

Texas Water Development Board



WATER Conditions

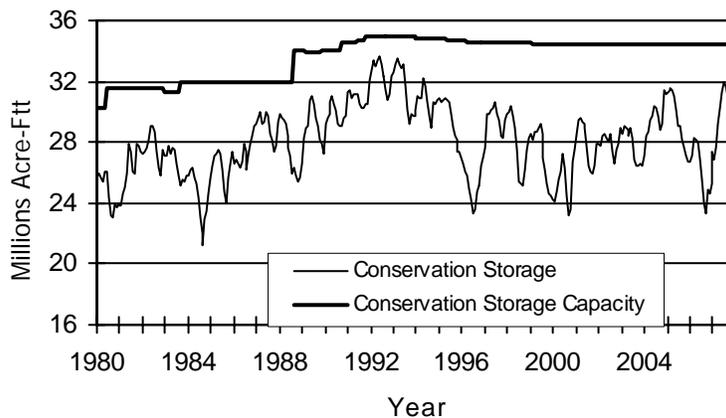
RESERVOIR STORAGE

September 2007

Near the end of September, the 77 reservoirs monitored for this report held near 31 million acre-feet in conservation storage. As a statewide total, the state's major reservoirs are approximately 90% full, which is near the record high for this time of year. Storage went down during the month by 0.76 million acre-feet (-2% of conservation storage capacity). Compared to August last year, reservoir storage increased by 7.6 million acre-feet (22%).

Toward the end of September this year, 28 reservoirs were at 100% of their conservation capacities. Regionally, storage was 100% of capacity in the South Central Region, and above 90% in the Upper Coast (97%), North Central (96%), and East (91%) Regions, but the High Plains and Trans-Pecos Regions are still experiencing storage below 30% of their regional capacities. In the past month, seven out of nine Regions observed decreases in storage and only two had increases. Compared to this time last year, the storage increased in all except the High Plains, Upper Coast, and Trans-Pecos Regions.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



Current data are based on elevation near end of month at 77 reservoirs that represent 98 percent of total conservation storage capacity in Texas reservoirs having a capacity of 5,000 acre-feet or more.

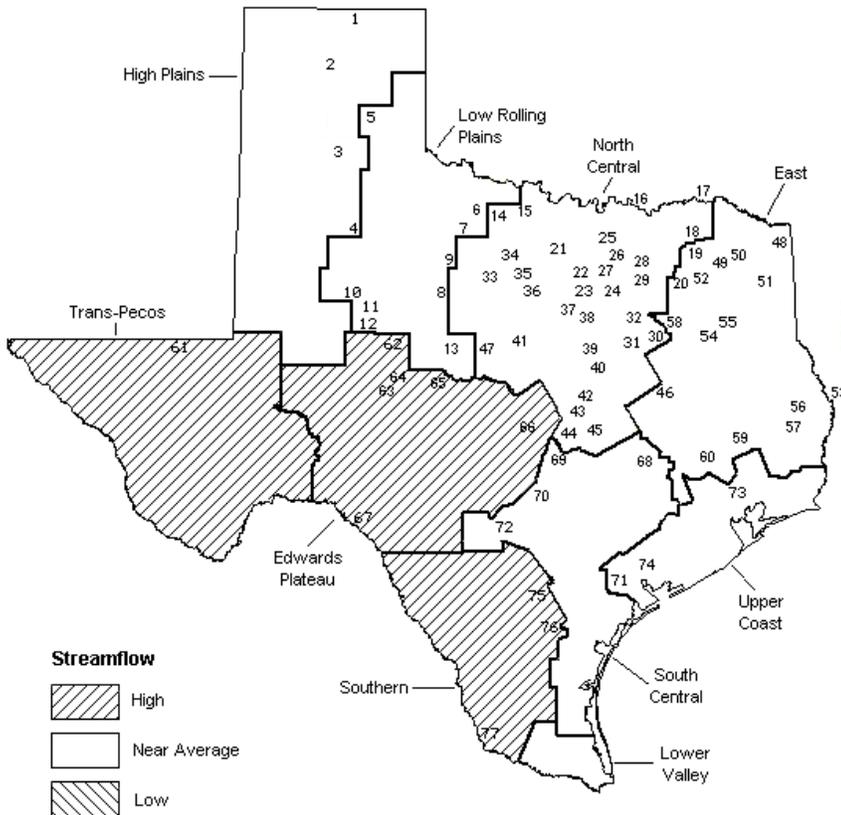
STREAMFLOW

Of 29 reporting index stations in September, computed 30-day mean flows were very high (<5%) at 2 stations, high (5% - 30%) at 10 stations, low (70% - 95%) at 5 stations, and near normal (30% - 70% exceedance) at the remaining 12 stations. Compared to August, flows have increased at 3 index stations and decreased at 26 stations.

On a regional basis, flows in September were high in the Trans-Pecos Region, Edwards Plateau, and Southern Regions, but normal in the everywhere else. Streamflow in the Lower Valley Region is not monitored.

