

Texas Water Development Board



WATER Conditions

RESERVOIR STORAGE

April 2011

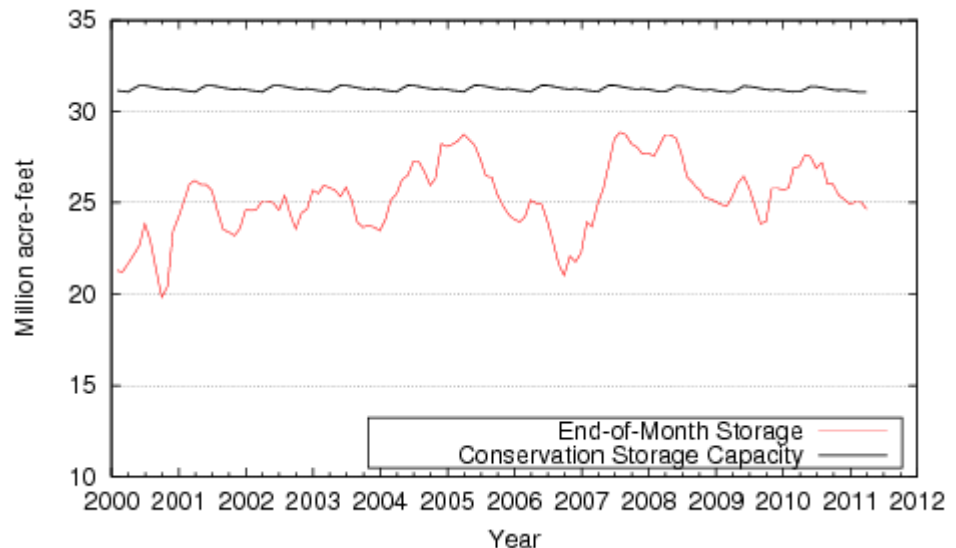
At the end of April, total storage in 109 of the state's major reservoirs was at 24.23 million acre-feet*, or 78% of the total conservation storage capacity. This is 0.43 million acre-feet less than a month ago.

Storage was at 100% in 5 reservoirs, five less than last month. Seven lakes were at or below 10% full: O. C. Fisher Lake Reservoir and Lake Meredith were effectively empty, Hords Creek Lake was at 1%, E.V. Spence Reservoir was at 2%, Lake J. B. Thomas and Lake Electra were at 4% full, and Twin Buttes was at 9%.

None of the regions had combined storage above 90%. The High Plains (4%) and Trans-Pecos regions (21%) remained very low. Over the month, storage declined in all regions except the East where the combined storage rose 3,169 acre-feet. Over the 12-month period, storage increased in 1 and decreased in 8 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 95 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.

