

RESERVOIR STORAGE

July 2013

At the end of the month, total storage in 115 of the state's major water supply reservoirs was at 20 million acre-feet*, or 64% of their total conservation storage capacity. This is 631,538 acre-feet less than a month ago and 3.0 million acre-feet less than the storage at this time last year.

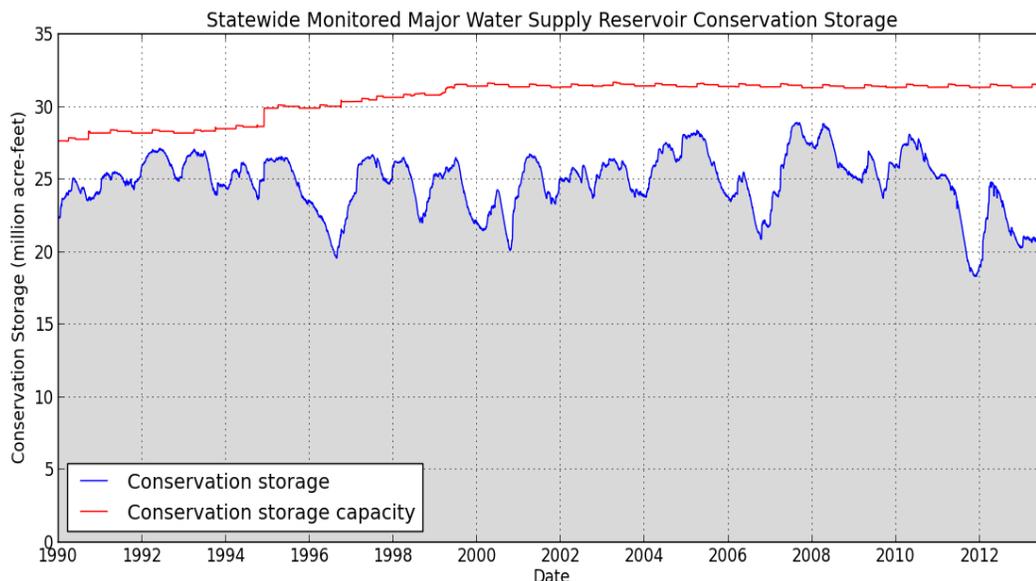
Six reservoirs, most in the North Central and East regions, held 100% of conservation storage capacity. Thirteen (13) reservoirs were below 10% full: Electra, and Meredith were effectively empty, Twin Buttes, White River and O. C. Fisher were at 1%, North Fork Buffalo Creek and J. B. Thomas was at 2%, Palo Duro was at 4%, Medina and Mackenzie were at 5%, E.V. Spence was at 6%, and Champion Creek Reservoir were at 8%, and Abilene was at 9% full.

Total combined storage was greater than 70% in the North Central (73%), Upper Coast (91%), and East (87%) regions. The regions with the lowest percentage storage were the High Plains (1%) and Trans-Pecos regions (18%). Storage over the last month declined in 6 regions and increased in 3 regions.

Elephant Butte reservoir held 73,402 acre-feet, or 4% of storage capacity. This is 931 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 Storage end of July 2013 (acre-feet)	(%)	Change since end of June 2013 (acre-feet)	(%)	Change since end of July 2012 (acre-feet)	(%)
HIGH PLAINS							
Palo Duro Reservoir	61,066	2,166	4	-160	-0	-498	-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	2,544	5	-81	-0	-979	-2
White River Lake	29,880	343	1	-41	-0	-2,734	-9
TOTAL	637,396	5,053	1	-282	-0	-4,211	-1
LOW ROLLING PLAINS							
Greenbelt Lake	59,968	8,518	14	-364	-1	-1,107	-2
*Electra, Lake	5,626	0	0	0	0	-25	-0
N. Fork Buffalo Crk Reservoir	15,400	378	2	-49	-0	-1,100	-7
Kemp, Lake	268,811	73,244	27	9,932	4	-7,088	-3
Millers Creek Reservoir	26,768	5,905	22	-149	-1	-1,521	-6
Alan Henry Reservoir	94,808	65,015	69	1,128	1	-9,859	-10
Stamford, Lake	51,570	10,503	20	-269	-1	-8,052	-16
J B Thomas, Lake	199,931	3,295	2	-227	-0	2,922	1
Fort Phantom Hill, Lake	70,030	36,704	52	4,002	6	4,654	7
Sweetwater, Lake	12,267	2,959	24	-45	-0	-1,264	-10
Colorado City, Lake	30,758	9,314	30	-308	-1	no data	
Champion Creek Reservoir	41,580	3,510	8	-16	-0	-567	-1
Abilene, Lake	7,900	692	9	-45	-1	-1,250	-16
Coleman, Lake	38,075	17,413	46	2,087	5	3,397	9
Hords Creek Lake	8,443	2,968	35	482	6	648	8
TOTAL	931,935	240,418	26	16,159	2	-20,212	-2
NORTH CENTRAL							
Nocona, Lake (Farmers Crk)	21,444	10,372	48	-165	-1	-2,203	-10
Hubert H Moss Lake	24,058	21,404	89	-378	-2	-1,649	-7
Texoma, Lake (Texas)	1,258,113	1,258,113	100	0	0	33,207	3
Texoma, Lake (Texas & Oklahoma)	2,525,281	1,258,113	50	0	0	33,207	1
*Pat Mayse Lake	113,683	95,005	84	-3,061	-3	-11,275	-10
Kickapoo, Lake	85,825	32,386	38	440	1	-5,749	-7
Arrowhead, Lake	235,997	77,671	33	-3,037	-1	-33,994	-14
Bonham, Lake	11,027	10,342	94	-216	-2	989	9
Crook, Lake	9,195	8,572	93	-321	-3	754	8
Amon G Carter, Lake	19,266	10,740	56	-431	-2	-3,744	-19
Ray Roberts, Lake	788,167	652,458	83	-15,882	-2	-98,003	-12
Jim Chapman Lake (Cooper)	260,332	113,171	43	-13,329	-5	-106,223	-41
Graham, Lake	45,288	28,692	63	-1,236	-3	-10,762	-24
*Lost Creek Reservoir	11,950	9,411	79	-230	-2	-1,659	-14
Bridgeport, Lake	366,236	177,708	49	-4,721	-1	-97,474	-27
Lewisville Lake	563,228	412,116	73	-24,960	-4	-80,521	-14
Lavon Lake	406,388	246,479	61	-19,943	-5	-86,782	-21
Hubbard Creek Reservoir	326,559	98,694	30	21,680	7	-17,425	-5
Possum Kingdom Lake	540,340	385,280	71	1,496	0	-45,499	-8
*Mineral Wells, Lake	6,760	4,470	66	-144	-2	-1,372	-20
Weatherford, Lake	17,812	11,718	66	-200	-1	-2,441	-14
Eagle Mountain Lake	179,880	145,953	81	-2,399	-1	1,514	1
Worth, Lake	33,495	23,186	69	87	0	-2,618	-8
Grapevine Lake	164,703	119,969	73	-5,673	-3	-23,251	-14
Ray Hubbard, Lake	452,040	367,356	81	-20,869	-5	-48,384	-11
New Terrell City Lake	8,583	6,265	73	-310	-4	-1,629	-19
Daniel, Lake	9,515	3,011	32	-235	-2	-973	-10

