct 2013 (acre-feet)	(%)	end of Sep 2013 (acre-feet)	(%)	end of Oct 2012 (acre-feet)	(%)	
(North Central Continue)								
Palo Pinto, Lake	26,827	8,917	33	-1,050	-4	-9,556	-36	
Benbrook Lake	85,648	61,210	71	2,537	3	5,107	6	
Arlington, Lake	40,188	30,593	76	1,466	4	1,538	4	
Joe Pool Lake	175,358	162,938	93	576	0	3,282	2	
*Cisco, Lake	25,895	15,168	59	-292	-1	4,811	19	
Leon, Lake	26,476	22,706	86	-355	-1	4,110	16	
Granbury, Lake	128,046	76,632	60	-2,714	-2	-17,859	-14	
Pat Cleburne, Lake	26,008	16,019	62	-86	-0	-3,657	-14	
Waxahachie, Lake	10,780	7,811	72	101	1	-1,338	-12	
Bardwell Lake	46,122	33,148	72	1,116	2	-4,780	-10	
Proctor Lake	55,457	27,614	50	-397	-1	-9,039	-16	
Whitney, Lake	553,344	344,266	62	3,580	1	-45,170	-8	
Aquilla Lake	44,460	31,807	72	4,883	11	-2,340	-5	
Navarro Mills Lake	49,827	45,310	91	9,089	18	5,217	10	
*Halbert, Lake	6,033	5,561	92	1,522	25	1,152	19	
Richland-Chambers Reservoir	1,087,839	728,513	67	22,198	2	-201,221	-18	
*Brownwood, Lake	128,839	76,404	59	-1,407	-1	1,113	1	
Waco, Lake	189,567	157,779	83	23,071	12	-4,668	-2	
Limestone, Lake	208,014	197,145	95	67,750	33	38,543	19	
Belton Lake	435,225	318,902	73	24,955	6	-56,720	-13	
Stillhouse Hollow Lake	227,771	172,798	76	699	0	-30,502	-13	
Georgetown, Lake	36,823	18,464	50	117	0	-1,391	-4	
Granger Lake	50,779	50,779	100	6,711	13	3,669	7	
Tawakoni, Lake	871,685	575,132	66	-8,414	-1	-161,840	-19	
Mountain Creek, Lake	22,850	22,850	100	0	0	528	2	
Squaw Creek, Lake	151,250	151,250	100	0	0	0	0	
TOTAL	10,670,995	7,172,730	67	63,457	1	-1,134,598	-11	
EAST								
Wright Patman Lake	135,069	135,069	100	-96,427	-71	0	0	
*Sulphur Springs, Lake	17,747	15,192	86	1,089	6	985	6	
Cypress Springs, Lake	66,756	59,908	90	1,013	2	-866	-1	
Bob Sandlin, Lake	190,822	137,455	72	1,798	1	-11,658	-6	
Caddo, Lake	29,898	29,898	100	13,328	45	14,274	48	
Martin, Lake	75,116	63,397	84	8,908	12	10,005	13	
Monticello, Lake	34,740	34,740	100	0	0	2,713	8	
Fork Reservoir, Lake	605,061	463,683	77	-2,496	-0	-39,093	-6	
O the Pines, Lake	241,363	194,346	81	11,585	5	19,809	8	
Cedar Creek Reservoir in Trinity	644,686	464,344	72	8,028	1	-82,311	-13	
Athens, Lake	29,435	24,261	82	1,377	5	443	2	
Palestine, Lake	373,199	365,976	98	22,008	6	26,903	7	
Tyler, Lake	73,161	53,881	74	3,664	5	-1,099	-2	
Murvaul, Lake	38,285	34,713	91	231	1	-664	-2	
Jacksonville, Lake	25,670	24,934	97	1,082	4	657	3	
Nacogdoches, Lake	39,522	33,447	85	-407	-1	-310	-1	
Houston County Lake	17,113	15,017	88	736	4	-2,006	-12	
Sam Rayburn Reservoir	2,857,077	2,164,838	76	-23,778	-1	-271,693	-10	
Toledo Bend Reservoir (Texas)	2,245,752	1,906,480	85	30,588	1	-2,395	-0	
Toledo Bend Reservoir (TX & LA)	4,472,900	1,906,480	43	30,588	1	-2,395	-0	
*Livingston, Lake	1,785,348	1,766,642	99	112,369	6	10,206	1	
B A Steinhagen Lake	66,961	66,961	100	3,853	6	11,155	17	
Conroe, Lake	416,177	367,689	88	18,197	4	9,172	2	
TOTAL	10,008,958	8,422,871	84	116,746	1	-305,773	-3	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Oct 2013 (acre-feet)	(%)	Change since end of Sep 2013 (acre-feet)	(%)	Change since end of Oct 2012 (acre-feet)	(%)
TRANS-PECOS							
Red Bluff Reservoir	151,110	63,337	42	6,702	4	40,798	27
TOTAL	151,110	63,337	42	6,702	4	40,798	27
EDWARDS PLATEAU							
Oak Creek Reservoir	39,210	8,704	22	-161	-0	-3,619	-9
E V Spence Reservoir	517,272	25,370	5	371	0	-3,672	-1
O C Fisher Lake	119,445	4,494	4	3,582	3	1,644	1
*O H Ivie Reservoir	554,340	83,350	15	-3,878	-1	-52,878	-10
Twin Buttes Reservoir	182,454	0	0	0	0	-6,747	-4
Brady Creek Reservoir	28,808	9,448	33	566	2	1,101	4
Buchanan, Lake	816,904	311,092	38	24,948	3	-70,004	-9
Inks, Lake	13,962	12,877	92	-83	-1	-90	-1
Lyndon B Johnson, Lake	115,056	110,452	96	-2,089	-2	-367	-0
*Amistad Reservoir (Texas)	1,840,849	890,129	48	18,362	1	-46,981	-3
*Amistad Reservoir (TX & Mexico)	3,275,532	890,129	27	18,362	1	-46,981	-1
TOTAL	4,228,300	1,455,916	34	41,618	1	-181,613	-4
SOUTH CENTRAL							
Travis, Lake	1,113,348	369,866	33	28,986	3	-83,407	-7
*Austin, Lake	23,972	23,673	99	623	3	546	2
Somerville Lake	147,104	90,408	61	10,886	7	-35,277	-24
Canyon Lake	378,781	315,913	83	26,140	7	-2,703	-1
Medina Lake	254,823	10,397	4	-571	-0	-20,830	-8
*Coleto Creek Reservoir	31,040	21,718	70	-1,051	-3	-1,245	-4
TOTAL	1,949,068	831,975	43	65,013	3	-142,916	-7
UPPER COAST							
Houston, Lake	128,054	128,054	100	0	0	0	0
Texana, Lake	159,566	130,909	82	672	0	-19,059	-12
TOTAL	287,620	258,963	90	672	0	-19,059	-7
SOUTHERN							
Choke Canyon Reservoir	695,262	250,712	36	854	0	-102,704	-15
Corpus Christi, Lake	256,961	256,414	100	192,671	75	212,490	83
*Falcon Reservoir (Texas)	1,551,007	518,242	33	109,372	7	33,387	2
*Falcon Reservoir (TX & Mexico)	2,646,817	518,242	20	109,372	4	33,387	1
TOTAL	2,503,230	1,025,368	41	302,897	12	143,173	6
STATE TOTAL	31,374,238	19,455,513	62	586,383	2	-1,639,464	-5
* Conservation volume is used as conservation storage capacity because the dead storage is unknown.							
Elephant Butte Reservoir	1,973,358	191,921	10	28,877	1	77,763	4