SEPTEMBER STREAMFLOW CONDITIONS

Reservoirs Shown on Map



- | | |
|----------------------------------|-----------------------------|
| 1. Palo Duro Reservoir | 40. Waco Lake |
| 2. Lake Meredith | 41. Proctor Lake |
| 3. MacKenzie Reservoir | 42. Belton Lake |
| 4. White River Lake | 43. Stillhouse Hollow Lake |
| 5. Greenbelt Reservoir | 44. Lake Georgetown |
| 6. Lake Kemp | 45. Granger Lake |
| 7. Miller's Creek Reservoir | 46. Lake Limestone |
| 8. Fort Phantom Hill Reservoir | 47. Lake Brownwood |
| 9. Lake Stamford | 48. Wright Patman Lake |
| 10. Lake J. B. Thomas | 49. Lake Cypress Springs |
| 11. Lake Colorado City | 50. Lake Bob Sandlin |
| 12. Champion Creek Reservoir | 51. Lake O' the Pines |
| 13. Hords Creek Lake | 52. Lake Fork Reservoir |
| 14. Lake Kickapoo | 53. Toledo Bend Reservoir |
| 15. Lake Arrowhead | 54. Lake Palestine |
| 16. Lake Texoma | 55. Lake Tyler |
| 17. Pat Mayse Lake | 56. Sam Rayburn Reservoir |
| 18. Cooper Lake | 57. B. A. Steinhagen Lake |
| 19. Lake Sulphur Springs | 58. Cedar Creek Reservoir |
| 20. Lake Tawakoni | 59. Lake Livingston |
| 21. Bridgeport Reservoir | 60. Lake Conroe |
| 22. Eagle Mountain Reservoir | 61. Red Bluff Reservoir |
| 23. Benbrook Lake | 62. E. V. Spence Reservoir |
| 24. Joe Pool Lake | 63. Twin Buttes Reservoir |
| 25. Ray Roberts Lake | 64. O. C. Fisher Lake |
| 26. Lewisville Lake | 65. O. H. Ivie Reservoir |
| 27. Grapeville Lake | 66. Lake Buchanan |
| 28. Lavon Lake | 67. Intl. Amistad Reservoir |
| 29. Lake Ray Hubbard | 68. Somerville Lake |
| 30. Richland-Chambers Creek Lake | 69. Lake Travis |
| 31. Navarro Mills Lake | 70. Canyon Lake |
| 32. Bardwell Lake | 71. Coletto Creek Reservoir |
| 33. Hubbard Creek Reservoir | 72. Medina Lake |
| 34. Lake Graham | 73. Lake Houston |
| 35. Possum Kingdom Lake | 74. Lake Texana |
| 36. Lake Palo Pinto | 75. Choke Canyon Reservoir |
| 37. Lake Granbury | 76. Lake Corpus Christi |
| 38. Lake Pat Cleburne | 77. Intl. Falcon Reservoir |
| 39. Whitney Lake | |