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity	Conservation Storage end of July	Change since end of June 2013	Change since end of July 2012
(NORTH CENTRAL CONTINUE)	(acre-feet)	2013 (acre-feet)	(%) (acre-feet)	(%) (acre-feet)
Palo Pinto, Lake	26,827	12,221	46 -1,608	-6 -11,284
Benbrook Lake	85,648	68,743	80 -6,290	-7 -990
Arlington, Lake	40,188	32,182	80 -4,793	-12 2,514
Joe Pool Lake	175,358	165,530	94 -3,703	-2 -576
*Cisco, Lake	25,895	16,324	63 7,350	28 5,255
Leon, Lake	26,476	24,745	93 7,212	27 4,049
Granbury, Lake	128,046	82,311	64 1,448	1 -26,418
Pat Cleburne, Lake	26,008	17,896	69 -718	-3 -4,696
Waxahachie, Lake	10,780	8,761	81 -459	-4 -693
Bardwell Lake	46,122	35,031	76 -1,713	-4 -8,211
Proctor Lake	55,457	33,488	60 -1,632	-3 -11,466
Whitney, Lake	553,344	354,250	64 -13,953	-3 -143,469
Aquila Lake	44,460	29,523	66 -699	-2 -10,749
Navarro Mills Lake	49,827	40,787	82 -2,685	-5 -6,298
*Halbert, Lake	6,033	3,936	65 -201	-3 -850
Richland-Chambers Reservoir	1,087,839	771,105	71 -34,005	-3 -249,686
*Brownwood, Lake	128,839	82,926	64 21,441	17 17,314
Waco, Lake	189,567	147,435	78 -5,688	-3 -34,300
Limestone, Lake	208,014	143,279	69 -8,920	-4 -37,158
Belton Lake	435,225	338,102	78 -12,986	-3 -78,771
Stillhouse Hollow Lake	227,771	180,933	79 -1,050	-0 -33,457
Georgetown, Lake	36,823	19,969	54 -900	-2 -7,377
Granger Lake	50,779	47,655	94 -1,103	-2 -787
Tawakoni, Lake	871,685	638,783	73 -30,396	-3 -171,505
Mountain Creek, Lake	22,850	22,850	100 0	0 1,197
Squaw Creek, Lake	151,250	151,250	100 0	0 0
TOTAL	10,670,995	7,800,557	73 -190,088	-2 -1,455,578
EAST				
Wright Patman Lake	231,496	231,496	100 0	0 0
*Sulphur Springs, Lake	17,747	15,127	85 477	3 -855
Cypress Springs, Lake	66,756	59,447	89 -1,668	-2 -4,239
Bob Sandlin, Lake	190,822	141,380	74 -6,344	-3 -18,140
Caddo, Lake	29,898	20,422	68 -7,126	-24 -4,230
Martin, Lake	75,116	60,365	80 -4,074	-5 5,560
Monticello, Lake	34,740	34,740	100 0	0 163
Fork Reservoir, Lake	605,061	479,455	79 -7,870	-1 -54,654
O the Pines, Lake	268,566	189,197	70 -14,700	-5 -8,464
Cedar Creek Reservoir in Trinity	644,686	490,972	76 -26,413	-4 -98,125
Athens, Lake	29,435	23,886	81 -603	-2 -1,154
Palestine, Lake	373,199	355,127	95 -4,758	-1 -647
Tyler, Lake	73,161	54,734	75 -1,814	-2 -3,659
Murvaul, Lake	38,285	35,610	93 -1,481	-4 -1,345
Jacksonville, Lake	25,670	25,128	98 -23	-0 263
Nacogdoches, Lake	39,522	35,537	90 -731	-2 3,865
Houston County Lake	17,113	15,606	91 -638	-4 -462
Sam Rayburn Reservoir	2,857,077	2,403,702	84 -158,999	-6 -296,329
Toledo Bend Reservoir (Texas)	2,245,752	1,964,535	87 -110,410	-5 -56,723
Toledo Bend Reservoir (TX & LA)	4,472,900	1,964,535	44 -110,410	-2 -56,723
*Livingston, Lake	1,785,348	1,730,534	97 -54,814	-3 -34,663
B A Steinhagen Lake	66,961	61,780	92 1,513	2 -510
Conroe, Lake	416,177	360,126	87 -7,563	-2 -12,467
TOTAL	10,132,588	8,788,906	87 -408,039	-4 -586,815