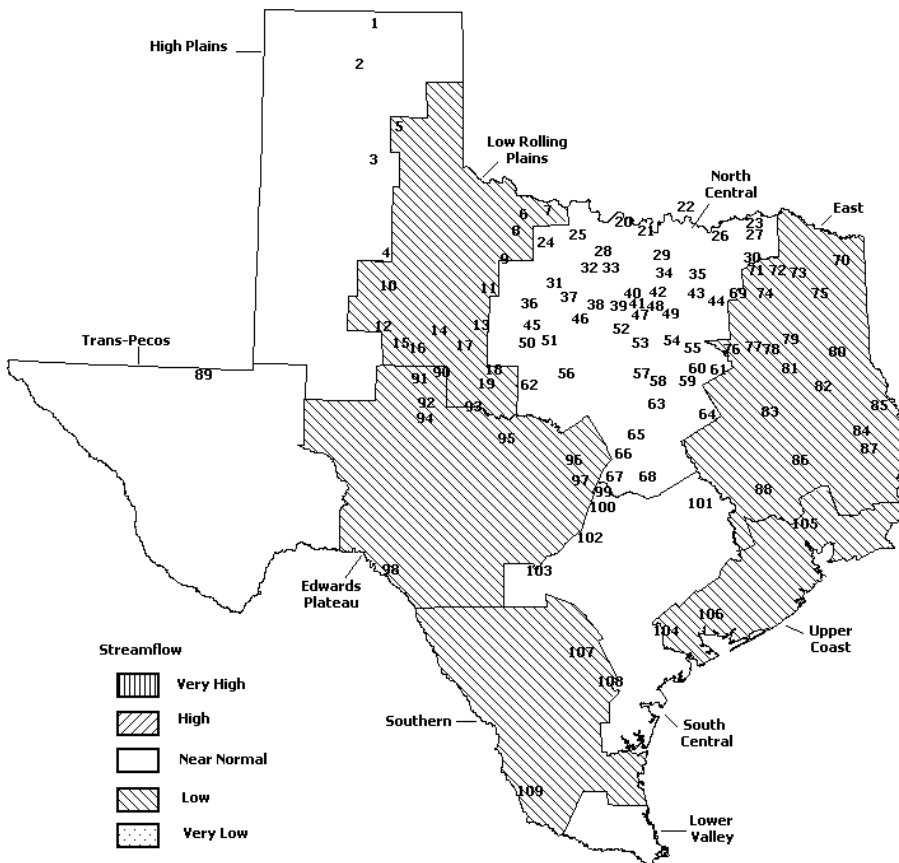
STREAMFLOW

Of 29 reporting index stations in April, computed 30-day mean flows were high (5% - 30%) at 1 station, low (70% - 95%) at 13 stations, very low (>95%) at 3 stations, and near normal (30% - 70%) at the remaining 12 stations. Compared to March, flows have increased at 5 index stations and decreased at 24 stations.

On a regional basis, flows in April were low in the Low Rolling Plains, East Texas, Edwards Plateau, Upper Coast and Southern regions, and near normal everywhere else. Streamflow in the Lower Valley region is not monitored.

APRIL 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 Late March		Change since Late April	
		Capacity (acre-feet)	Late Apr. (acre-feet)	2011 (%)	2011 (%)	2010 (acre-feet)	2010 (%)
HIGH PLAINS							
Palo Duro Reservoir	1	60,897	9,121	15	-1,358	-2	8,861 15
Meredith, Lake (Texas)	2	500,000	1,792	0	-1,688	0	-30,438 -6
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	1,792	0	-1,688	0	-30,438 -4
MacKenzie Reservoir	3	46,429	5,637	12	-200	0	-1,402 -3
White River Lake	4	29,880	8,995	30	-639	-2	4,613 15
TOTAL		637,206	25,545	4	-3,885	-1	-18,366 -3
LOW ROLLING PLAINS							
Greenbelt Lake	5	59,500	15,535	26	-535	-1	-1,607 -3
*Electra, Lake	6	5,626	241	4	-64	-1	-443 -8
N. Fork Buffalo Crk Reservoir	7	15,400	5,039	33	-368	-2	-1,250 -8
Kemp, Lake	8	245,308	200,369	82	-25,376	-10	-44,939 -18
Millers Creek Reservoir	9	27,888	16,822	60	-1,020	-4	-2,190 -8
Alan Henry Reservoir	10	94,808	85,967	91	-1,421	-1	-8,841 -9
Stamford, Lake	11	51,570	44,610	87	-2,995	-6	-6,960 -13
J B Thomas, Lake	12	199,931	8,039	4	-1,251	-1	-8,382 -4
Fort Phantom Hill, Lake	13	70,030	54,041	77	-1,653	-2	1,297 2
Sweetwater, Lake	14	10,006	5,131	51	-252	-3	-1,494 -15
Colorado City, Lake	15	31,793	13,427	42	-644	-2	-4,385 -14
Champion Creek Reservoir	16	41,618	6,273	15	-330	-1	-1,441 -3
Abilene, Lake	17	6,099	4,125	68	-324	-5	-518 -8
Coleman, Lake	18	38,076	19,653	52	-632	-2	-5,164 -14
Hords Creek Lake	19	5,684	30	1	-128	-2	-1,270 -22
TOTAL		903,337	479,302	53	-36,993	-4	-87,587 -10
NORTH CENTRAL							
Nocona, Lake (Farmers Crk)	20	21,445	17,356	81	-627	-3	-4,089 -19
Hubert H Moss Lake	21	24,058	23,929	99	160	1	-107 0
Texoma, Lake (Texas)	22	1,185,688	1,151,361	97	8,644	1	-34,327 -3
Texoma, Lake (Texas & Oklahoma)	(22)	2,371,376	2,302,722	97	17,288	1	-68,654 -3
*Pat Mayse Lake	23	117,844	108,121	92	6,310	5	-9,979 -8
Kickapoo, Lake	24	85,825	63,549	74	-2,657	-3	-8,814 -10
Arrowhead, Lake	25	235,997	177,252	75	-8,316	-4	-18,754 -8
Bonham, Lake	26	11,026	10,429	95	599	5	-237 -2
Crook, Lake	27	9,195	9,195	100	393	4	300 3
Amon G Carter, Lake	28	19,903	16,462	83	-568	-3	-3,441 -17
Ray Roberts, Lake	29	798,758	747,939	94	-5,539	-1	-48,197 -6
Jim Chapman Lake (Cooper)	30	260,332	133,993	51	-3,053	-1	-121,476 -47
Graham, Lake	31	45,260	40,102	89	-1,318	-3	-5,158 -11
*Lost Creek Reservoir	32	11,950	10,674	89	-168	-1	-1,276 -11
Bridgeport, Lake	33	366,236	309,482	85	-6,614	-2	-56,754 -15
Lewisville Lake	34	563,228	521,454	93	-6,512	-1	-21,373 -4
Lavon Lake	35	443,844	338,037	76	-2,189	0	-105,807 -24
Hubbard Creek Reservoir	36	318,067	181,120	57	-4,306	-1	-35,101 -11
Possum Kingdom Lake	37	540,340	498,899	92	-8,287	-2	-29,584 -5
*Mineral Wells, Lake	38	7,065	5,967	84	-237	-3	-1,098 -16
Weatherford, Lake	39	17,789	13,370	75	-477	-3	-5,217 -29
Eagle Mountain Lake	40	179,880	156,034	87	-1,878	-1	-26,466 -15
Worth, Lake	41	24,500	18,696	76	488	2	-5,804 -24
Grapevine Lake	42	164,702	157,657	96	1,153	1	-7,045 -4
Ray Hubbard, Lake	43	452,040	399,007	88	9,532	2	-47,247 -10
New Terrell City Lake	44	8,583	7,397	86	16	0	-1,186 -14
Daniel, Lake	45	9,435	3,758	40	-247	-3	-499 -5
Palo Pinto, Lake	46	26,827	26,827	100	6,074	23	-323 -1
Benbrook Lake	47	85,648	82,248	96	-1,157	-1	-2,857 -3
Arlington, Lake	48	40,156	34,161	85	-2,180	-5	-4,351 -11