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

| Name of Lake or Reservoir | No. on Map | Conservation | Conservation | | Change since | | Change since | | |
|---------------------------------------|------------------|------------------------------------|--|-----------|--|---|------------------|-----------|--|
| | | Storage Capacity (acre-feet) | Storage Late Sep. 2007 (acre-feet) (%) | | Late August 2007 (acre-feet) (%) | Late September 2006 (acre-feet) (%) | | | |
| HIGH PLAINS | | | | | | | | | |
| Palo Duro Reservoir | 1 | 60,900 | 1,620 | 3 | -190 | 0 | 710 | 1 | |
| Lake Meredith (Texas) | 2 | 500,000 | 99,500 | 20 | -3,200 | -1 | -12,340 | -2 | |
| Lake Meredith (Texas and Oklahoma) | (2) | 779,560 | 99,500 | 13 | -3,200 | 0 | -12,340 | -2 | |
| MacKenzie Reservoir | 3 | 46,250 | 8,680 | 19 | -90 | 0 | -40 | 0 | |
| White River Lake | 4 | 31,850 | 4,230 | 13 | -220 | -1 | 480 | 2 | |
| TOTAL | | 639,000 | 114,030 | 18 | -3,700 | -1 | -11,190 | -2 | |
| LOW ROLLING PLAINS | | | | | | | | | |
| Greenbelt Reservoir | 5 | 58,200 | 23,860 | 41 | -100 | 0 | 5,270 | 9 | |
| Lake Kemp | 6 | 319,600 | 290,440 | 91 | -10,920 | -3 | 121,690 | 38 | |
| Miller's Creek Reservoir | 7 | 27,890 | 26,970 | 97 | -760 | -3 | 7,600 | 27 | |
| Fort Phantom Hill Reservoir | 8 | 70,030 | 70,030 | 100 | 0 | 0 | 26,780 | 38 | |
| Lake Stamford | 9 | 52,700 | 52,700 | 100 | 0 | 0 | 16,740 | 32 | |
| Lake J. B. Thomas | 10 | 202,300 | 32,780 | 16 | -2,280 | -1 | -3,040 | -2 | |
| Lake Colorado City | 11 | 30,800 | 29,080 | 94 | -740 | -2 | 4,640 | 15 | |
| Champion Creek Reservoir | 12 | 41,600 | 10,630 | 26 | -160 | 0 | 5,290 | 13 | |
| Hords Creek Lake | 13 | 8,600 | 7,830 | 91 | -70 | -1 | 2,890 | 34 | |
| TOTAL | | 811,720 | 544,320 | 67 | -15,030 | -2 | 187,860 | 23 | |
| NORTH CENTRAL | | | | | | | | | |
| Lake Kickapoo | 14 | 106,000 | 88,440 | 83 | -700 | -1 | 21,570 | 20 | |
| Lake Arrowhead | 15 | 262,100 | 241,680 | 92 | -5,240 | -2 | 65,380 | 25 | |
| Lake Texoma | 16 | 2,722,300 | 2,606,330 | 96 | -115,970 | -4 | 384,160 | 14 | |
| Pat Mayse Lake | 17 | 124,500 | 117,340 | 94 | -1,550 | -1 | 37,740 | 30 | |
| Cooper Lake | 18 | 273,000 | 273,000 | 100 | 0 | 0 | 179,240 | 66 | |
| Lake Sulphur Springs | 19 | 17,710 | 17,440 | 98 | -20 | 0 | 3,720 | 21 | |
| Lake Tawakoni | 20 | 936,200 | 853,800 | 91 | -6,700 | -1 | 315,800 | 34 | |
| Bridgeport Reservoir | 21 | 374,830 | 356,300 | 95 | -5,600 | -1 | 160,300 | 43 | |
| Eagle Mountain Reservoir | 22 | 178,380 | 172,100 | 96 | -3,400 | -2 | 45,100 | 25 | |
| Benbrook Lake | 23 | 88,200 | 80,660 | 91 | 30 | 0 | 32,610 | 37 | |
| Joe Pool Lake | 24 | 175,800 | 175,800 | 100 | 0 | 0 | 16,080 | 9 | |
| Ray Roberts Lake | 25 | 798,760 | 798,760 | 100 | 0 | 0 | 193,430 | 24 | |
| Lewisville Lake | 26 | 555,000 | 555,000 | 100 | 0 | 0 | 165,870 | 30 | |
| Grapevine Lake | 27 | 187,700 | 187,700 | 100 | 0 | 0 | 78,160 | 42 | |
| Lavon Lake | 28 | 443,800 | 419,250 | 94 | -24,550 | -6 | 241,470 | 54 | |
| Lake Ray Hubbard | 29 | 413,420 | 406,600 | 98 | -600 | 0 | 86,500 | 21 | |
| Richland-Chambers Creek Lake | 30 | 1,103,820 | 1,103,820 | 100 | 0 | 0 | 336,820 | 31 | |
| Navarro Mills Lake | 31 | 55,810 | 55,810 | 100 | 0 | 0 | 30,550 | 55 | |
| Bardwell Lake | 32 | 53,580 | 47,160 | 88 | 0 | 0 | 10,030 | 19 | |
| Hubbard Creek Reservoir | 33 | 317,800 | 306,390 | 96 | -6,190 | -2 | 145,890 | 46 | |
| Lake Graham | 34 | 45,000 | 42,740 | 95 | -30 | 0 | 6,360 | 14 | |
| Poosum Kingdom Lake | 35 | 551,820 | 531,160 | 96 | -4,740 | -1 | 80,980 | 15 | |
| Lake Palo Pinto | 36 | 27,650 | 25,760 | 93 | -70 | 0 | 11,990 | 43 | |
| Lake Granbury | 37 | 135,680 | 133,470 | 98 | 1,100 | 1 | 14,670 | 11 | |
| Lake Pat Cleburne | 38 | 25,300 | 25,300 | 100 | 150 | 1 | 6,260 | 25 | |
| Whitney Lake | 39 | 622,800 | 571,560 | 92 | -51,240 | -8 | 116,720 | 19 | |
| Waco Lake | 40 | 144,500 | 144,500 | 100 | 0 | 0 | 16,260 | 11 | |
| Proctor Lake | 41 | 55,590 | 55,590 | 100 | 0 | 0 | 27,690 | 50 | |
| Belton Lake | 42 | 434,500 | 434,500 | 100 | 0 | 0 | 71,070 | 16 | |
| Stillhouse Hollow Lake | 43 | 226,060 | 226,060 | 100 | 0 | 0 | 14,800 | 7 | |
| Lake Georgetown | 44 | 37,010 | 37,010 | 100 | 0 | 0 | 19,880 | 54 | |
| Granger Lake | 45 | 54,280 | 54,280 | 100 | 0 | 0 | 9,490 | 17 | |
| Lake Limestone | 46 | 215,750 | 203,620 | 94 | -5,040 | -2 | 20,740 | 10 | |
| Lake Brownwood | 47 | 143,400 | 130,010 | 91 | -1,560 | -1 | 31,570 | 22 | |
| TOTAL | | 11,908,050 | 11,478,940 | 96 | -231,920 | -2 | 2,998,900 | 25 | |