Note:

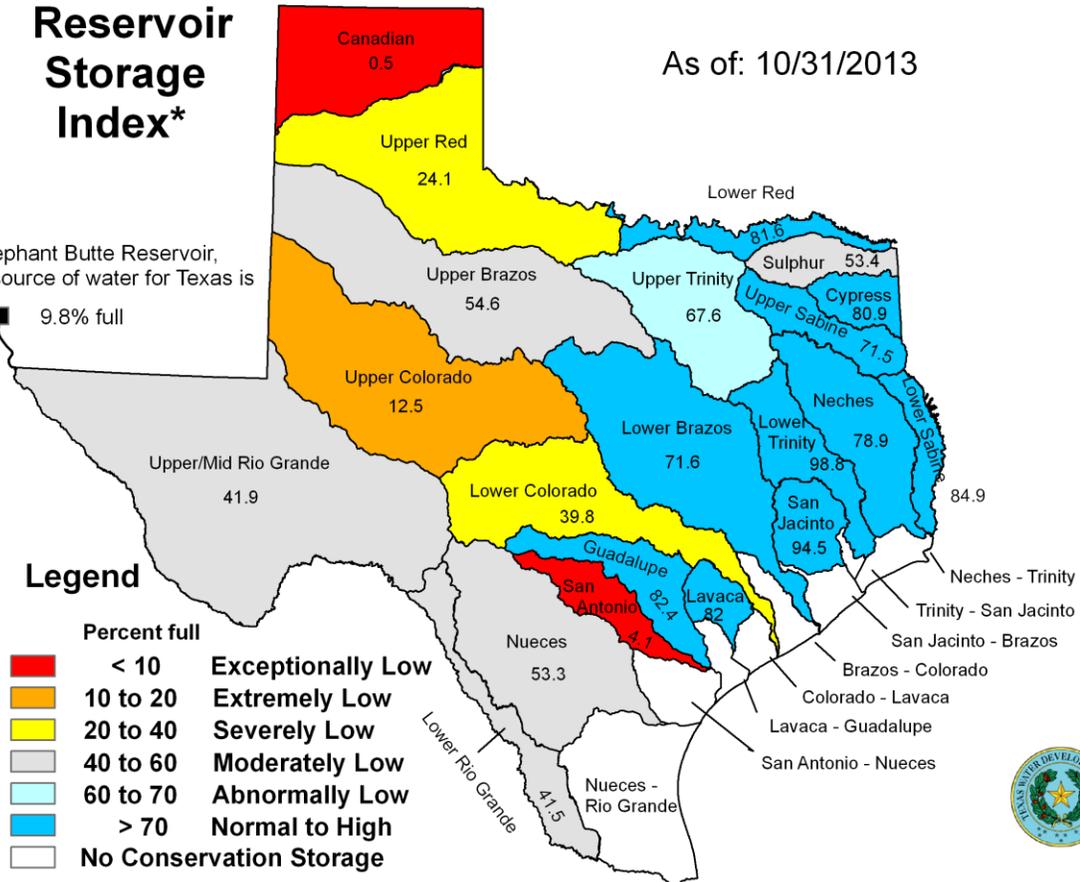
Conservation storage capacity is the space available to store water above the lowest outlet and below the top of conservation pool, or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control 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: 10/31/2013