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of July 2013 (acre-feet)	Change since end of June 2013 (%)	Change since end of June 2013 (acre-feet)	Change since end of July 2012 (%)	Change since end of July 2012 (acre-feet)	Change since end of July 2012 (%)
TRANS-PECOS							
Red Bluff Reservoir	151,110	27,414	18	3,408	2	4,762	3
TOTAL	151,110	27,414	18	3,408	2	4,762	3
EDWARDS PLATEAU							
Oak Creek Reservoir	39,210	9,691	25	82	0	-2,129	-5
E V Spence Reservoir	517,272	30,178	6	-1,193	-0	28,889	6
O C Fisher Lake	119,445	912	1	-286	-0	0	0
*O H Ivie Reservoir	554,340	101,250	18	1,470	0	23,852	4
Twin Buttes Reservoir	182,454	1,774	1	-363	-0	1,110	1
Brady Creek Reservoir	28,808	9,390	33	2,837	10	1,881	7
Buchanan, Lake	816,904	317,994	39	-4,482	-1	-102,454	-13
Inks, Lake	13,962	12,967	93	-46	-0	-106	-1
Lyndon B Johnson, Lake	115,056	110,391	96	182	0	-183	-0
*Amistad Reservoir (Texas)	1,840,849	736,726	40	50,967	3	-549,332	-30
*Amistad Reservoir (TX & Mexico)	3,275,532	736,726	22	50,967	2	-549,332	-17
TOTAL	4,228,300	1,331,273	31	49,168	1	-598,472	-14
SOUTH CENTRAL							
Travis, Lake	1,113,348	370,036	33	-18,415	-2	-138,388	-12
*Austin, Lake	23,972	22,957	96	123	1	169	1
Somerville Lake	147,104	93,995	64	-15,198	-10	-46,666	-32
Canyon Lake	378,781	302,056	80	-4,692	-1	-32,731	-9
Medina Lake	254,823	12,439	5	-955	-0	-29,180	-11
*Coleta Creek Reservoir	31,040	25,541	82	2,578	8	-2,934	-9
TOTAL	1,949,068	827,024	42	-36,559	-2	-249,730	-13
UPPER COAST							
Houston, Lake	128,054	128,054	100	0	0	0	0
Texana, Lake	159,566	135,059	85	-7,065	-4	-23,588	-15
TOTAL	287,620	263,113	91	-7,065	-2	-23,588	-8
SOUTHERN							
Choke Canyon Reservoir	695,262	265,774	38	-8,928	-1	-118,560	-17
Corpus Christi, Lake	256,961	72,405	28	9,759	4	19,454	8
*Falcon Reservoir (Texas)	1,551,007	383,393	25	-59,071	-4	30,448	2
*Falcon Reservoir (TX & Mexico)	2,646,817	383,393	14	-59,071	-2	30,448	1
TOTAL	2,503,230	721,572	29	-58,240	-2	-68,658	-3
STATE TOTAL							
	31,492,242	20,005,330	64	-631,538	-2	-3,002,502	-10
* Conservation volume is used as conservation storage capacity because the dead storage is unknown.							
Elephant Butte Reservoir	1,973,358	73,402	4	931	0	-105,117	-5

Note:

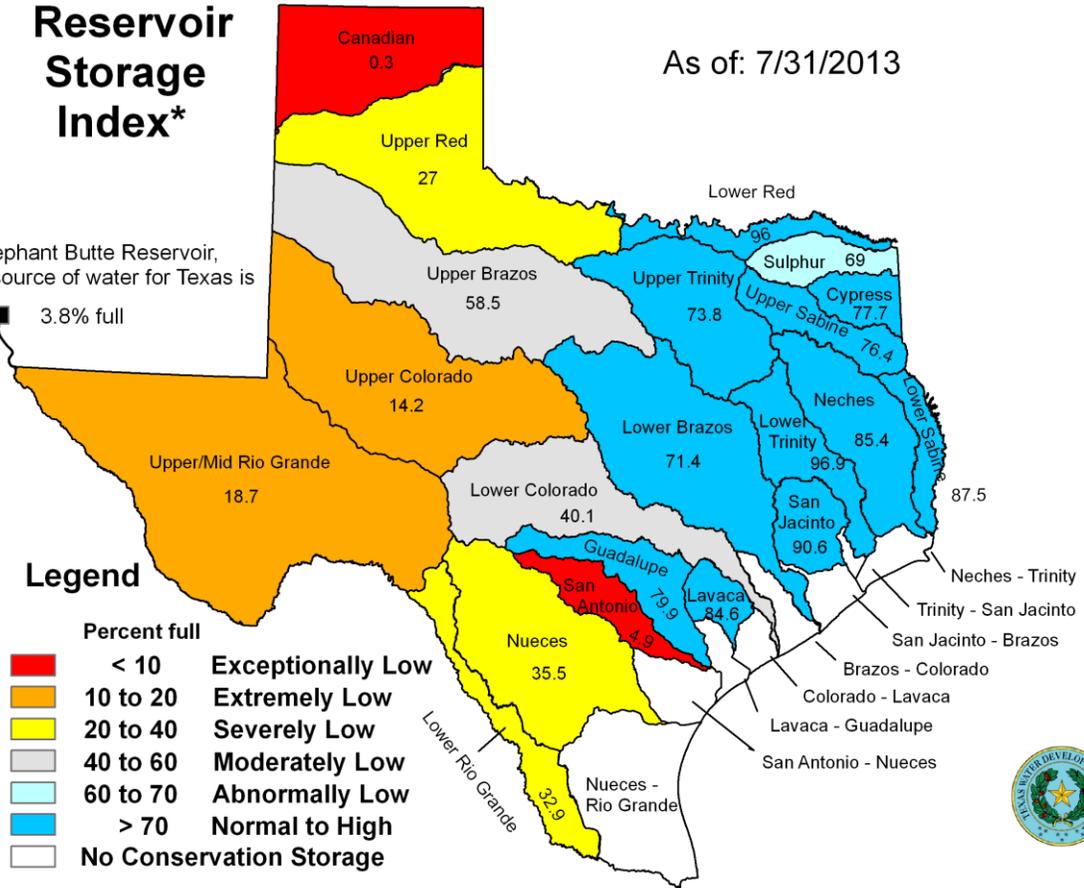
Conservation storage capacity is the space available to store water above the lowest outlet and below the top of conservation pool, or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control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