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

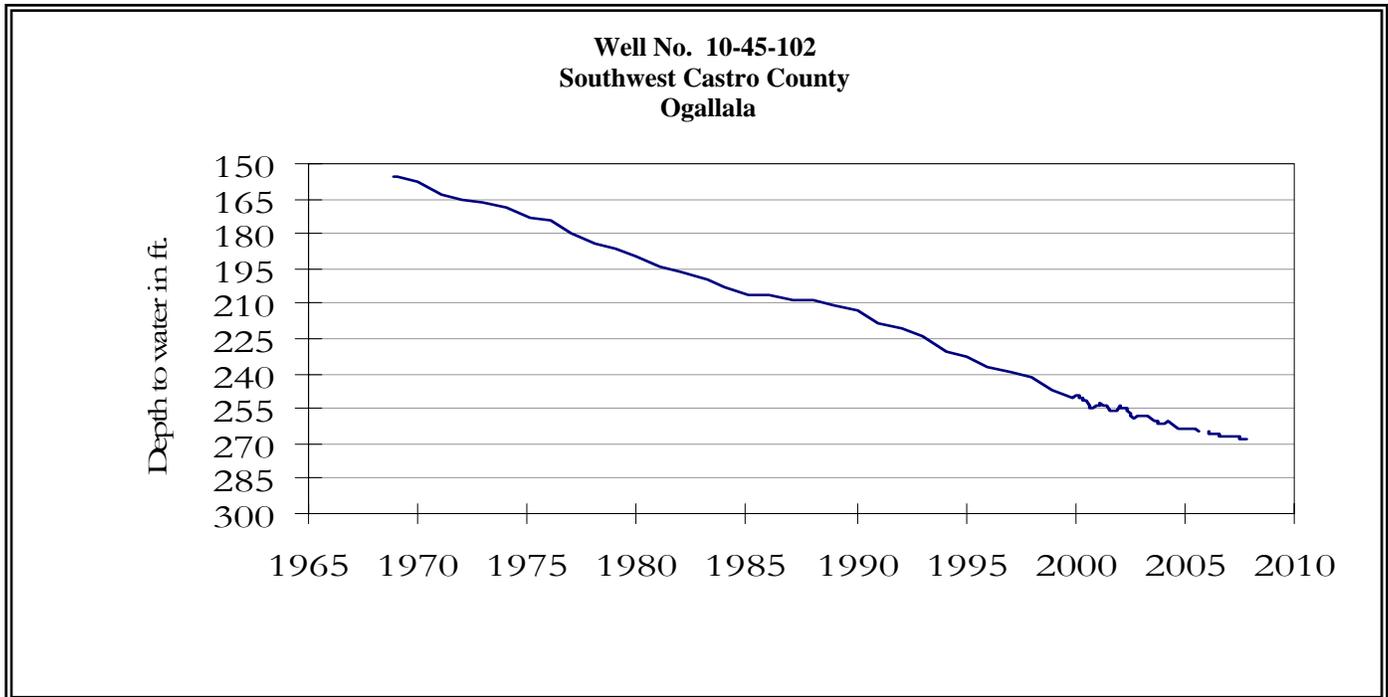
| Name of Lake or Reservoir | No. on Map | Conservation Storage Capacity (acre-feet) | Conservation Storage Late Sep. 2007 (acre-feet) (%) | Change since Late August 2007 (acre-feet) (%) | Change since Late September 2006 (acre-feet) (%) |
|---|------------------|--|--|--|---|
| EAST | | | | | |
| Wright Patman Lake | 48 | 142,700 | 142,700 100 | 0 0 | 0 0 |
| Lake Cypress Springs | 49 | 66,800 | 66,800 100 | 0 0 | 13,840 21 |
| Lake Bob Sandlin | 50 | 202,300 | 202,300 100 | 0 0 | 75,500 37 |
| Lake O' the Pines | 51 | 252,000 | 252,000 100 | 0 0 | 85,090 34 |
| Lake Fork Reservoir | 52 | 635,200 | 635,200 100 | 0 0 | 84,500 13 |
| Toledo Bend Reservoir | 53 | 4,472,900 | 3,788,000 85 | -459,000 -10 | 926,000 21 |
| Lake Palestine | 54 | 411,300 | 399,250 97 | -7,280 -2 | 96,790 24 |
| Lake Tyler | 55 | 73,700 | 73,700 100 | 0 0 | 26,700 36 |
| Sam Rayburn Reservoir | 56 | 2,876,300 | 2,509,940 87 | -237,290 -8 | 129,920 5 |
| B. A. Steinhagen Lake | 57 | 94,200 | 60,580 64 | 5,650 6 | 60,310 64 |
| Cedar Creek Reservoir | 58 | 637,050 | 625,700 98 | 900 0 | 165,000 26 |
| Lake Livingston | 59 | 1,750,000 | 1,750,000 100 | 0 0 | 296,000 17 |
| Lake Conroe | 60 | 429,900 | 403,200 94 | -7,200 -2 | 66,400 15 |
| TOTAL | | 12,044,350 | 10,909,370 91 | -704,220 -6 | 2,026,050 17 |
| TRANS-PECOS | | | | | |
| Red Bluff Reservoir | 61 | 307,000 | 86,250 28 | 3,300 1 | -4,080 -1 |
| TOTAL | | 307,000 | 86,250 28 | 3,300 1 | -4,080 -1 |
| EDWARDS PLATEAU | | | | | |
| E. V. Spence Reservoir | 62 | 488,760 | 82,870 17 | -2,520 -1 | 7,460 2 |
| Twin Buttes Reservoir | 63 | 177,800 | 71,540 40 | 2,490 1 | 36,120 20 |
| O.C. Fisher Lake | 64 | 119,200 | 11,630 10 | -580 0 | 2,940 2 |
| O. H. Ivie Reservoir | 65 | 554,340 | 381,500 69 | -1,500 0 | 180,500 33 |
| Lake Buchanan | 66 | 896,980 | 832,540 93 | -11,750 -1 | 297,840 33 |
| Amistad Reservoir (Texas) | 67 | 1,771,030 | 2,014,000 114 | -15,000 -1 | 145,000 8 |
| Amistad Reservoir (Texas and Mexico) | (67) | 3,151,300 | 2,753,000 87 | 34,000 1 | 292,000 9 |
| TOTAL | | 4,008,110 | 3,394,080 85 | -28,860 -1 | 669,860 17 |
| SOUTH CENTRAL | | | | | |
| Somerville Lake | 68 | 155,060 | 152,470 98 | -2,590 -2 | 27,010 17 |
| Lake Travis | 69 | 1,144,100 | 1,144,100 100 | 0 0 | 510,280 45 |
| Canyon Lake | 70 | 385,600 | 382,240 99 | -3,360 -1 | 54,240 14 |
| Coleta Creek Reservoir | 71 | 35,060 | 31,490 90 | -770 -2 | 5,140 15 |
| Medina Lake | 72 | 254,000 | 254,000 100 | 0 0 | 146,800 58 |
| TOTAL | | 1,973,820 | 1,964,300 100 | -6,720 0 | 743,470 38 |
| UPPER COAST | | | | | |
| Lake Houston | 73 | 128,860 | 128,860 100 | 0 0 | 0 0 |
| Lake Texana | 74 | 157,900 | 148,370 94 | -5,460 -3 | -8,190 -5 |
| TOTAL | | 286,760 | 277,230 97 | -5,460 -2 | -8,190 -3 |
| SOUTHERN | | | | | |
| Choke Canyon Reservoir | 75 | 695,260 | 694,000 100 | -1,260 0 | 154,000 22 |
| Lake Corpus Christi | 76 | 241,240 | 241,240 100 | 0 0 | 132,640 55 |
| Falcon Reservoir (Texas) | 77 | 1,555,120 | 1,267,000 81 | 232,000 15 | 706,000 45 |
| Falcon Reservoir (Texas and Mexico) | (77) | 2,653,290 | 1,766,000 67 | 319,000 12 | 820,000 31 |
| TOTAL | | 2,491,620 | 2,202,240 88 | 230,740 9 | 992,640 40 |
| STATE TOTAL | | 34,470,430 | 30,970,760 90 | -761,870 -2 | 7,595,320 22 |