Reservoir Storage Index*

Elephant Butte Reservoir, a source of water for Texas is 9.8% full



Legend

Percent full	Category
< 10	Exceptionally Low
10 to 20	Extremely Low
20 to 40	Severely Low
40 to 60	Moderately Low
60 to 70	Abnormally Low
> 70	Normal to High
No Conservation Storage	

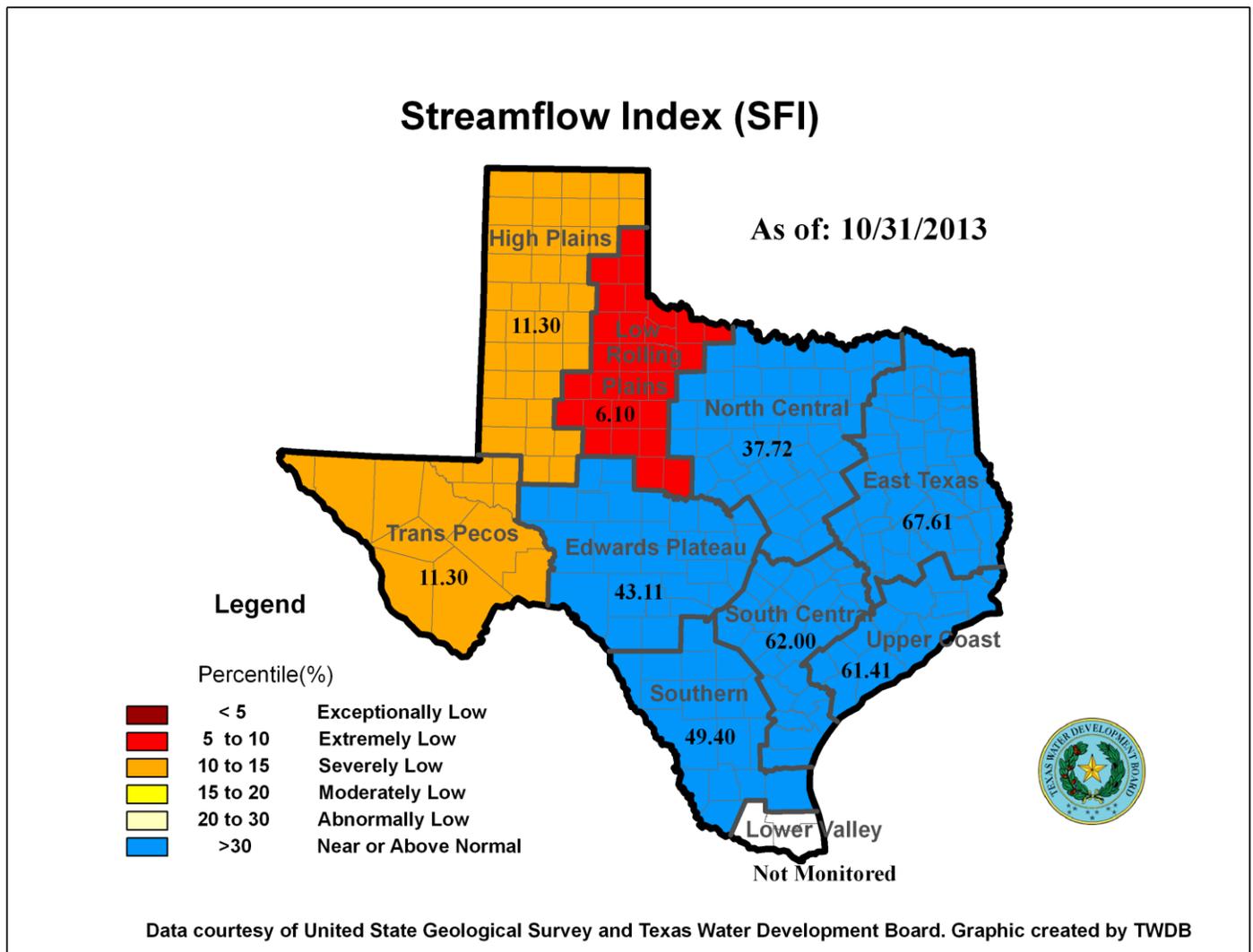


*Percent of combined conservation storage capacity of 115 major water supply reservoirs by sub-basin (dead pools are excluded)