JULY RESERVOIR CONDITIONS

As of: 7/31/2013

Reservoir Storage Index*

Elephant Butte Reservoir, a source of water for Texas is 3.8% full

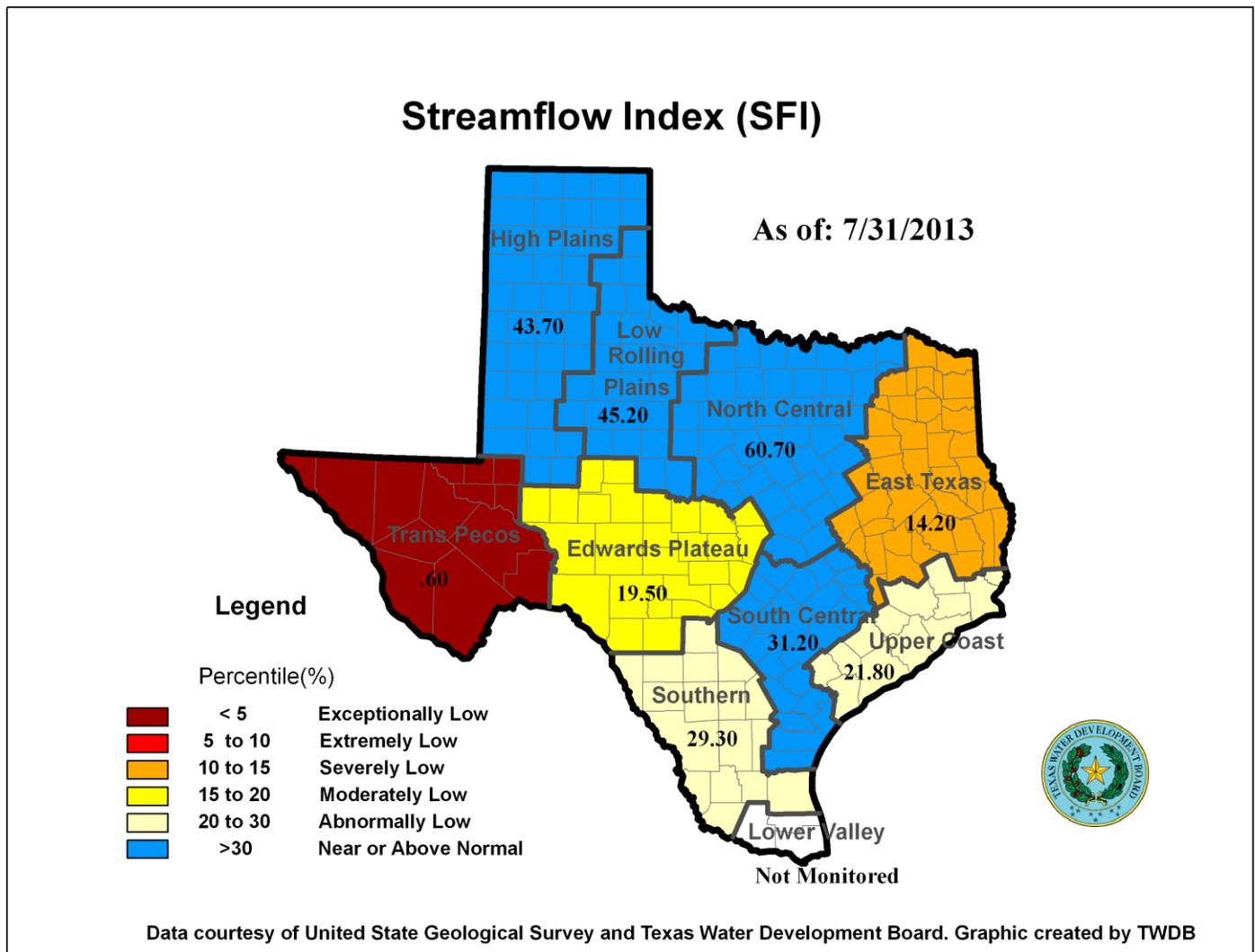


*Percent of combined conservation storage capacity of 115 major water supply reservoirs by sub-basin (dead pools are excluded)

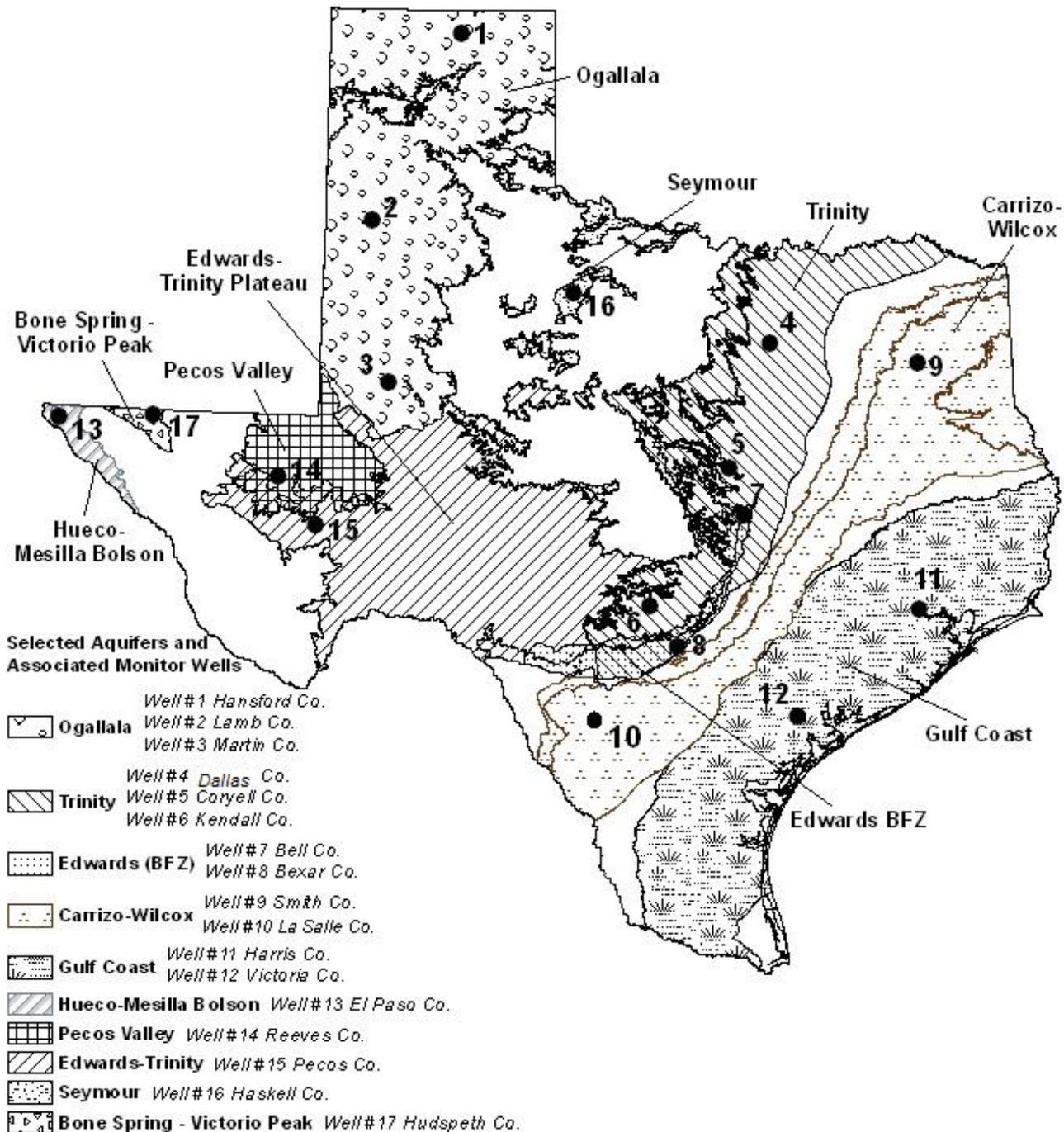
JULY STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 10 stations, extremely low (5-10%) at 1 station, severely low (10-15%) at 2 stations, moderately low (15-20%) at 1 station, abnormally low (20% - 30%) at 2 stations, and near normal (30% - 70%) at the remaining 13 stations. Compared to last month, flows have increased at 6 index stations and decreased at 21 stations.