Note:

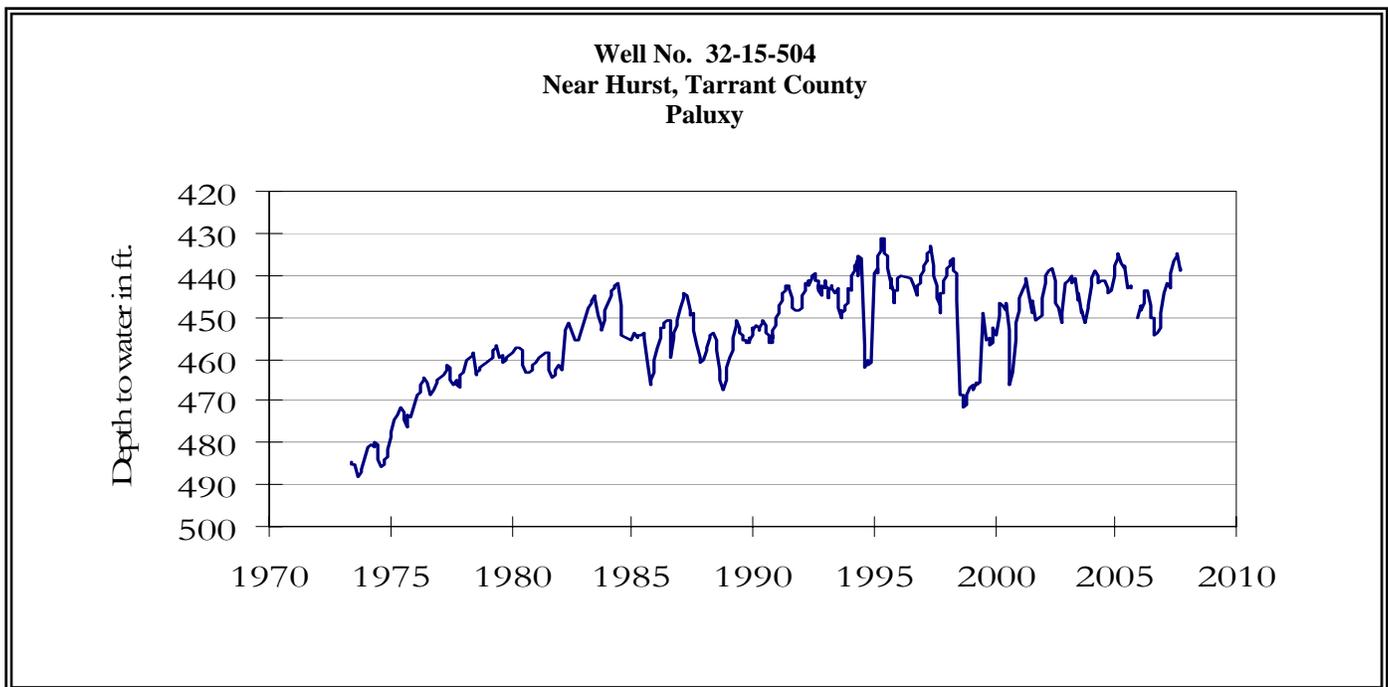
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of conservation pool or normal maximum operating level), or any water in so called dead storage (in the bottom of the reservoir, below the invert of lowest outlet works and consequently not removable by gravity flow alone.) Percentage of conservation storage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir for date shown. Percent change is given by $\% \text{ Change} = 100 * (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$.