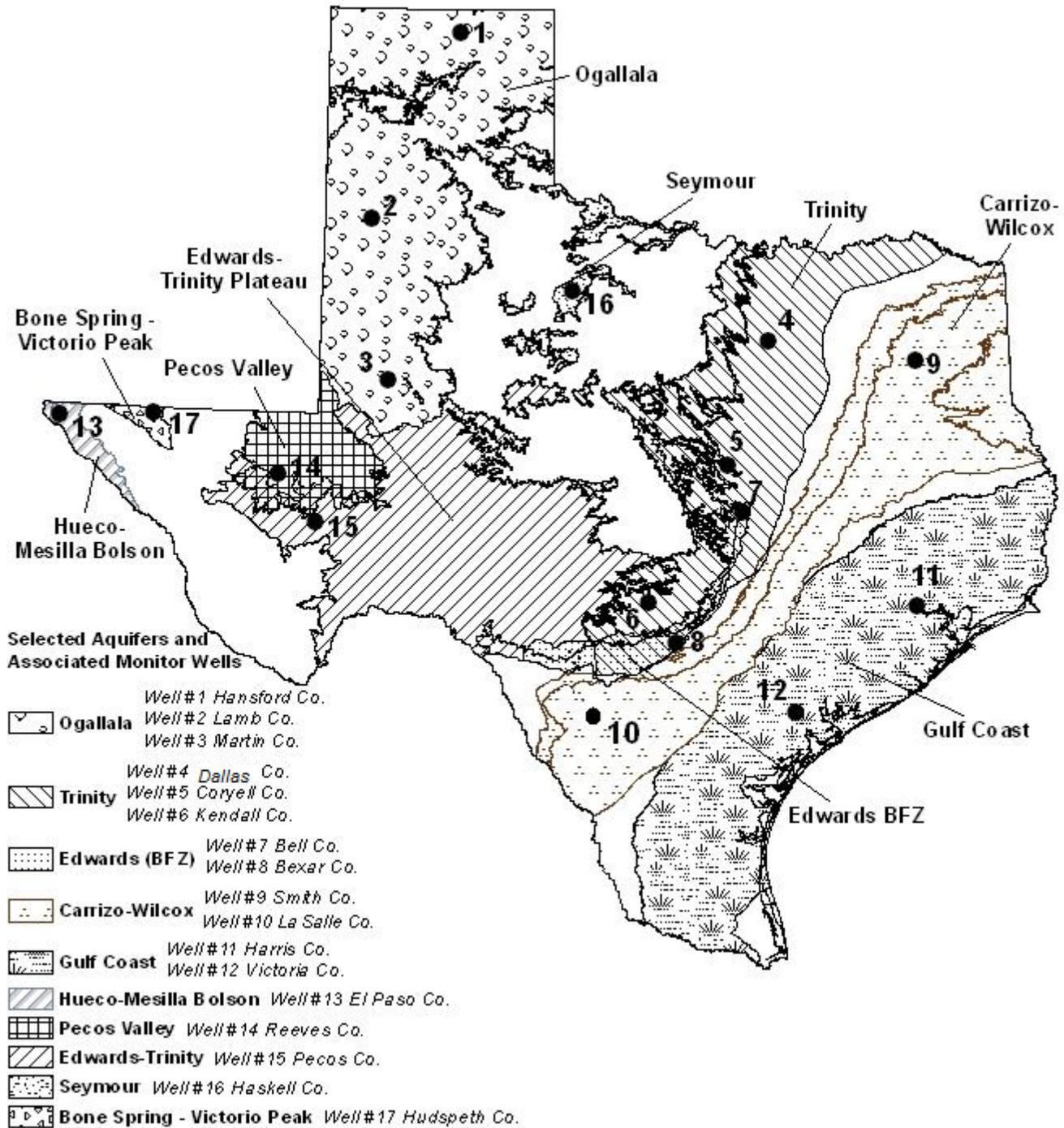
OCTOBER STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 5 stations, extremely low (5-10%) at 2 stations, severely low (10-15%) at 3 stations, abnormally low (20-30%) at 3 stations, and near normal (30% - 70%) at the remaining 16 stations. Compared to last month, flows have increased at 15 index stations and decreased at 10 stations.

On a regional basis, flows in this month were extremely low in the Low Rolling Plains region, severely low in the High Plains and Trans-Pecos regions, and near or above normal in all other regions. Streamflow in the Lower Valley region is not monitored.