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 March 2011		Change since Late April 2010		
			Late Apr. (acre-feet)	2011 (%)	(acre-feet)	(%)	(acre-feet)	(%)	
NORTH CENTRAL (Continue)									
Joe Pool Lake	49	142,861	141,163	99	369	0	-1,698	-1	
*Cisco, Lake	50	26,000	13,357	51	-380	-1	-3,181	-12	
Leon, Lake	51	26,421	15,223	58	-367	-1	-4,617	-17	
Granbury, Lake	52	128,046	124,874	98	906	1	-982	-1	
Pat Cleburne, Lake	53	26,008	23,588	91	60	0	-2,142	-8	
Waxahachie, Lake	54	10,779	9,351	87	-12	0	-1,428	-13	
Bardwell Lake	55	46,122	45,162	98	-805	-2	-960	-2	
Proctor Lake	56	55,457	32,317	58	2,304	4	-21,004	-38	
Whitney, Lake	57	553,349	362,298	65	-11,828	-2	-191,051	-35	
Aquilla Lake	58	44,460	41,786	94	-1,578	-4	-3,306	-7	
Navarro Mills Lake	59	49,826	48,523	97	-1,303	-3	-7,294	-15	
*Halbert, Lake	60	6,033	3,521	58	-75	-1	-1,750	-29	
Richland-Chambers Reservoir	61	1,087,839	980,869	90	-10,649	-1	-122,947	-11	
*Brownwood, Lake	62	131,429	72,302	55	-3,884	-3	-31,969	-24	
Waco, Lake	62	198,943	190,039	96	-8,153	-4	-8,904	-4	
Limestone, Lake	64	208,015	167,454	81	-6,922	-3	-40,561	-19	
Belton Lake	65	435,225	388,105	89	-8,472	-2	-26,418	-6	
Stillhouse Hollow Lake	66	227,771	219,760	96	-7,883	-3	-8,011	-4	
Georgetown, Lake	67	36,823	27,465	75	-3,323	-9	-9,358	-25	
Granger Lake	68	50,779	49,903	98	-876	-2	5,763	11	
Tawakoni, Lake	69	888,126	764,038	86	-7,978	-1	-124,088	-14	
TOTAL		10,455,933	8,985,574	86	-93,810	-1	-1,212,173	-12	
EAST									
Wright Patman Lake	70	307,973	246,588	80	123,995	40	-50,220	-16	
*Sulphur Springs, Lake	71	17,838	11,132	62	0	0	-6,104	-34	
Cypress Springs, Lake	72	66,756	63,719	95	629	1	-3,970	-6	
Bob Sandlin, Lake	73	200,579	172,023	86	-3,458	-2	-28,556	-14	
Fork Reservoir, Lake	74	604,927	517,927	86	-3,169	-1	-87,000	-14	
O the Pines, Lake	75	238,933	238,933	100	0	0	0	0	
Cedar Creek Reservoir in Trinity	76	644,686	550,827	85	-9,376	-1	-91,287	-14	
Athens, Lake	77	29,435	27,695	94	-574	-2	-1,740	-6	
Palestine, Lake	78	370,907	334,089	90	-5,099	-1	-34,210	-9	
Tyler, Lake	79	73,256	65,138	89	-1,154	-2	-8,118	-11	
Murvaul, Lake	80	38,284	32,053	84	-161	0	-6,231	-16	
Jacksonville, Lake	81	25,670	24,089	94	-179	-1	-6,211	-24	
Nacogdoches, Lake	82	39,521	27,354	69	-1,394	-4	-11,013	-28	
Houston County Lake	83	17,113	16,846	98	203	1	-267	-2	
Sam Rayburn Reservoir	84	2,857,077	2,010,727	70	-61,472	-2	-818,285	-29	
Toledo Bend Reservoir (Texas)	85	2,236,450	1,584,864	71	-36,640	-2	-528,847	-24	
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	3,169,729	71	-73,280	-2	-1,057,694	-24	
*Livingston, Lake	86	1,741,867	1,741,867	100	1,867	0	0	0	
B A Steinhagen Lake	87	66,966	62,933	94	7,882	12	1,411	2	
Conroe, Lake	88	416,188	377,547	91	-8,731	-2	-36,302	-9	
TOTAL		9,994,426	8,106,351	81	3,169	0	-1,716,950	-17	
TRANS-PECOS									
Red Bluff Reservoir	89	289,670	60,663	21	-11,179	-4	-9,972	-3	
TOTAL		289,670	60,663	21	-11,179	-4	-9,972	-3	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

