

Texas Water Development Board



WATER *Conditions*

RESERVOIR STORAGE

June 2011

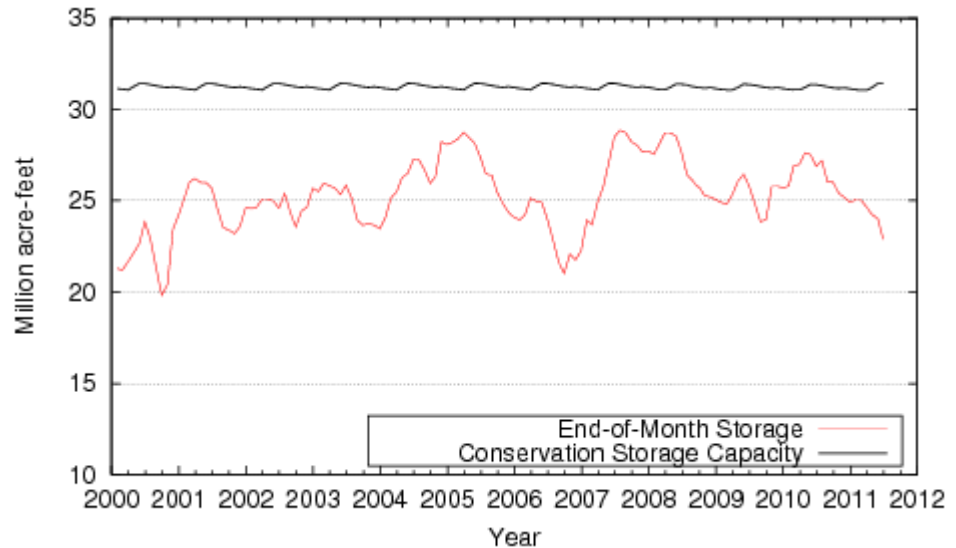
At the end of June, total storage in 109 of the state's major reservoirs was at 22.88 million acre-feet*, or 73% of the total conservation storage capacity. This is 1.1 million acre-feet less than a month ago.

Storage was at 100% in one 1 reservoir: Lake Livingston, six less than last month. Seven lakes were at or below 5% full: O. C. Fisher Lake Reservoir, Horde Creek Lake, and Lake Meredith were effectively empty, E.V. Spence Reservoir was at 1%, Lake Electra was at 2%, Lake J. B. Thomas was at 3% full, and Twin Buttes was at 5%.

None of the regions had combined storage above 90%. The High Plains (3%) and Trans-Pecos regions (15%) remained very low. Over the month and over the past 12-month period, storage declined in all regions.

* 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. Reservoirs with a conservation storage capacity of 5,000 acre-feet or greater are included.

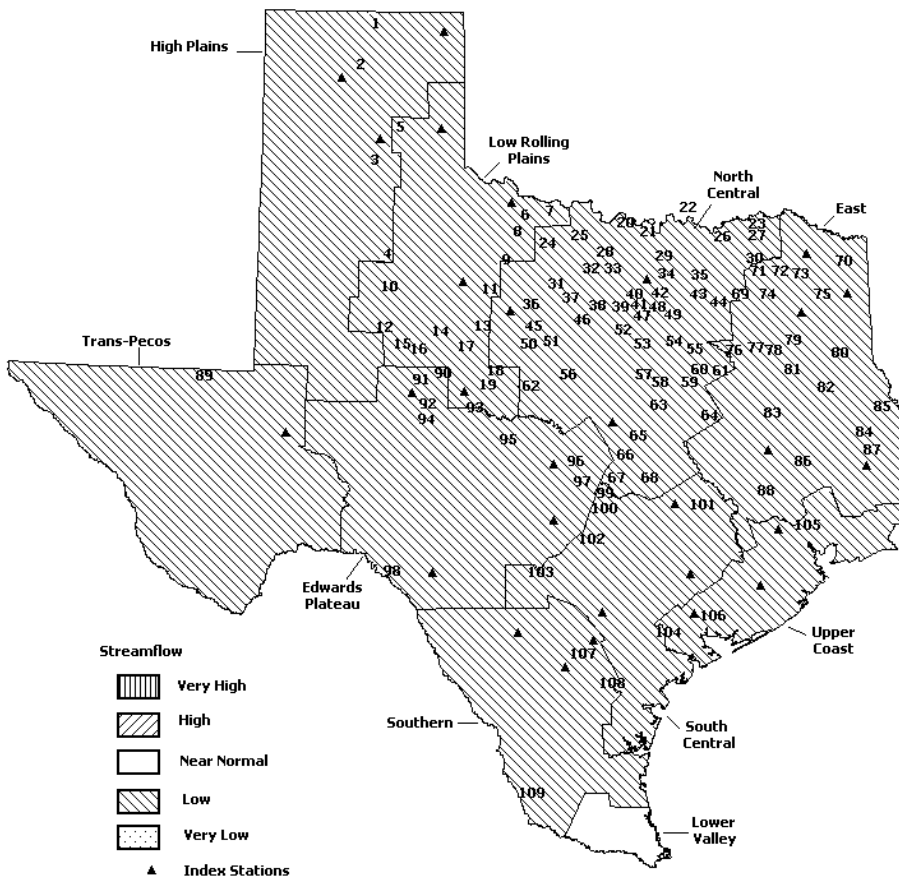
STREAMFLOW

Of 29 reporting index stations in June, computed 30-day mean flows were low (70% - 95%) at 21 stations, very low (>95%) at 7 stations, and near normal (30% - 70%) at the remaining 1 station. Compared to May, flows have increased at 3 index stations and decreased at 23 stations.