OCTOBER 2013 GROUNDWATER LEVELS IN OBSERVATION WELLS



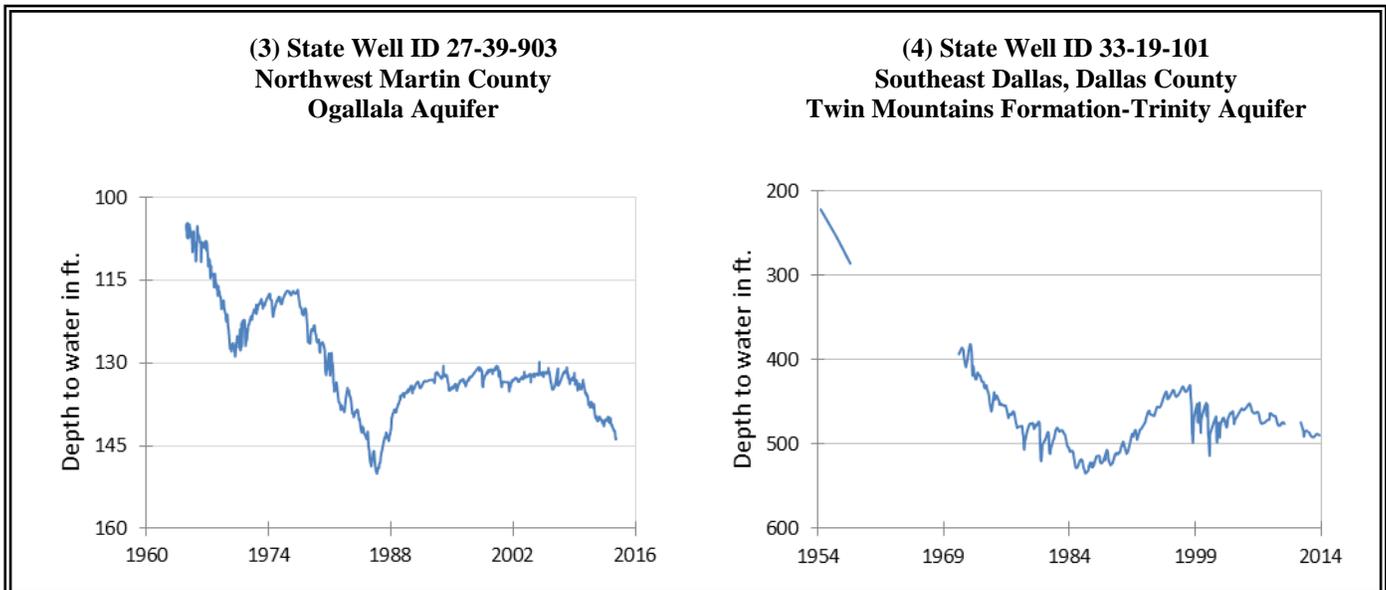
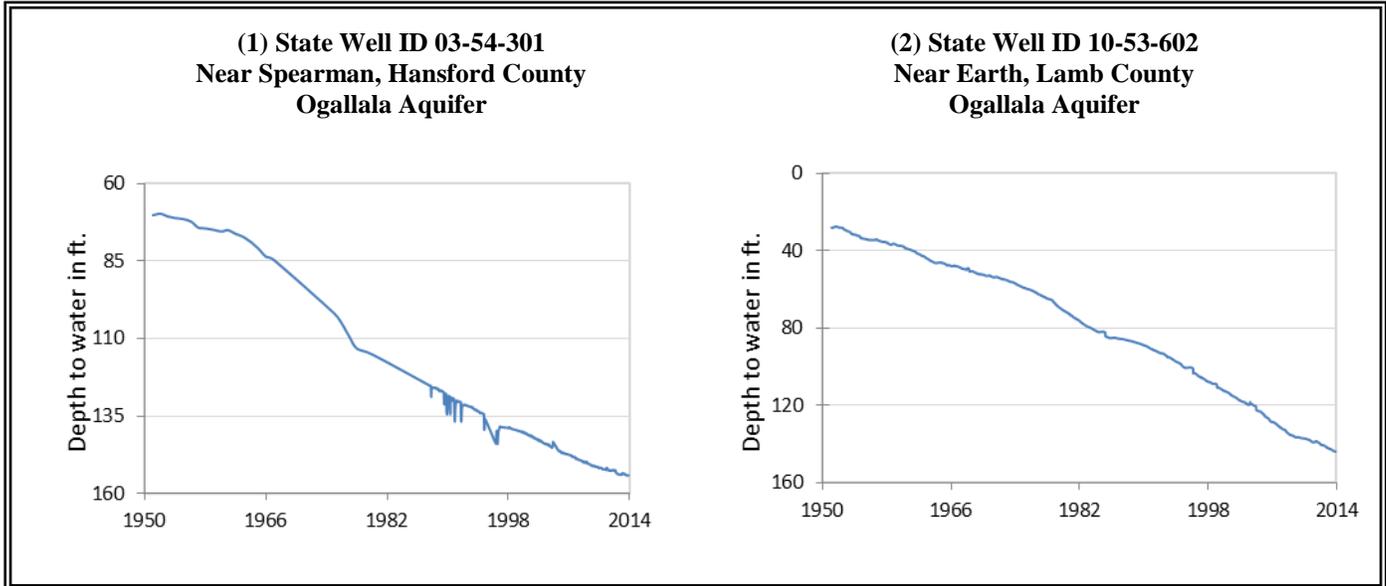
October, 2013

Water level measurements were available for all seventeen key monitoring wells in the state. Water levels rose in thirteen of the monitoring wells since the beginning of October, ranging from 0.02 feet in the Hansford County Ogallala Aquifer well to 10.79 feet in the Pecos County Edwards Trinity Aquifer well. Water levels declined in four monitoring wells, ranging from 0.04 feet in the Victoria County Gulf Coast Aquifer well to 0.51 feet in the Dallas County Trinity Aquifer well. The J-17 well in San Antonio recorded a water level of 88.6 feet below land surface or 642.4 feet above mean sea level. This water level is 2.4 feet above 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.