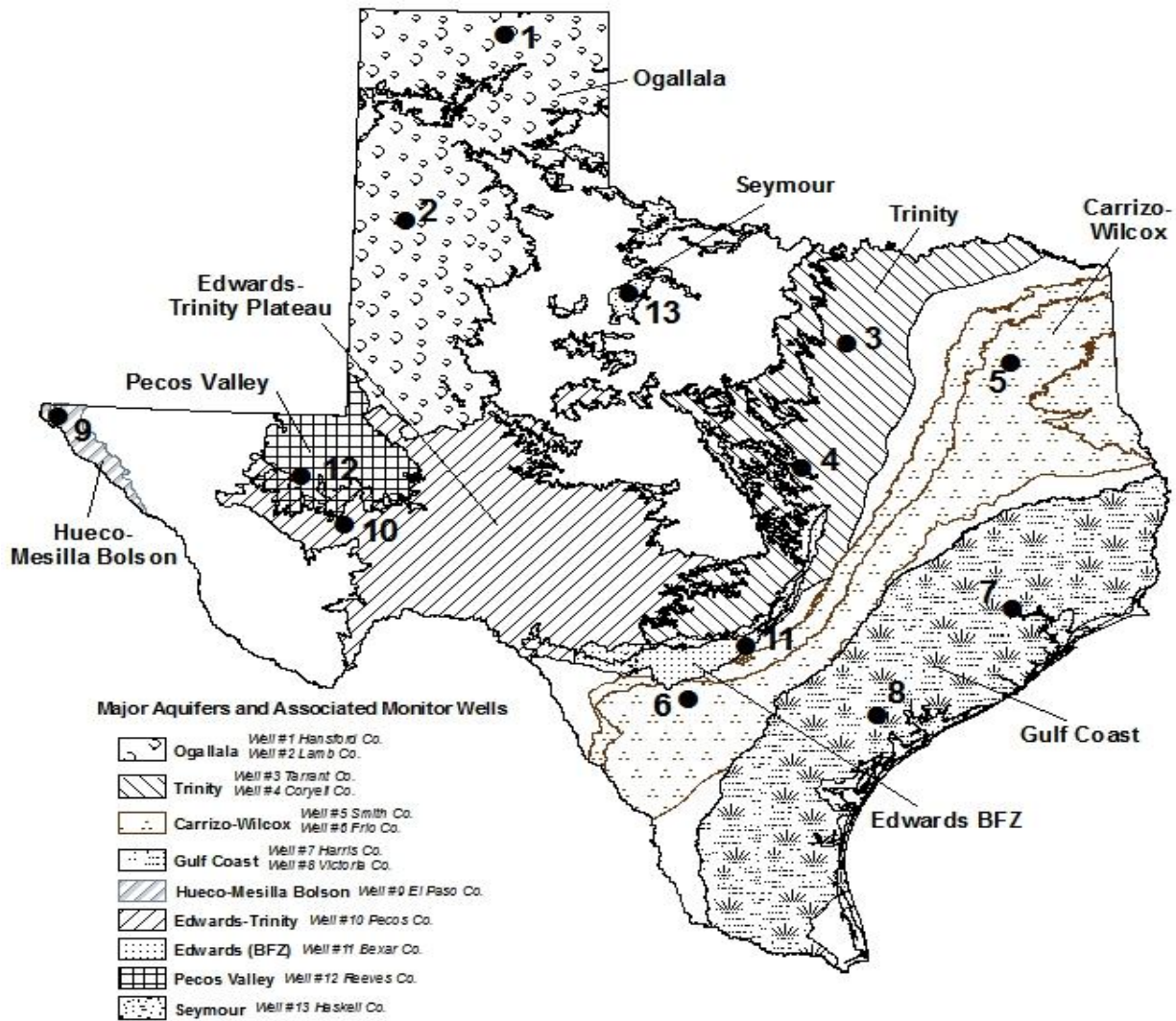
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage		Change since Late March 2011		Change since Late April 2010		
			Late Apr. (acre-feet)	2011 (%)	(acre-feet)	(%)	(acre-feet)	(%)	
EDWARDS PLATEAU									
Oak Creek Reservoir	90	39,260	21,160	54	-917	-2	-4,809	-12	
E V Spence Reservoir	91	517,272	9,128	2	-1,981	0	-15,509	-3	
O C Fisher Lake	92	79,483	0	0	0	0	0	0	
*O H Ivie Reservoir	93	554,335	157,797	28	-9,465	-2	-79,071	-14	
Twin Buttes Reservoir	94	177,850	16,586	9	-2,249	-1	-20,473	-12	
Brady Creek Reservoir	95	29,110	11,548	40	-670	-2	-5,785	-20	
Buchanan, Lake	96	824,519	654,463	79	-5,750	-1	-18,326	-2	
Lyndon B Johnson, Lake	97	113,323	110,650	98	-1,579	-1	-18	0	
*Amistad Reservoir (Texas)	98	1,840,849	1,835,000	100	-6,000	0	69,000	4	
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	3,267,000	100	-8,532	0	98,000	3	
TOTAL		4,176,001	2,816,332	67	-28,611	-1	-74,991	-2	
SOUTH CENTRAL									
Travis, Lake	99	1,113,255	729,840	66	-89,168	-8	-384,062	-34	
*Austin, Lake	100	21,804	20,941	96	-257	-1	332	2	
Somerville Lake	101	147,104	113,718	77	-10,176	-7	-33,386	-23	
Canyon Lake	102	378,781	355,225	94	-5,087	-1	-23,556	-6	
Medina Lake	103	254,823	140,271	55	-11,812	-5	-6,584	-3	
*Coletto Creek Reservoir	104	31,040	28,906	93	-1,407	-5	-2,134	-7	
TOTAL		1,946,807	1,388,901	71	-117,907	-6	-449,390	-23	
UPPER COAST									
Houston, Lake	105	128,863	125,000	97	-3,863	-3	-3,863	-3	
Texana, Lake	106	153,246	104,177	68	-8,467	-6	-39,192	-26	
TOTAL		282,109	229,177	81	-12,330	-4	-43,055	-15	
SOUTHERN									
Choke Canyon Reservoir	107	695,262	528,715	76	-15,132	-2	-73,310	-11	
Corpus Christi, Lake	108	256,961	196,624	77	-15,233	-6	-34,309	-13	
*Falcon Reservoir (Texas)	109	1,551,034	1,410,000	91	-95,000	-6	316,000	20	
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	2,286,000	86	-238,000	-9	331,000	13	
TOTAL		2,503,257	2,135,339	85	-125,365	-5	208,381	8	
STATE TOTAL		31,188,746	24,227,184	78	-426,911	-1	-3,404,103	-11	