On a regional basis, flows in June were low in all regions. Streamflow in the Lower Valley region is not monitored.

JUNE STREAMFLOW CONDITIONS

Reservoirs Shown on Map



1. Palo Duro Reservoir
2. Meredith, Lake
3. MacKenzie Reservoir
4. White River Lake
5. Greenbelt Lake
6. Electra, Lake
7. N. Fork Buffalo Creek Reservoir
8. Kemp, Lake
9. Miller's Creek Reservoir
10. Alan Henry Reservoir
11. Stamford, Lake
12. Lake J. B. Thomas
13. Fort Phantom Hill, Lake
14. Sweetwater, Lake
15. Colorado City, Lake
16. Champion Creek Reservoir
17. Abilene, Lake
18. Coleman, Lake
19. Hords Creek Lake
20. Farmers Creek Reservoir
21. Hubert H Moss Lake
22. Texoma, Lake
23. Pat Mayse Lake
24. Lake Kickapoo
25. Lake Arrowhead
26. Bonham, Lake
27. Crook, Lake
28. Amon G Carter, Lake
29. Ray Roberts, Lake
30. Jim Chapman Lake
31. Graham, Lake
32. Lost Creek Reservoir
33. Bridgeport Reservoir
34. Lewisville Lake
35. Lavon Lake
36. Hubbard Creek Reservoir
37. Possum Kingdom Lake
38. Mineral Wells, Lake
39. Weatherford, Lake
40. Eagle Mountain Lake
41. Worth, Lake
42. Grapevine Lake
43. Lake Ray Hubbard
44. New Terrell City Lake
45. Daniel, Lake
46. Palo Pinto, Lake
47. Benbrook Lake
48. Arlington, Lake
49. Joe Pool Lake
50. Cisco, Lake
51. Leon, Lake
52. Lake Granbury
53. Pat Cleburne, Lake
54. Waxahachie, Lake
55. Bardwell Lake
56. Proctor Lake
57. Whitney Lake
58. Aquilla Lake
59. Navarro Mills Lake
60. Halbert, Lake
61. Richland-Chambers Reservoir
62. Lake Brownwood
63. Waco Lake
64. Limestone, Lake
65. Belton Lake
66. Stillhouse Hollow Lake
67. Georgetown, Lake
68. Granger Lake
69. Tawakoni, Lake
70. Wright Patman Lake
71. Sulphur Springs, Lake
72. Cypress Springs, Lake
73. Bob Sandlin, Lake
74. Fork Reservoir, Lake
75. O' the Pines, Lake
76. Cedar Creek Reservoir Trinity
77. Athens, Lake
78. Palestine, Lake
79. Tyler, Lake
80. Murvaul, Lake
81. Jacksonville, Lake
82. Nacogdoches, Lake
83. Houston County Lake
84. Sam Rayburn Reservoir
85. Toledo Bend Reservoir
86. Livingston, Lake
87. B. A. Steinhagen Lake
88. Conroe, Lake
89. Red Bluff Reservoir
90. Oak Creek Reservoir
91. E. V. Spence Reservoir
92. O. C. Fisher Lake
93. O. H. Ivie Reservoir
94. Twin Buttes Reservoir
95. Brady Creek Reservoir
96. Buchanan, Lake
97. Lyndon B Johnson, Lake
98. Amistad Reservoir, Intl.
99. Travis, Lake
100. Austin, Lake
101. Somerville Lake
102. Canyon Lake
103. Medina Lake
104. Coletto Creek Reservoir
105. Lake Houston
106. Texana, Lake
107. Choke Canyon Reservoir
108. Lake Corpus Christi
109. Falcon Reservoir, Intl.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage		Change since		Change since		
		Capacity (acre-feet)	Late Jun. (acre-feet)	2011 (%)	Late May 2011 (%)	Late June 2010 (%)	Late June 2010 (%)	
HIGH PLAINS								
Palo Duro Reservoir	1	60,897	6,938	11	-1,010	-2	-23,414	-38
Meredith, Lake (Texas)	2	500,000	0	0	0	0	-23,296	-5
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	0	0	0	0	-23,296	-3