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



JULY 2013 GROUNDWATER LEVELS IN OBSERVATION WELLS



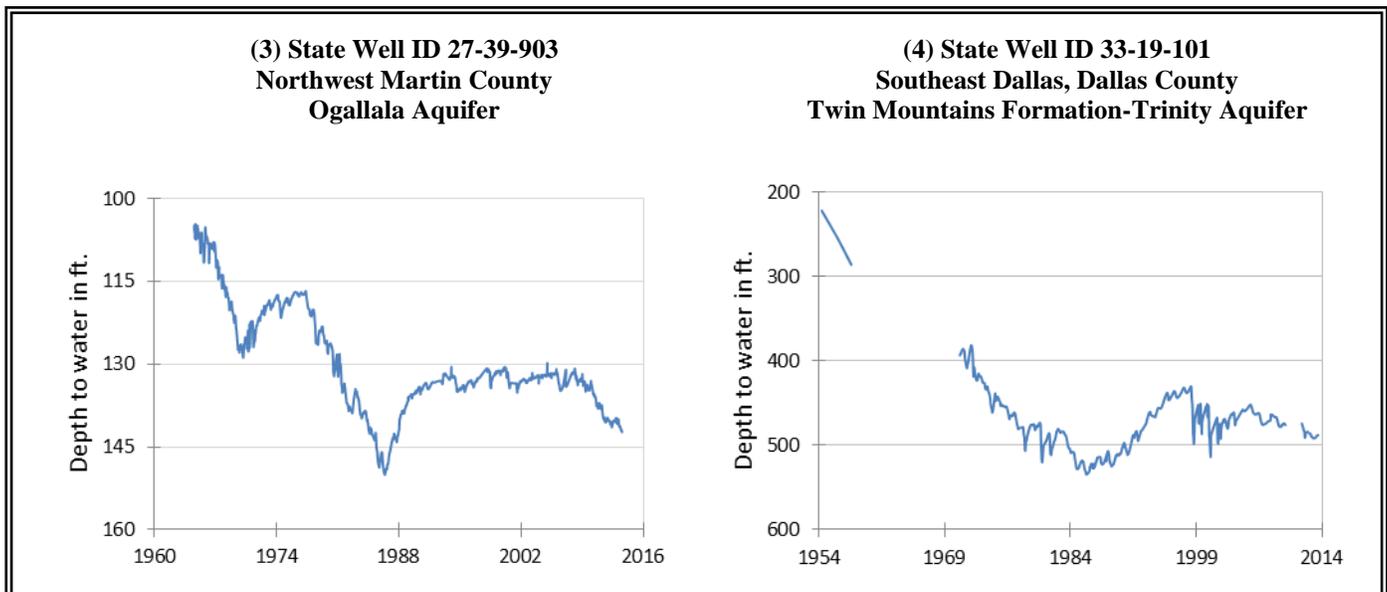
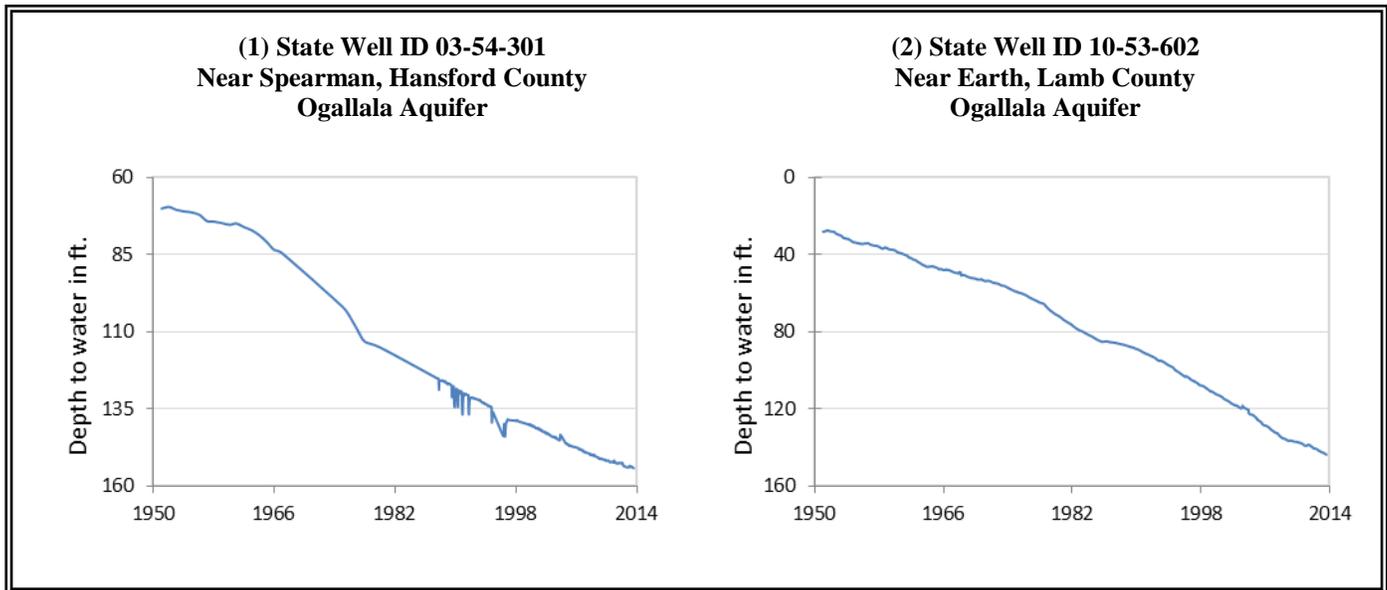
July, 2013