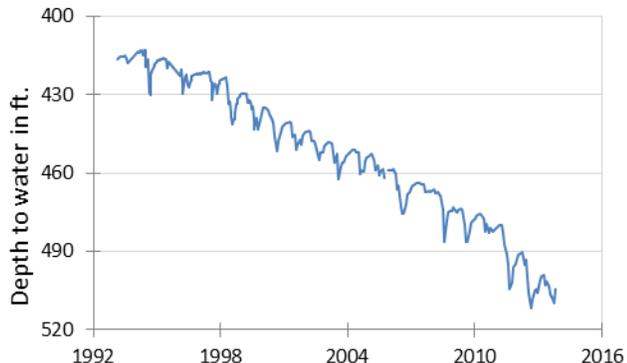
* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

Monitoring Well	October	September	month change	year change	historical change	first measured
(1) Hansford 0354301	154.2	154.22	0.02	-0.2	-84.08	1951
(2) Lamb 1053602	144.05	143.98	-0.07	-1.9	-115.9	1951
(3) Martin 2739903	143.68	143.83	0.15	-3.79	-38.79	1964
(4) Dallas 3319101	489.45	488.94	-0.51	0.27	-267.45	1954
(5) Coryell 4035404	504.68	509.83	5.15	0.42	-212.68	1955
(6) Kendall 6802609	136.31	146.2	9.89	3.3	-76.31	1975
(7) Bell 5804816	125.74	128.53	2.79	-0.25	-2.61	2008
(8) Bexar 6837203	88.6	92.3	3.7	-4.5	-41.96	1932
(9) Smith 3430907	441.9	442.19	0.29	-6.13	-75.9	1987
(10) La Salle 7738103	489.55	489.77	0.22	-54.06	-236.48	2003
(11) Harris 6514409	198.38	198	-0.38	4.61	-62.88	1956
(12) Victoria 8017502	39.27	39.23	-0.04	-2.11	-5.27	1958
(13) El Paso 4913301	294.72	295.14	0.42	-1.82	-62.82	1967
(14) Reeves 4644501	154.63	156.62	1.99	-2.82	-62.54	1952
(15) Pecos 5216802	228.31	239.1	10.79	-6.76	18.57	1976
(16) Haskell 2135748	48.47	48.74	0.27	-1	-7.14	2002
(17) Hudspeth 4807516	143.66	149.06	5.4	1.68	-39.74	1964

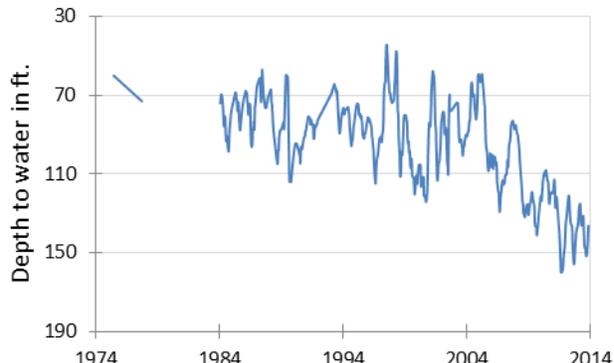
OCTOBER GROUNDWATER LEVELS IN OBSERVATION WELLS



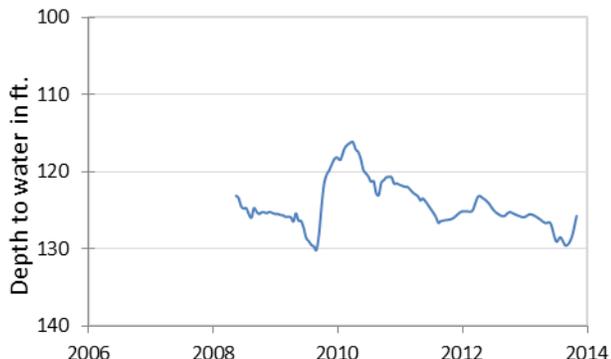
**(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



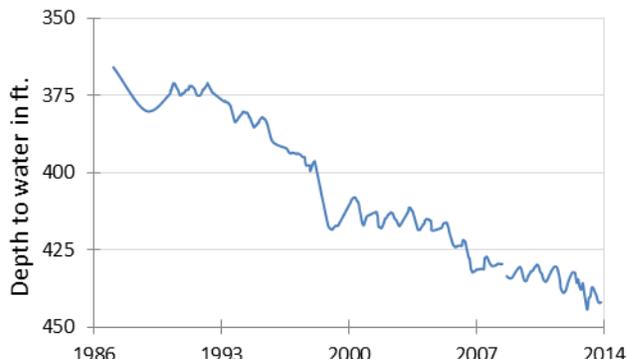
**(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



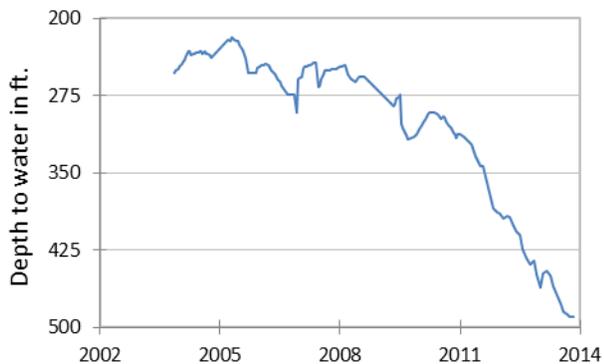
**(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (BFZ) Aquifer**