MacKenzie Reservoir	3	46,429	5,079	11	-306	-1	-1,790	-4
White River Lake	4	29,880	7,392	25	-841	-3	3,457	12
TOTAL		637,206	19,409	3	-2,157	0	-45,043	-7
LOW ROLLING PLAINS								
Greenbelt Lake	5	59,500	13,606	23	-1,152	-2	-3,519	-6
*Electra, Lake	6	5,626	113	2	-66	-1	-472	-8
N. Fork Buffalo Crk Reservoir	7	15,400	3,802	25	-705	-5	-2,584	-17
Kemp, Lake	8	245,308	148,767	61	-36,013	-15	-96,541	-39
Millers Creek Reservoir	9	27,888	14,300	51	-1,523	-5	-6,642	-24
Alan Henry Reservoir	10	94,808	82,102	87	-2,226	-2	-12,706	-13
Stamford, Lake	11	51,570	37,232	72	-4,146	-8	-14,338	-28
J B Thomas, Lake	12	199,931	5,612	3	-1,225	-1	-8,616	-4
Fort Phantom Hill, Lake	13	70,030	47,109	67	-3,883	-6	-13,512	-19
Sweetwater, Lake	14	10,006	4,345	43	-473	-5	-2,270	-23
Colorado City, Lake	15	31,793	11,979	38	-846	-3	-4,749	-15
Champion Creek Reservoir	16	41,618	5,568	13	-401	-1	-1,871	-4
Abilene, Lake	17	6,099	3,142	52	-557	-9	-2,788	-46
Coleman, Lake	18	38,076	18,045	47	-1,083	-3	-6,699	-18
Hords Creek Lake	19	5,684	0	0	-98	-2	-1,117	-20
TOTAL		903,337	395,722	44	-54,397	-6	-178,424	-20
NORTH CENTRAL								
Nocona, Lake (Farmers Crk)	20	21,445	15,917	74	-1,082	-5	-5,354	-25
Hubert H Moss Lake	21	24,058	23,235	97	-737	-3	-481	-2
Texoma, Lake (Texas)	22	1,334,295	1,177,106	88	-41,677	-3	-115,721	-9
Texoma, Lake (Texas & Oklahoma)	(22)	2,668,590	2,354,212	88	-83,354	-3	-231,443	-9
*Pat Mayse Lake	23	117,844	116,280	99	-1,564	-1	1,228	1
Kickapoo, Lake	24	85,825	56,084	65	-4,710	-5	-23,674	-28
Arrowhead, Lake	25	235,997	158,494	67	-13,253	-6	-61,615	-26
Bonham, Lake	26	11,026	10,172	92	-854	-8	440	4
Crook, Lake	27	9,195	8,430	92	-620	-7	155	2
Amon G Carter, Lake	28	19,903	15,935	80	-243	-1	-3,968	-20
Ray Roberts, Lake	29	798,758	752,370	94	-18,144	-2	-28,974	-4
Jim Chapman Lake (Cooper)	30	260,332	160,462	62	-16,272	-6	-71,483	-27
Graham, Lake	31	45,260	36,468	81	-2,183	-5	-7,718	-17
*Lost Creek Reservoir	32	11,950	10,289	86	-282	-2	-1,661	-14
Bridgeport, Lake	33	366,236	293,318	80	-14,319	-4	-72,918	-20
Lewisville Lake	34	563,228	533,696	95	-28,732	-5	2,344	0
Lavon Lake	35	443,844	370,262	83	-32,449	-7	-35,091	-8
Hubbard Creek Reservoir	36	318,067	164,202	52	-10,251	-3	-49,981	-16
Possum Kingdom Lake	37	540,340	466,584	86	-21,231	-4	-56,964	-11
*Mineral Wells, Lake	38	7,065	5,337	76	-453	-6	-1,296	-18
Weatherford, Lake	39	17,789	12,330	69	-651	-4	-4,742	-27
Eagle Mountain Lake	40	179,880	144,607	80	-12,489	-7	-27,207	-15
Worth, Lake	41	24,500	19,183	78	1,299	5	-3,633	-15
Grapevine Lake	42	164,702	163,304	99	-1,398	-1	533	0
Ray Hubbard, Lake	43	452,040	415,966	92	-11,405	-3	-202	0
New Terrell City Lake	44	8,583	7,188	84	-314	-4	-963	-11
Daniel, Lake	45	9,435	3,007	32	-460	-5	-3,236	-34
Palo Pinto, Lake	46	26,827	22,978	86	-2,706	-10	-1,908	-7
Benbrook Lake	47	85,648	75,580	88	-8,874	-10	-4,453	-5
Arlington, Lake	48	40,156	34,087	85	-4,751	-12	-2,763	-7