Water level measurements were available for all seventeen key monitoring wells in the state. Water levels rose in four of the monitoring wells since the beginning of July, ranging from 0.03 feet in the Dallas County Trinity Aquifer well to 0.69 feet in the Reeves County Pecos Valley Aquifer well. Water levels declined in thirteen monitoring wells, ranging from 0.12 feet in the El Paso County Hueco-Mesilla Bolson Aquifer well to 7.37 feet in the La Salle County Carrizo-Wilcox Aquifer well. The J-17 well in San Antonio recorded a water level of 94. feet below land surface or 637 feet above mean sea level. This water level is 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.

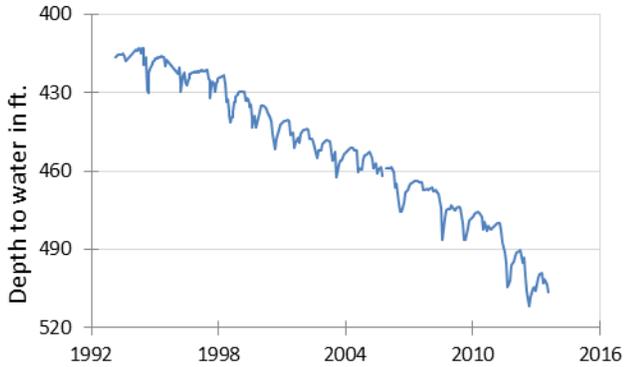
* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

Monitoring Well	July	June	month change	year change	historical change	first measured
(1) Hansford 0354301	154.2	154	-0.2	-0.39	-84.08	1951
(2) Lamb 1053602	143.72	143.5	-0.22	-2.36	-115.57	1951
(3) Martin 2739903	142.32	141.95	-0.37	-2.07	-37.43	1964
(4) Dallas 3319101	488.02	488.05	0.03	-2.12	-266.02	1954
(5) Coryell 4035404	506.18	503.6	-2.58	-0.15	-214.18	1955
(6) Kendall 6802609	147.97	146.51	-1.46	0.39	-87.97	1975
(7) Bell 5804816	128.53	129.01	0.48	-3.05	-5.4	2008
(8) Bexar 6837203	94	86.86	-7.14	-5.53	-47.36	1932
(9) Smith 3430907	439.62	438.66	-0.96	-5.1	-73.62	1987
(10) La Salle 7738103	484.47	477.1	-7.37	-60.6	-231.4	2003
(11) Harris 6514409	194.63	192.83	-1.8	6.45	-59.13	1956
(12) Victoria 8017502	35.48	34.89	-0.59	1.05	-1.48	1958
(13) El Paso 4913301	293.97	293.85	-0.12	-2.57	-62.07	1967
(14) Reeves 4644501	156.1	156.79	0.69	-4.06	-64.01	1952
(15) Pecos 5216802	231.58	227.27	-4.31	-2.23	15.3	1976
(16) Haskell 2135748	48.05	47.9	-0.15	-0.23	-6.72	2002
(17) Hudspeth 4807516	147.32	147.45	0.13	1.54	-43.4	1964

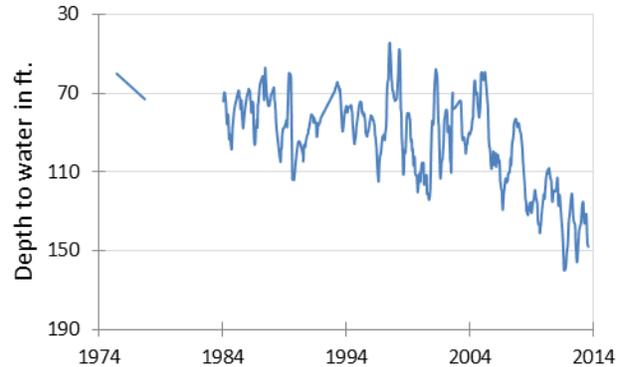
JULY GROUNDWATER LEVELS IN OBSERVATION WELLS



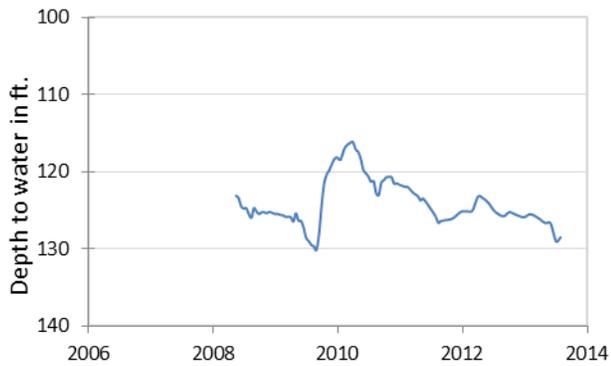
**(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