* 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.

GROUNDWATER LEVELS IN OBSERVATION WELLS



April, 2011

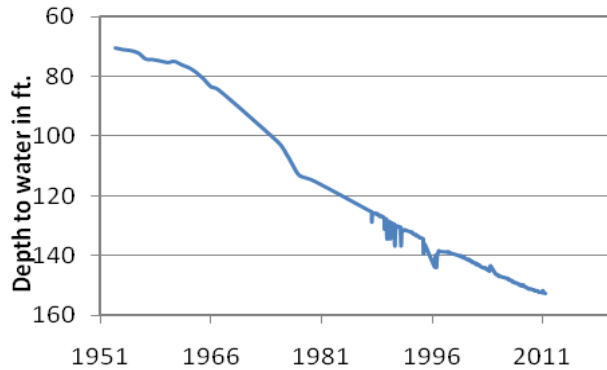
Water level measurements were available for twelve of thirteen key monitoring wells. The Frio County well data is unavailable. Water levels rose in six of the monitoring wells since the beginning of April ranging from 0.18 feet in the Lamb County Ogallala Aquifer well to 1.21 feet in the El Paso County Hueco-Bolson Aquifer well. Water levels declined in the remaining six monitoring wells, ranging from 0.05 feet in the Tarrant County Trinity Aquifer well to 20.25 feet in the Pecos County Edwards-Trinity Aquifer well. The J-17 well in San Antonio recorded a water level of 77.16 feet below land surface. This water level is 6.16 feet below the Stage I critical management level in that segment of the Edwards Aquifer. Stage I restrictions were triggered on April 18, 2011 by the E.A.A.