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 May 2011		Change since Late June 2010	
			Late Jun. (acre-feet)	2011 (%)	(acre-feet)	(%)	(acre-feet)	(%)
NORTH CENTRAL (Continue)								
Joe Pool Lake	49	142,861	136,735	96	-5,387	-4	-2,878	-2
*Cisco, Lake	50	26,000	12,645	49	-501	-2	-3,403	-13
Leon, Lake	51	26,421	13,711	52	-1,059	-4	-5,647	-21
Granbury, Lake	52	128,046	110,612	86	-11,393	-9	-15,168	-12
Pat Cleburne, Lake	53	26,008	21,700	83	-1,737	-7	-2,915	-11
Waxahachie, Lake	54	10,779	9,436	88	-72	-1	-649	-6
Bardwell Lake	55	46,122	41,733	90	-2,377	-5	-3,367	-7
Proctor Lake	56	55,457	28,003	50	-5,006	-9	-19,330	-35
Whitney, Lake	57	553,349	329,127	59	-25,027	-5	-132,565	-24
Aquilla Lake	58	44,460	38,641	87	-2,790	-6	-4,298	-10
Navarro Mills Lake	59	49,826	45,332	91	-1,626	-3	-4,494	-9
*Halbert, Lake	60	6,033	3,174	53	-127	-2	-1,677	-28
Richland-Chambers Reservoir	61	1,087,839	938,650	86	-24,607	-2	-149,189	-14
*Brownwood, Lake	62	131,429	64,055	49	-6,006	-5	-32,950	-25
Waco, Lake	62	198,943	176,305	89	-9,021	-5	-19,720	-10
Limestone, Lake	64	208,015	160,648	77	-10,667	-5	-45,049	-22
Belton Lake	65	435,225	379,999	87	-14,746	-3	-27,361	-6
Stillhouse Hollow Lake	66	227,771	197,570	87	-18,874	-8	-30,201	-13
Georgetown, Lake	67	36,823	21,508	58	-3,128	-8	-15,315	-42
Granger Lake	68	50,779	44,463	88	-3,212	-6	1,997	4
Tawakoni, Lake	69	888,126	768,894	87	-28,158	-3	-93,096	-10
TOTAL		10,604,540	8,815,812	83	-426,326	-4	-1,188,581	-11
EAST								
Wright Patman Lake	70	307,973	297,445	97	-10,528	-3	4,777	2
*Sulphur Springs, Lake	71	17,838	11,094	62	-692	-4	-2,547	-14
Cypress Springs, Lake	72	66,756	61,152	92	-2,001	-3	-4,932	-7
Bob Sandlin, Lake	73	200,579	157,801	79	-8,260	-4	-36,744	-18
Fork Reservoir, Lake	74	604,927	498,576	82	-16,669	-3	-97,639	-16
O the Pines, Lake	75	267,672	227,854	85	-13,507	-5	-39,042	-15
Cedar Creek Reservoir in Trinity	76	644,686	527,598	82	-15,878	-2	-113,551	-18
Athens, Lake	77	29,435	25,908	88	-1,143	-4	-3,527	-12
Palestine, Lake	78	370,907	307,952	83	-17,092	-5	-62,955	-17
Tyler, Lake	79	73,256	54,541	74	-5,787	-8	-18,715	-26
Murvaul, Lake	80	38,284	29,966	78	-1,508	-4	-5,858	-15
Jacksonville, Lake	81	25,670	22,952	89	-780	-3	-2,179	-8
Nacogdoches, Lake	82	39,521	24,833	63	-1,697	-4	-11,035	-28
Houston County Lake	83	17,113	15,957	93	-774	-5	-902	-5
Sam Rayburn Reservoir	84	2,857,077	1,947,522	68	-57,781	-2	-632,190	-22
Toledo Bend Reservoir (Texas)	85	2,236,450	1,520,163	68	-44,082	-2	-431,601	-19
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	3,040,327	68	-88,163	-2	-863,202	-19
*Livingston, Lake	86	1,741,867	1,738,000	100	-3,867	0	-3,867	0
B A Steinhagen Lake	87	66,966	62,127	93	101	0	-1,008	-2
Conroe, Lake	88	416,188	359,079	86	-9,945	-2	-47,754	-11
TOTAL		10,023,165	7,890,520	79	-211,890	-2	-1,511,269	-15
TRANS-PECOS								
Red Bluff Reservoir	89	289,670	44,067	15	-8,554	-3	-10,277	-4
TOTAL		289,670	44,067	15	-8,554	-3	-10,277	-4