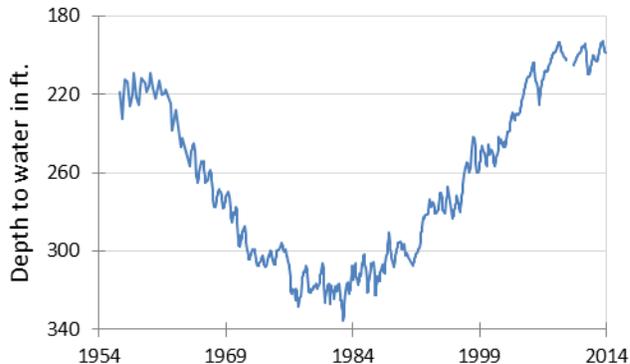
**(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



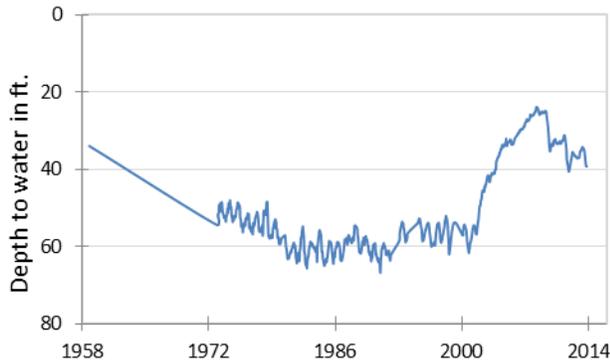
**(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



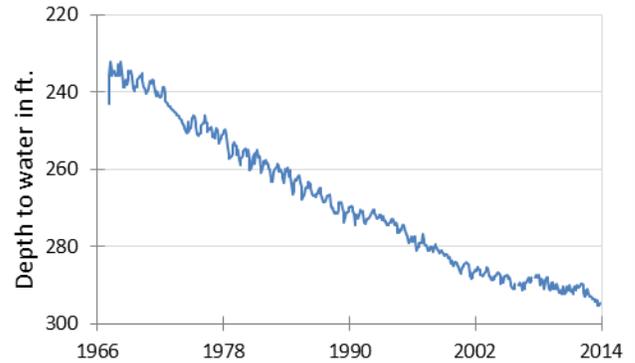
**(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



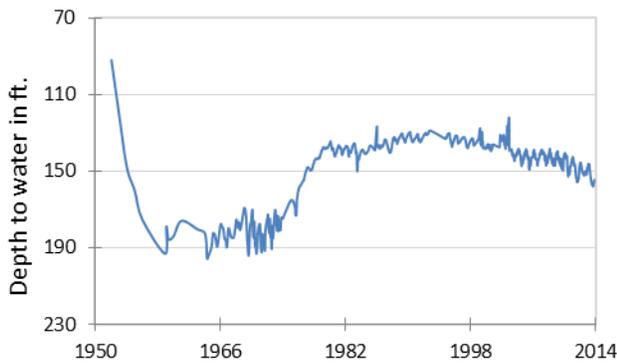
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



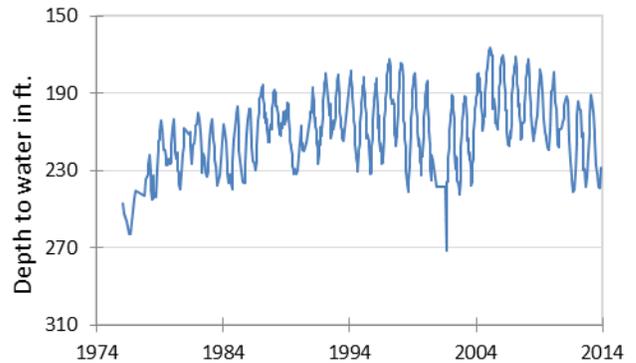
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



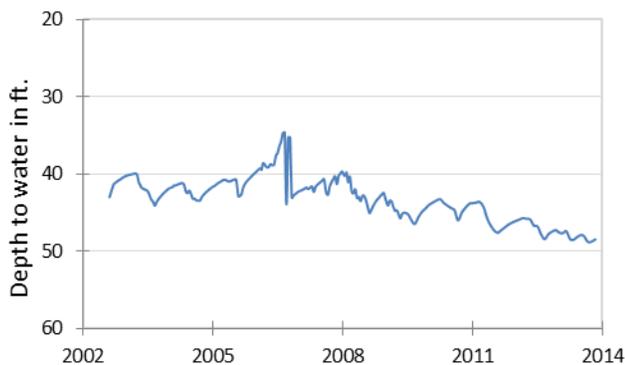
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



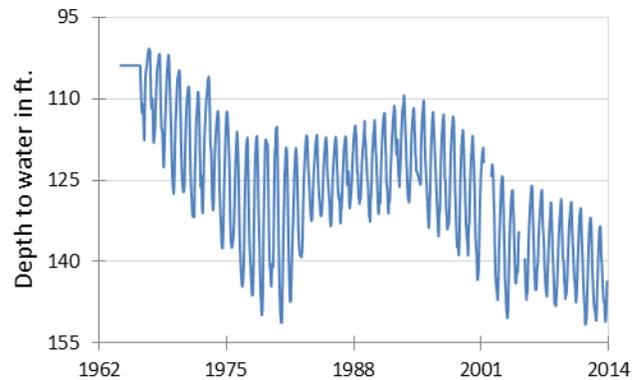
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