	(1) Hansford 0354301	(2) Lamb 1053602	(3) Tarrant 3215504	(4) Coryell 4035404	(5) Smith 3430907	(6) Frio 7708803	(7) Harris 6514409	(8) Victoria 8017502	(9) El Paso 4913301	(10) Pecos 5216802	(11) Bexar 6837203	(12) Reeves 4644501	(13) Haskell 2135748
April 2011	152.74	138.57	448.34	482.76	430.36	N/A	195.06	31.19	291.03	214.42	77.16	146.36	45.7
March 2011	152.5	138.75	448.29	479.9	430.56	443.99	195.8	31.93	292.24	194.17	68.3	147.09	44.28
Month Change	-0.24	0.18	-0.05	-2.86	0.2	N/A	0.74	0.74	1.21	-20.25	-8.86	0.73	-1.42
Year Change	-0.89	-0.9	-6.88	-6.72	-0.64	N/A	6.92	1.02	-0.77	-16.32	-26.84	-4.34	-1.95
Historical Change	-82.62	-110.42	-70.34	-190.76	-64.36	-163.99	-59.56	2.81	-59.13	32.46	-30.52	-54.27	-4.37

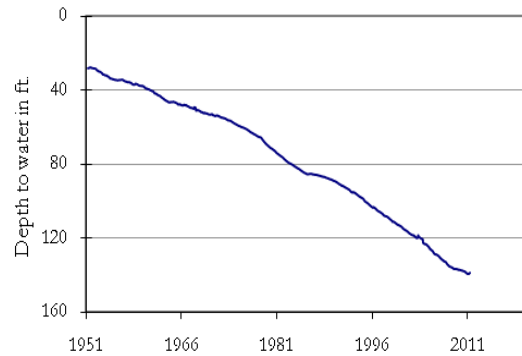
* ID is used in this publication to differentiate between the monitoring well number (1 - 13) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

APRIL GROUNDWATER LEVELS IN OBSERVATION WELLS

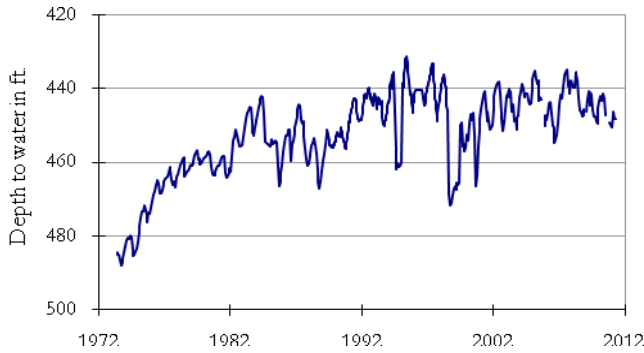
(1) State Well ID 03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



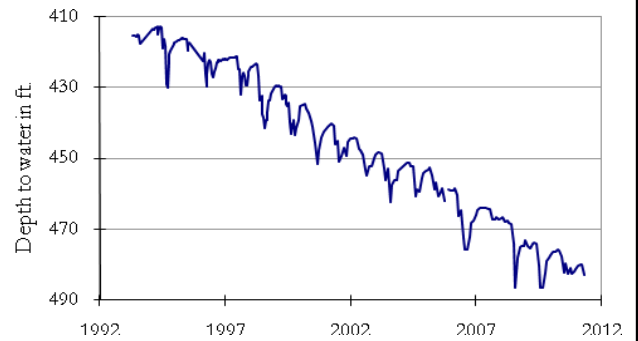
(2) State Well ID 10-53-602
Near Earth, Lamb County
Ogallala Aquifer



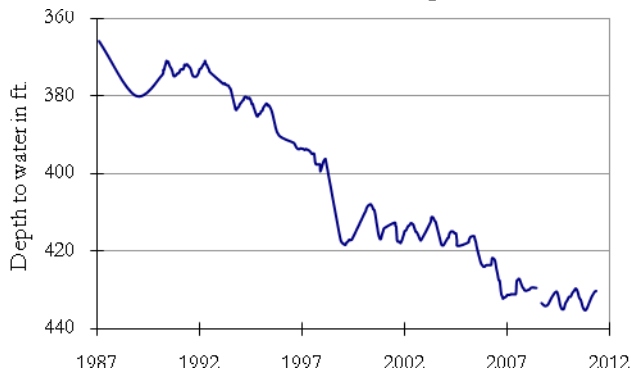
(3) State Well ID 32-15-504
Near Hurst, Tarrant County
Paluxy Formation-Trinity Aquifer



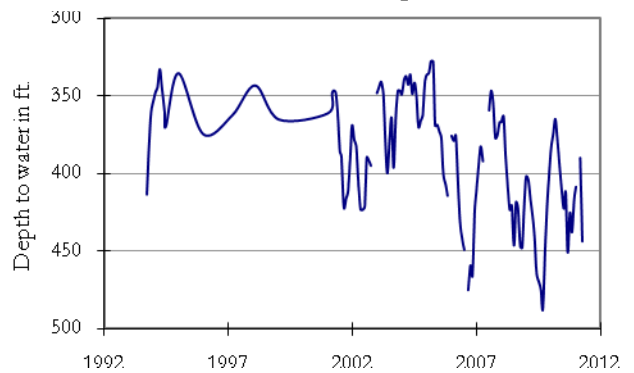
(4) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer



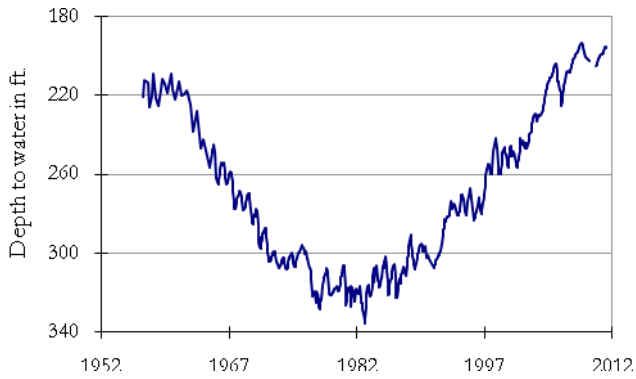
(5) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer



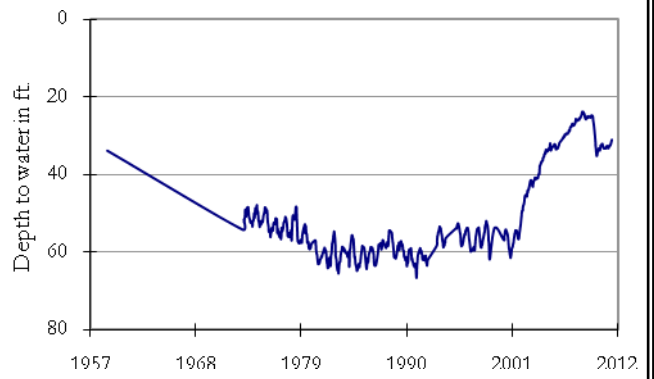
(6) State Well ID 77-08-803
Pearsall, Frio County
Carrizo-Wilcox Aquifer



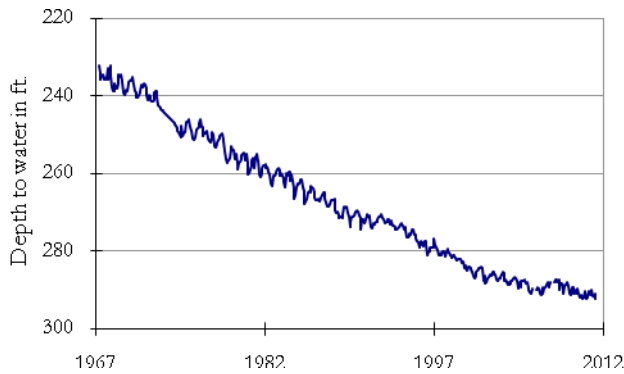
(7) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer



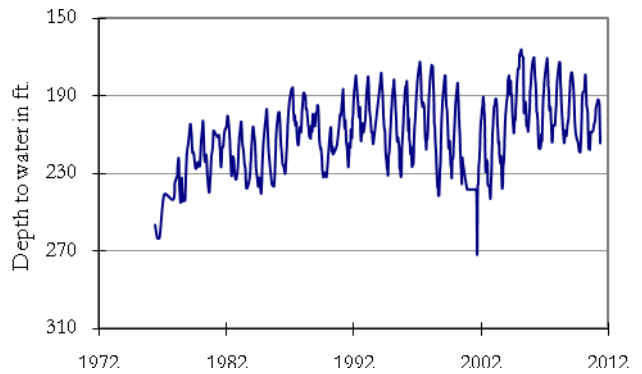
(8) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



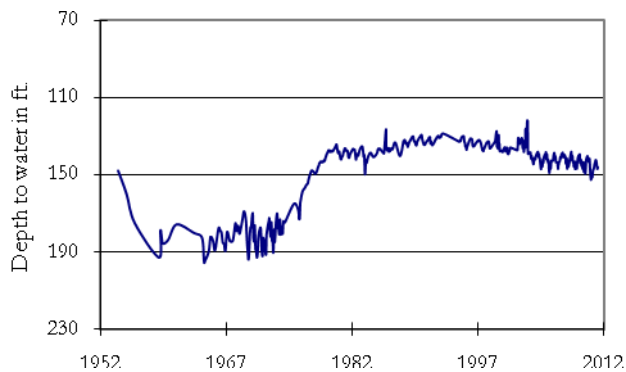
(9) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



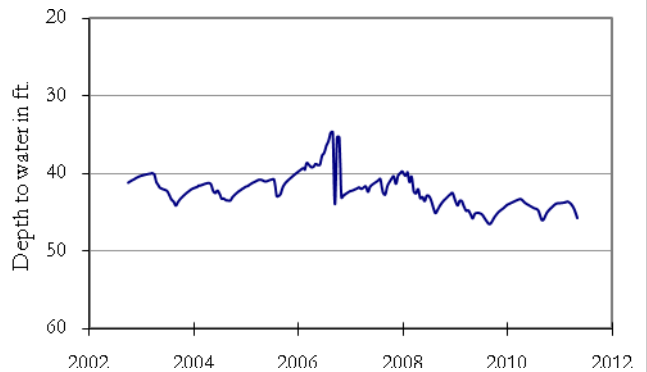
(10) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