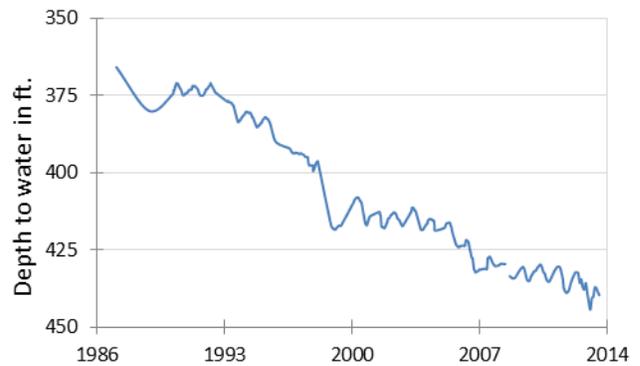
**(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



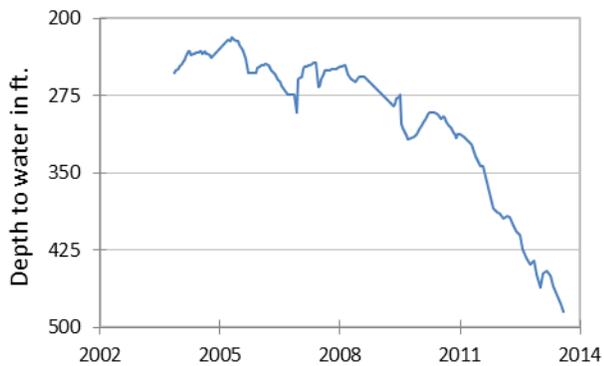
**(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (BFZ) Aquifer**



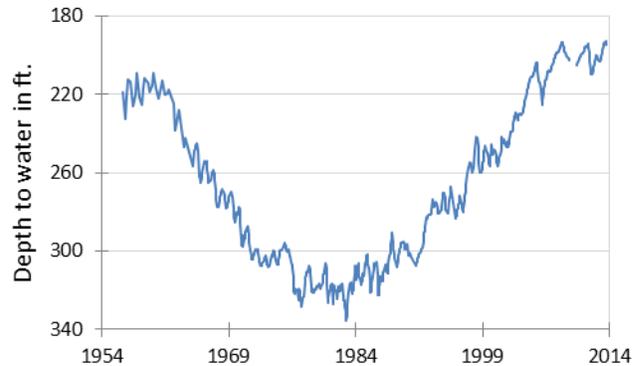
**(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



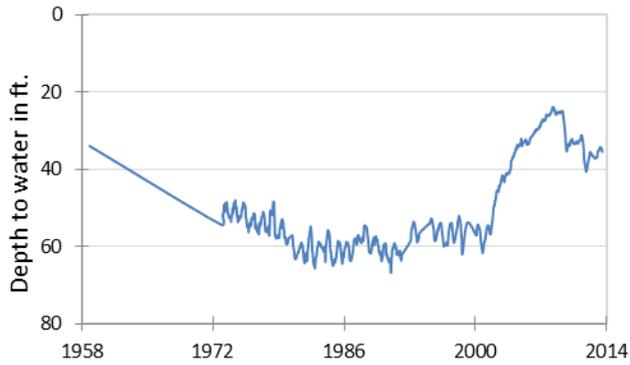
**(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



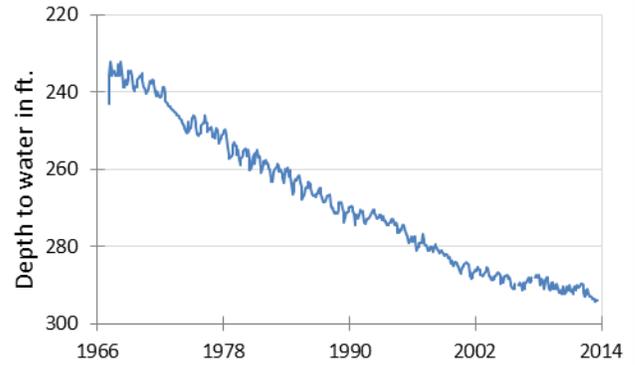
**(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



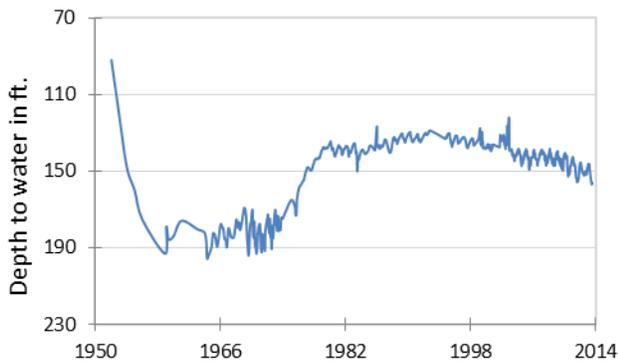
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



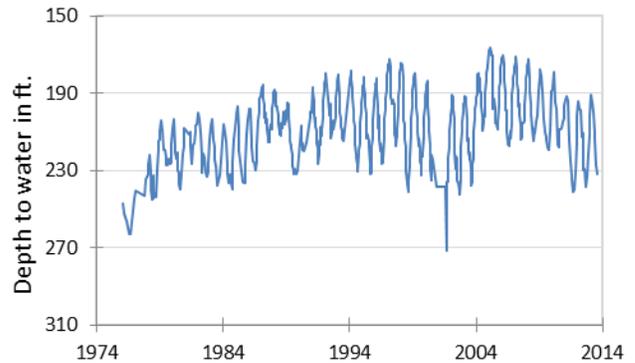
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