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

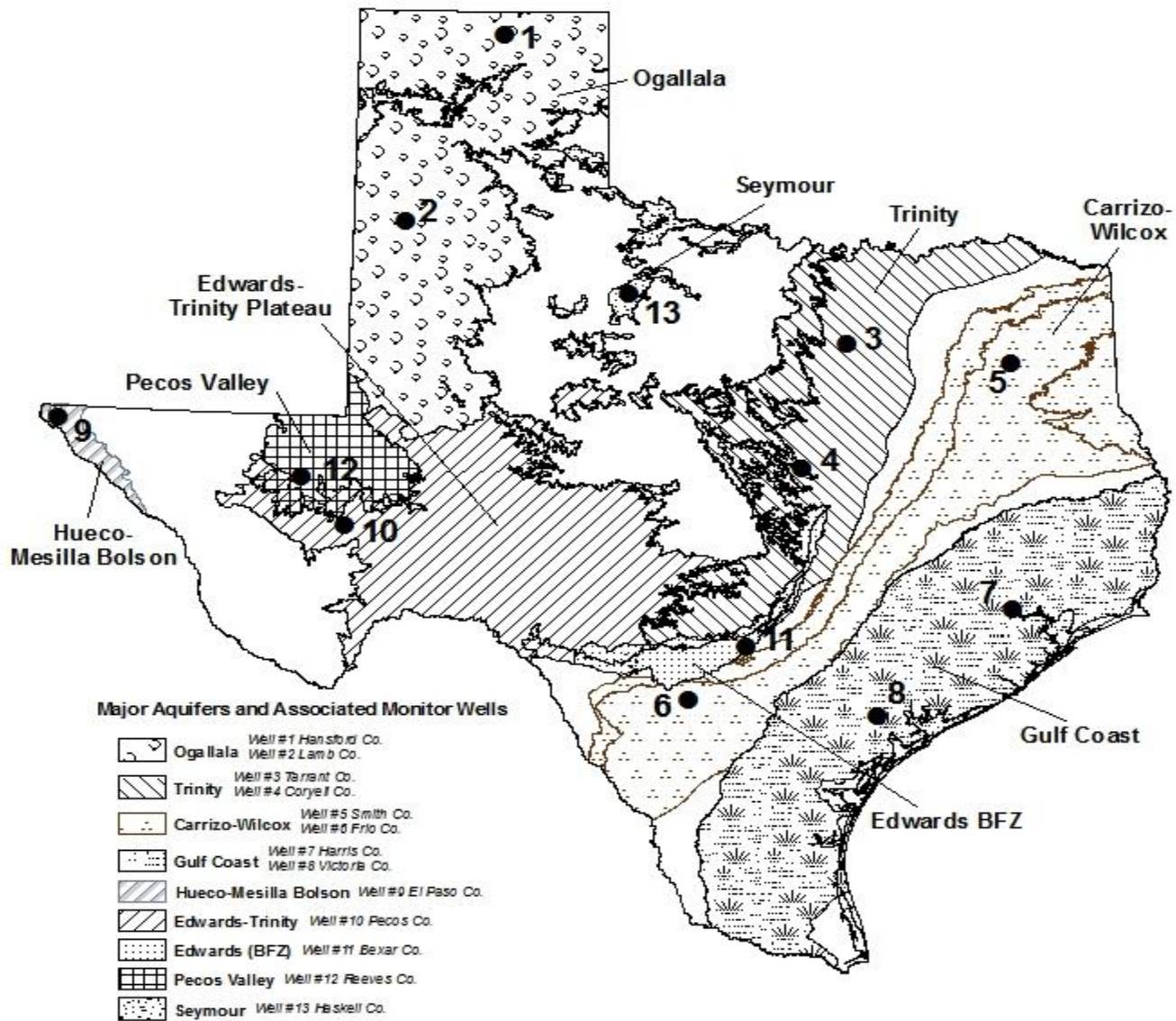
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage		Change since Late May 2011		Change since Late June 2010		
			Late Jun. (acre-feet)	2011 (%)	(acre-feet)	(%)	(acre-feet)	(%)	
EDWARDS PLATEAU									
Oak Creek Reservoir	90	39,260	18,818	48	-1,303	-3	-6,500	-17	
E V Spence Reservoir	91	517,272	5,306	1	-1,783	0	-18,574	-4	
O C Fisher Lake	92	79,483	0	0	0	0	0	0	
*O H Ivie Reservoir	93	554,335	139,536	25	-10,266	-2	-83,266	-15	
Twin Buttes Reservoir	94	177,850	9,370	5	-3,930	-2	-23,072	-13	
Brady Creek Reservoir	95	29,110	9,867	34	-999	-3	-6,526	-22	
Buchanan, Lake	96	875,610	528,718	60	-98,227	-11	-164,127	-19	
Lyndon B Johnson, Lake	97	113,323	111,440	98	122	0	851	1	
*Amistad Reservoir (Texas)	98	1,840,849	1,744,000	95	-40,000	-2	-37,000	-2	
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	3,039,000	93	-162,000	-5	-83,000	-3	
TOTAL		4,227,092	2,567,055	61	-156,386	-4	-338,214	-8	
SOUTH CENTRAL									
Travis, Lake	99	1,113,255	587,713	53	-49,163	-4	-404,723	-36	
*Austin, Lake	100	21,804	20,594	94	118	1	-347	-2	
Somerville Lake	101	147,104	103,843	71	-6,919	-5	-43,261	-29	
Canyon Lake	102	378,781	341,980	90	-7,911	-2	-36,801	-10	
Medina Lake	103	254,823	111,415	44	-14,362	-6	-75,565	-30	
*Coletto Creek Reservoir	104	31,040	25,449	82	-1,659	-5	-4,324	-14	
TOTAL		1,946,807	1,190,994	61	-79,896	-4	-565,021	-29	
UPPER COAST									
Houston, Lake	105	128,863	103,100	80	-9,800	-8	-25,763	-20	
Texana, Lake	106	153,246	94,263	62	-4,493	-3	-47,862	-31	
TOTAL		282,109	197,363	70	-14,293	-5	-73,625	-26	
SOUTHERN									
Choke Canyon Reservoir	107	695,262	499,899	72	-14,121	-2	-107,851	-16	
Corpus Christi, Lake	108	256,961	164,855	64	-17,040	-7	-55,483	-22	
*Falcon Reservoir (Texas)	109	1,551,034	1,094,000	71	-153,000	-10	60,000	4	
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	1,569,000	59	-127,000	-5	-109,000	-4	
TOTAL		2,503,257	1,758,754	70	-184,161	-7	-103,334	-4	
STATE TOTAL		31,417,183	22,879,696	73	-1,138,060	-4	-4,013,788	-13	

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

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 $100 * (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$. Figures shown are for the Texas share of conservation storage in all reservoirs.