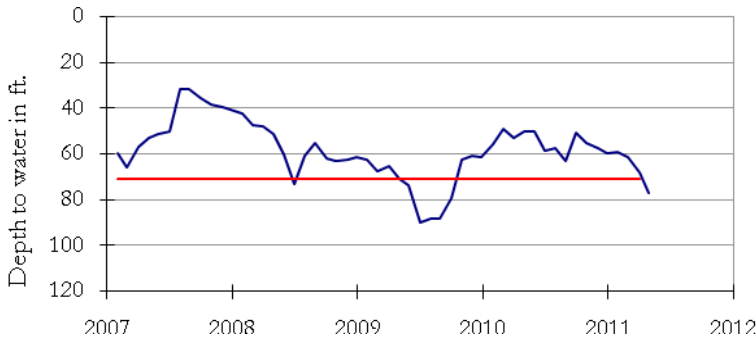
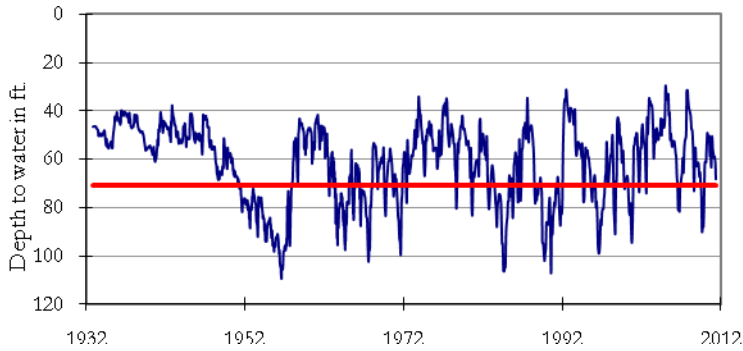
(12) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



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



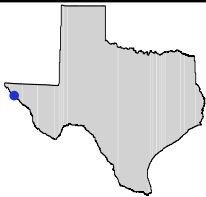
**(11) State Well ID 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (BFZ) Aquifer**



The late April water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 77.16 feet below land surface. This was -8.86 feet below last month's measurement, 26.84 feet below last year's measurement, and 30.52 feet below the initial measurement recorded in 1932.

***** Water levels below the red line indicate Edwards Aquifer Authority Stage 1 drought restrictions. *****

HYDROGRAPH OF THE MONTH

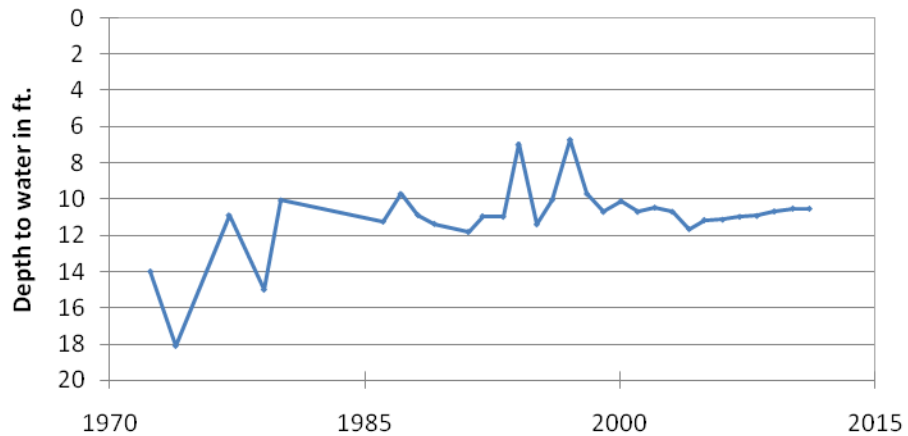


Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

Hueco Bolson Aquifer

The Hueco-Mesilla Bolsons Aquifer, located in Far West Texas, is composed of deposits of silt, sand, gravel, and clay deposited up to 9000ft thick in two basins, or bolsons.. The upper portion of the Hueco Bolson contains fresh to slightly saline water, ranging from less than 1,000 to 3,000 mg/L TDS. Salinity typically increases to the south and in the shallower parts of the aquifer. In both bolsons, water level declines have contributed to higher salinity. The Hueco Bolson is the principal aquifer for the El Paso area and Ciudad Juarez in Mexico—nearly 90 percent of the water pumped from the Mesilla and the Hueco bolsons in Texas is used for public supply.

**State Well ID 48-41-603
Southern Hudspeth Co.**



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