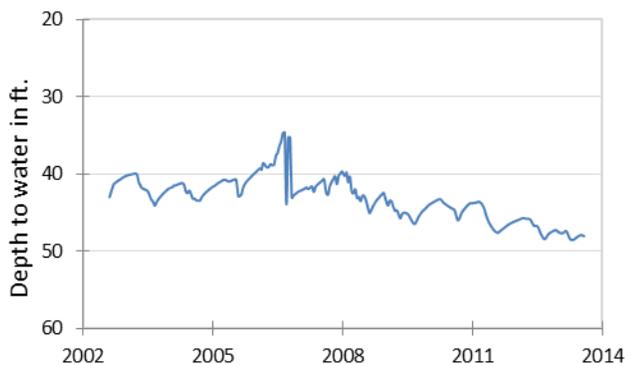
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



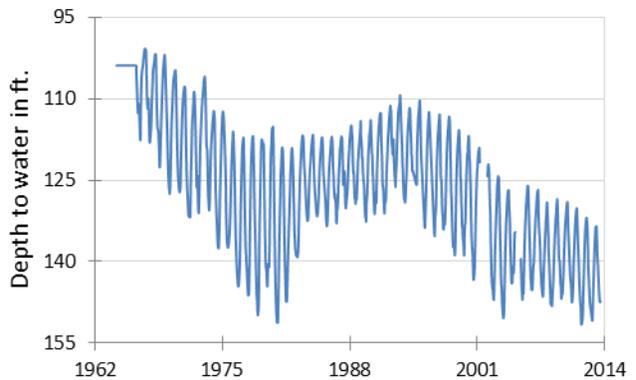
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



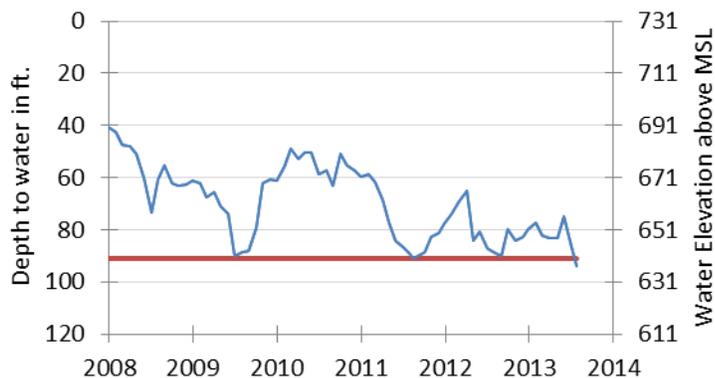
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer



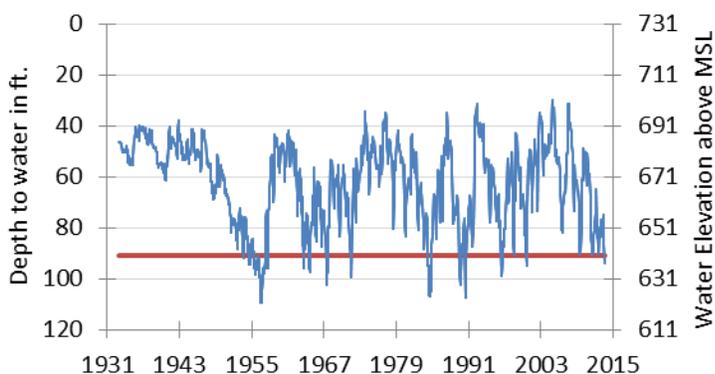
(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



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

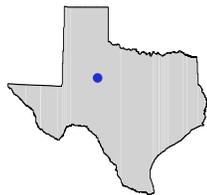


The late July water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above mean sea level, was 94 feet below land surface, or 637 feet above mean sea level. This was 7.14 feet below last month's measurement, 5.53 feet above last year's measurement, and 47.36 feet below the initial measurement recorded in 1932.



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

HYDROGRAPH OF THE MONTH

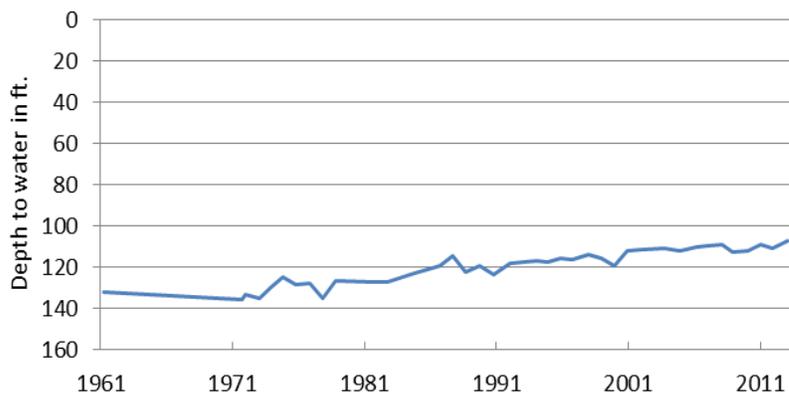


Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

Dockum Aquifer

The Dockum Aquifer is a minor aquifer in the northwest part of the state, and is overlain by the Edwards Trinity and Ogallala aquifers in most places except where it is exposed by erosion along its margins. It is a major unit in exposures of the "caprock escarpment" in the Texas panhandle in places such as Palo Duro Canyon. It consists of Triassic age sands and conglomerates interbedded with layers of silt and shale. Individual sandstone units are light to dark or greenish-gray, buff, and red, and range in thickness from a few feet to about 50 ft. The red and maroon sandy shale units that separate the sandstones range in thickness from about 50 to 100 ft. It was deposited in fluvial, deltaic, and lacustrine environments within a closed continental basin between the highly eroded and ancient Ouachita range to the southeast and the nascent cordillera to the west. Sediments entered from all directions and filled the basin completely. The water quality in the aquifer is generally poor with fresh water in outcrop areas in the east to brine in the western subsurface portions of the aquifer. Naturally occurring uranium within the aquifer produces unsafe radiation levels in some wells.

**Well # 28-15-301
Scurry County TX**



Drilled in 1956, this unused well is at an elevation of 2,665 feet above sea level, 170 feet deep, and completed in the Dockum Aquifer. Originally the well produced water for irrigation, but since the original measurement in 1961 and after likely cessation of pumping, the water level has risen 25 feet. The total dissolved solids content of 850 milligrams per liter is typical for Dockum wells in Scurry County, but relatively low compared to concentrations in many deeper Dockum wells throughout the region.

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