JUNE 2011 GROUNDWATER LEVELS IN OBSERVATION WELLS



June, 2011

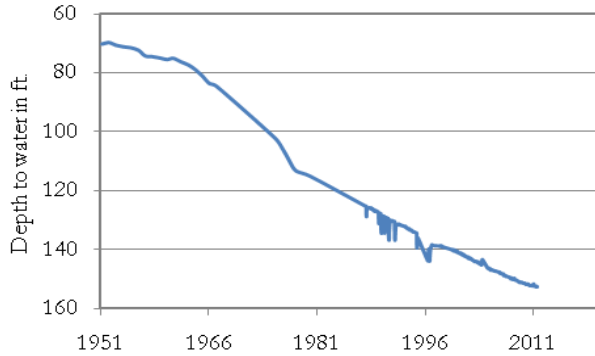
Water level measurements were available for all thirteen key monitoring wells in the state. Water levels declined in all monitoring wells since the beginning of June, ranging from 0.11 feet in the Lamb County Ogallala Aquifer well to 8.27 feet in the Pecos County Edwards-Trinity Plateau Aquifer well. The J-17 well in San Antonio recorded a water level of 86.84 feet below land surface. This water level is 5.84 feet below the Stage II critical management level in that segment of the Edwards Aquifer. Stage II restrictions were triggered on June 1, 2011 by the E.A.A. after the 10 day average of water levels fell below 650 foot elevation or 81 feet below land surface.

	(1) Hansford 0354301	(2) Lamb 1053602	(3) Tarrant 3215504	(4) Coryell 4035404	(5) Smith 3430907	(6) Zavala 7702509	(7) Harris 6514409	(8) Victoria 8017502	(9) El Paso 4913301	(10) Pecos 5216802	(11) Bexar 6837203	(12) Reeves 4644501	(13) Haskell 2135748
June 2011	152.71	138.77	451.07	491.26	432.43	390.68	195.67	33.3	291.22	233.33	86.84	153.1	47.35
May 2011	152.47	138.66	445.61	487.13	430.58	384.18	193.72	31.63	290.20	225.06	83.97	148.77	46.62
Month Change	-0.24	-0.11	-5.46	-4.13	-1.85	-6.5	-1.95	-1.67	-1.02	-8.27	-2.87	-4.33	-0.73
Year Change	-0.38	-0.89	-3.92	-8.92	-0.36	-10.26	5.08	0.14	1.14	-15.55	-28.1	-0.28	-2.93
Historical Change	-82.59	-110.62	-73.07	-199.26	-66.43	-26.41	-60.17	0.7	-59.32	13.55	-40.2	-61.01	-6.02

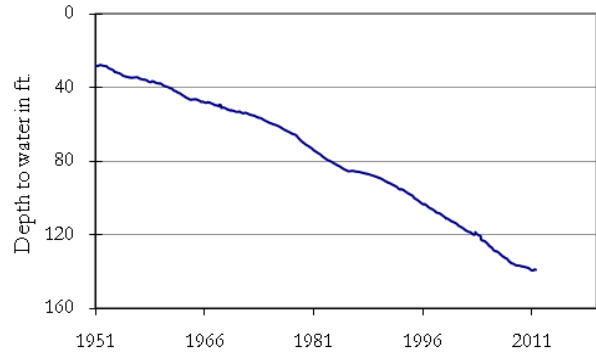
* ID is used in this publication to differentiate between the monitoring well number (1 - 13) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

JUNE GROUNDWATER LEVELS IN OBSERVATION WELLS

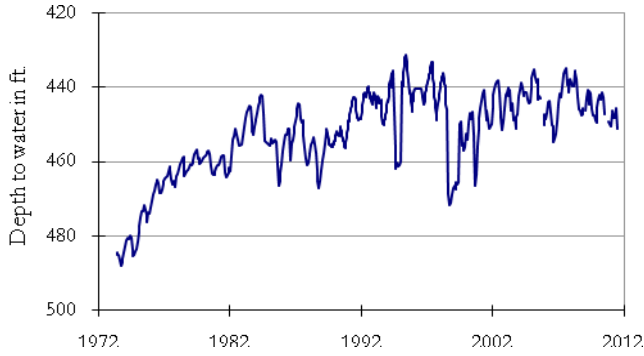
(1) State Well ID 03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



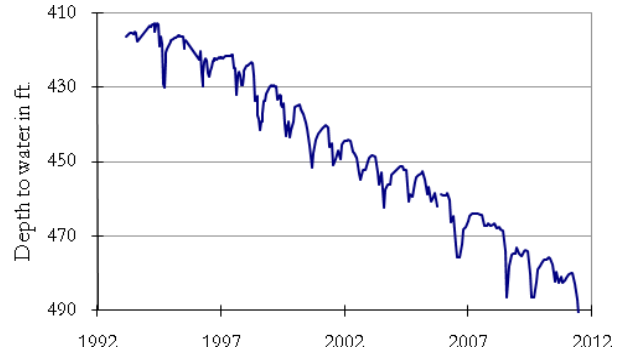
(2) State Well ID 10-53-602
Near Earth, Lamb County
Ogallala Aquifer