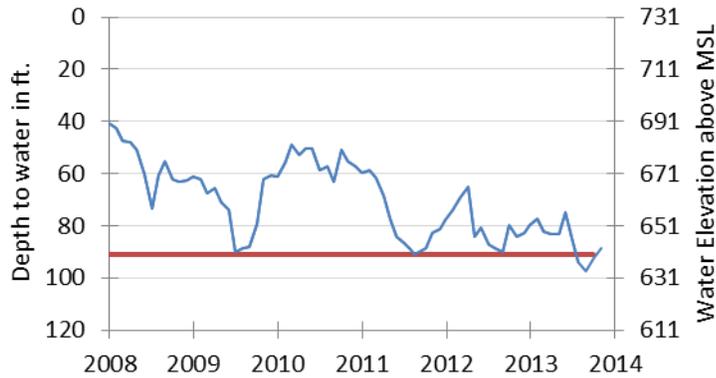
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer



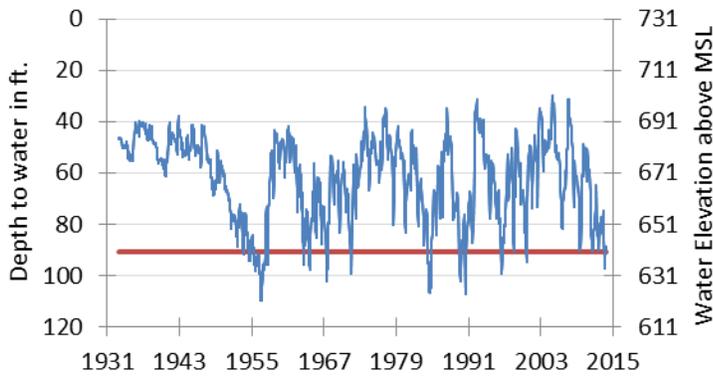
(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



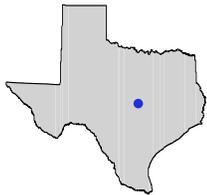
**(8) State Well ID 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (BFZ) Aquifer**



The late October water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above mean sea level, was 88.6 feet below land surface, or 642.4 feet above mean sea level. This was 3.7 feet above last month's measurement, 4.5 feet below last year's measurement, and 41.96 feet below the initial measurement recorded in 1932.



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

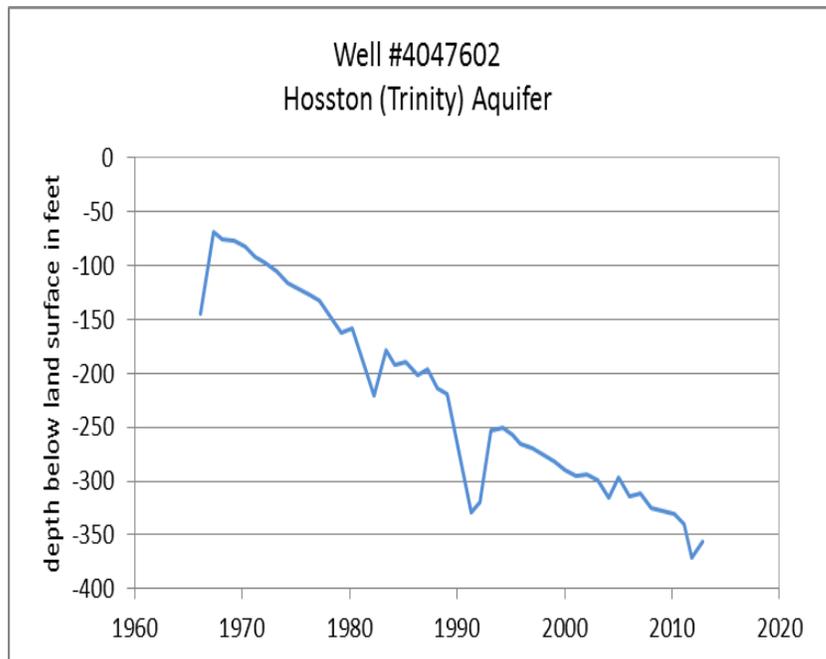


HYDROGRAPH OF THE MONTH

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

Trinity Aquifer

This public supply well in northwest Falls County, operated by the Mooreville Water Supply Corporation, was drilled in 1965 to a depth of 2,609 feet. The well is completed in the Hosston Formation of the Lower Trinity Aquifer, an aquifer primarily composed of sandstones, gravels, and conglomerates providing generally good quality although hard water. Several public supply wells in the area are also completed at similar depths in the down-dip portion of the Trinity Aquifer. Water-level declines have occurred in wells throughout the extent of the Trinity Aquifer in the past century and by as much as 1,000 feet in places. Declines have attenuated in some wells where water suppliers have switched to a surface water source. However, in this area, overall water-level declines approaching 300 feet in the last nearly half century, as illustrated by the hydrograph of this well, are also typical in several near-by public supply wells.



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