Current data are based on elevations near end of month at 77 reservoirs that together represent 98 percent of the total conservation storage capacity of major Texas reservoirs (those with capacity of 5,000 acre-feet or more each). Preliminary figures are shown for the Texas' share of conservation storage in all reservoirs.

SEPTEMBER GROUND WATER LEVELS IN OBSERVATION WELLS

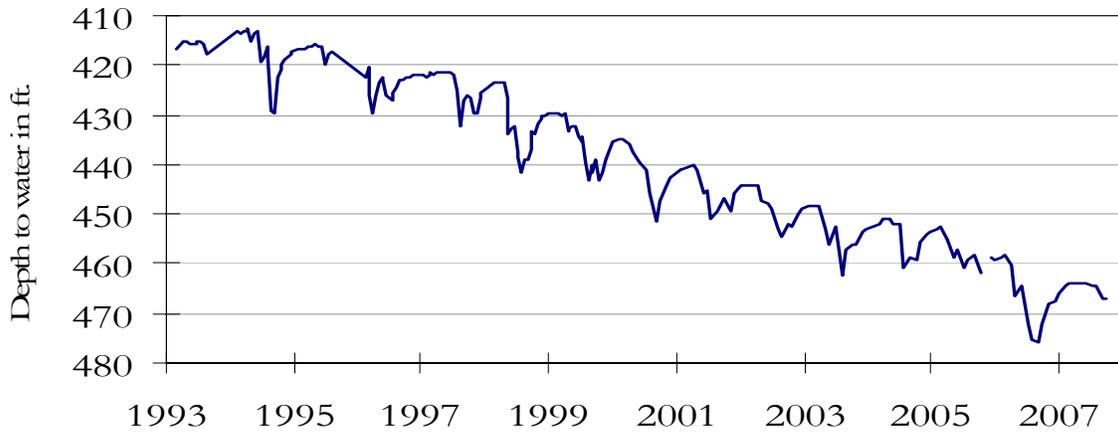


The late September water-level measurement in this Ogallala Aquifer well, elevation 3,816 feet above sea level, was 268.00 feet below land surface. This measurement was 0.16 feet below last month's measurement, 1.14 feet below last year's measurement, and 112.00 feet below the initial measurement recorded in 1968. No water level measurements were recorded for September through December 2005.



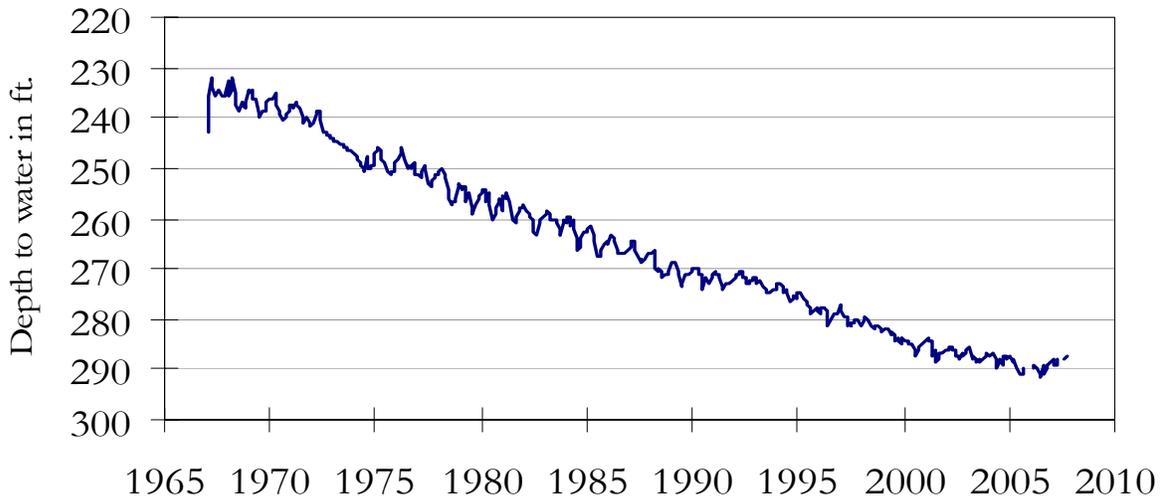
The late September water-level measurement in this Paluxy Formation Trinity Aquifer well, elevation 535 feet above sea level, was 438.14 feet below land surface. This measurement was 1.11 feet above last month's measurement, 15.60 feet above last year's measurement, and 60.14 feet below the initial measurement recorded in 1953. No water level measurements were recorded for September or October 2005.