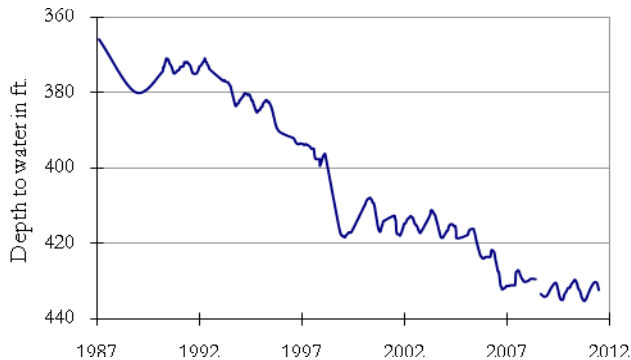
(3) State Well ID 32-15-504
Near Hurst, Tarrant County
Paluxy Formation-Trinity Aquifer



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



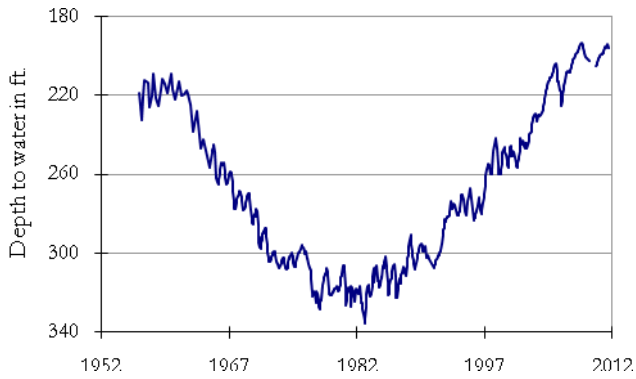
(5) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer



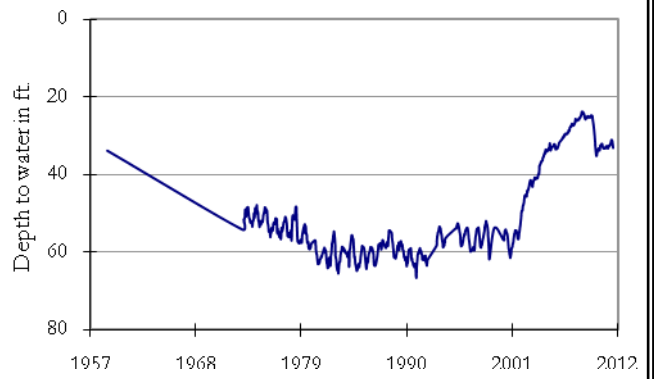
(6) State Well ID 77-02-509
Zavala County
Carrizo-Wilcox Aquifer



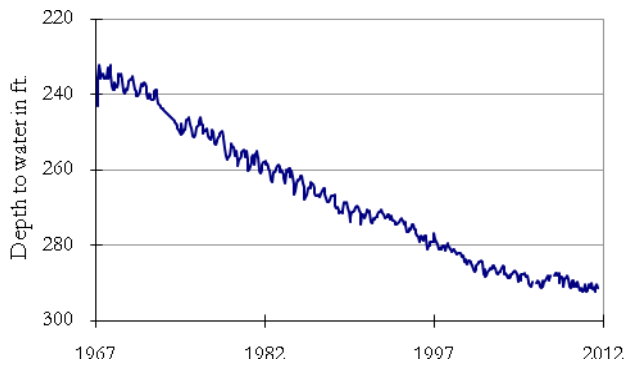
(7) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer



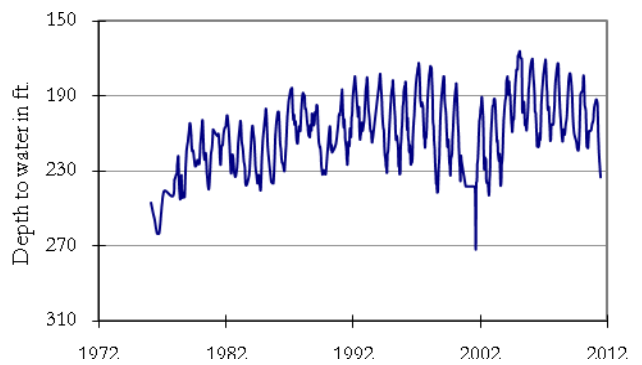
(8) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



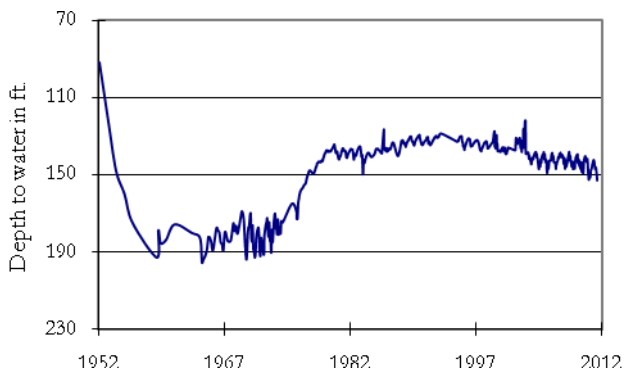
(9) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