**Well No. 40-35-404
Gatesville, Coryell County
Hosston/Trinity**



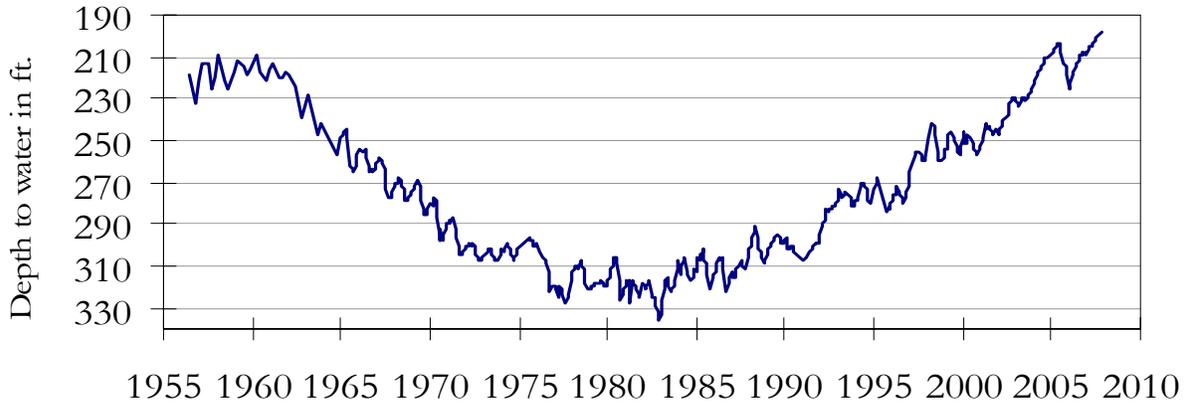
The late September water-level measurement in this Hosston Formation Trinity Aquifer well, elevation 823 feet above sea level, was 467.26 feet below land surface. This water level was 0.09 feet below last month's measurement, 4.90 feet above last year's measurement, and 175.26 feet below the initial measurement recorded in 1955. No water level measurement was recorded for October 2005.

**Well No. 49-13-301
El Paso, El Paso County
Bolson Deposits**



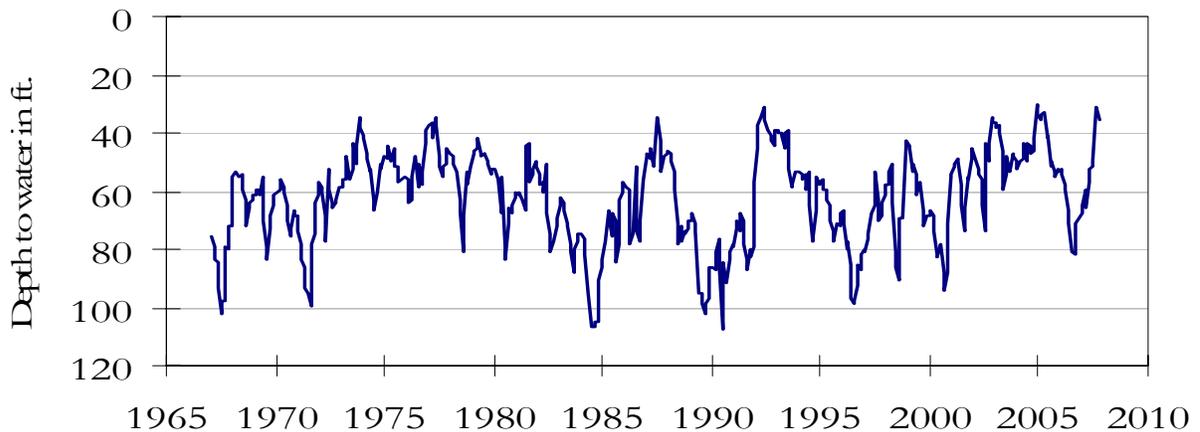
The late September water-level measurement in this Hueco Bolson Aquifer well, elevation 3,882 feet above sea level, was 287.47 feet below land surface. This water level was 0.59 feet above last month's measurement, 2.30 feet above last year's measurement, and 55.57 feet below the initial measurement in 1964. No water level measurements were recorded for May through July 2007, and October or December 2005.