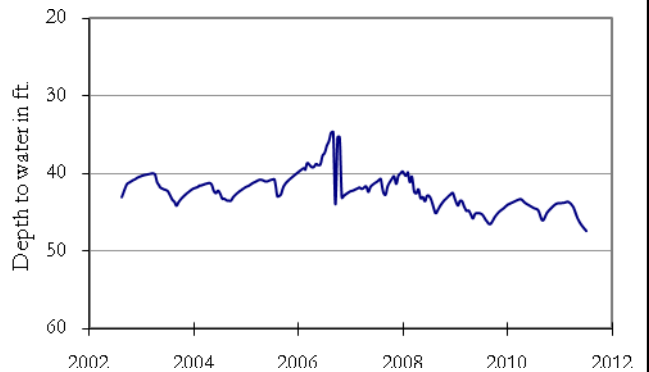
(10) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



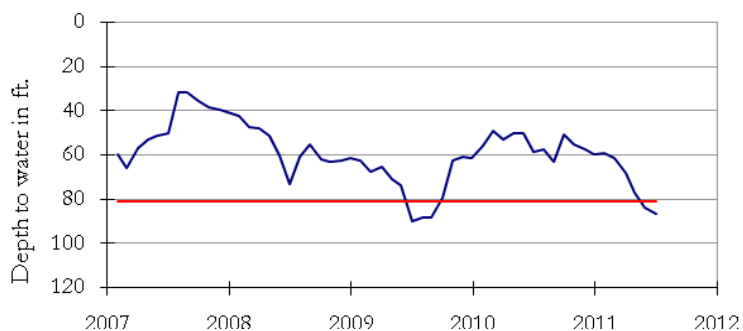
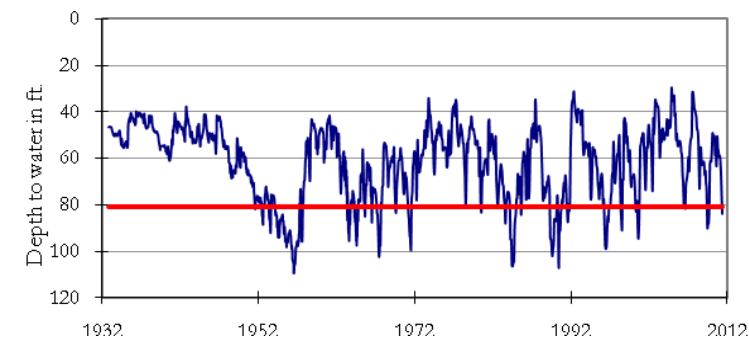
(12) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



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



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

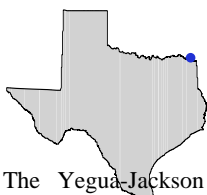


The late June water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 86.84 feet below land surface. This was 2.87 feet below last month's measurement, 28.1 feet below last year's measurement, and 40.2 feet below the initial measurement recorded in 1932.

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

HYDROGRAPH OF THE MONTH

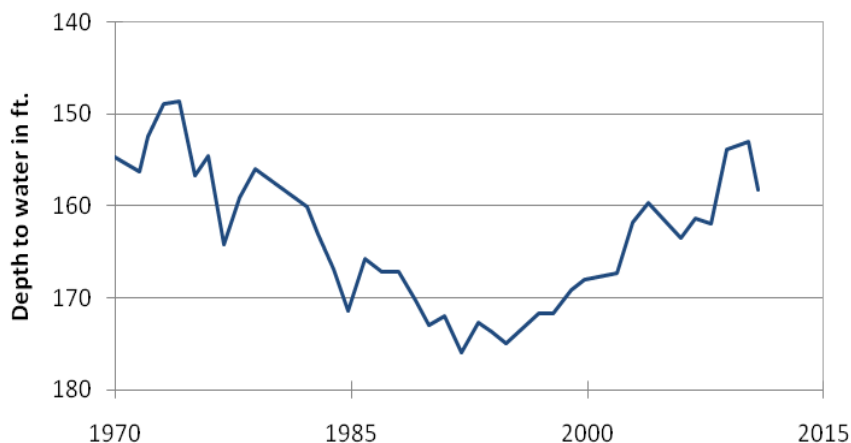
Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.



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. It includes parts of the Yegua Formation of the upper Claiborne Group, and the Jackson Group of geologic 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 1,000mg/L of total dissolved solids, and range from 1,000 to 10,000mg/L in deep portions. There are currently more than 1,450 wells producing from the Yegua-Jackson aquifer. The cities of Ledbetter, Flatonia, and Schulenburg as well as rural property owners utilize the aquifer for municipal and domestic purposes. No significant water level declines have occurred in wells measured by TWDB.

**State Well ID 36-41-702
Sabine Co. TX**



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