**Well No. 65-14-409
Alief, Harris County
Evangeline**



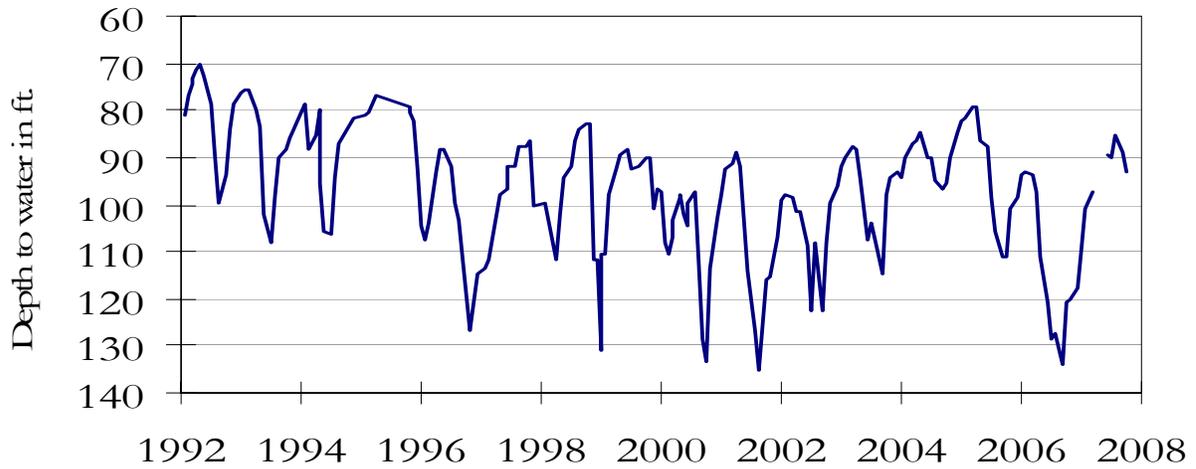
The late September water-level measurement in this Evangeline Formation Gulf Coast Aquifer well, elevation 66 feet above sea level, was 198.65 feet below land surface. This was 0.57 feet above last month's measurement, 9.38 feet above last year's measurement, and 63.15 feet below the initial measurement recorded in 1947.

**Well No. 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards and Associated Limestones**



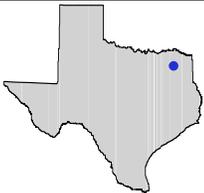
The late September water-level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 35.40 feet below land surface. This was 3.90 feet below last month's measurement, 35.92 feet above last year's measurement, and 11.24 feet above the initial measurement recorded in 1962.

**Well No. 68-60-912
Between Poteet and Pleasanton, Atascosa County
Carrizo**



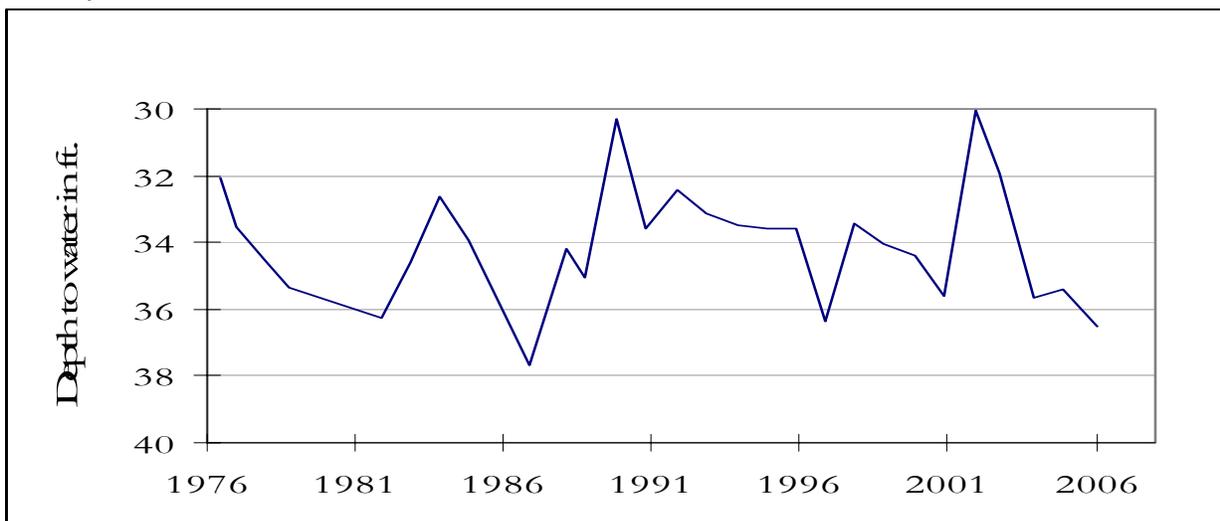
The late September water-level measurement in this Carrizo Aquifer well, elevation 446 feet above sea level, was 93.06 feet below land surface. This measurement was 4.29 feet below last month's measurement, 27.56 feet above last year's measurement, and 57.70 feet below the initial measurement recorded in 1965. No water level measurements were recorded for March and April 2007.

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.

**Well No 16-55-702
Cass County**



This water level observation well, located 3 miles west of Atlanta, at an elevation of 385 feet ASL, was completed in the Queen City Aquifer. Water levels have remained fairly stable over time in the northern part of the aquifer. (note scale of graph).

September, 2007

Water level measurements were available for all seven key monitoring wells. Water levels declined in four of the monitoring wells since the beginning of September, ranging from 0.09 feet in the Coryell Co. Trinity well to 4.29 feet in the Atascosa Co. Carrizo well. Water levels rose in the remaining monitoring wells, ranging from 0.57 feet in the Harris Co. Evangeline well to 1.11 feet in the Tarrant Co. Trinity well. The J-17 well recorded a water level of 35.40 feet below land surface. This water level is 44.60 feet above the Stage 1 critical management level.

TEXAS WATER DEVELOPMENT BOARD

1700 N. CONGRESS AVE.

P.O. BOX 13231

AUSTIN TX 78711-3231