Texas Water Development Board

WATER Conditions

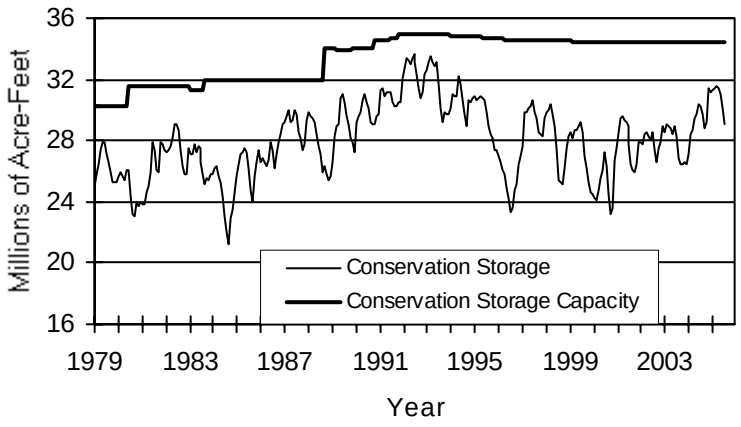
# RESERVOIR STORAGE

***July 2005***

Near the end of July, the 77 reservoirs monitored for this report held 29.12 million acre-feet in conservation storage, or 84 percent of the conservation storage capacity of the state's major reservoirs. Storage decreased during the month by 1.05 million acre-feet (3% of conservation storage capacity). Compared to last year, storage decreased by 1.12 million acre-feet (3.27%).

Storage was near capacity in the Upper Coast Region (99%), South Central Region (92%), and Edwards Plateau Region (90%), but slightly lower than one-third of capacity in the High Plains Region (30%) and Trans-Pecos Region (31%). Storage was at 100% in 6 reservoirs, and the Texas share of Amistad continued to remain above its capacity, at 133%. Compared to this time last year, the storage increased in four regions, with the greatest increase in the Edwards Plateau Region (+21%) and decreased in five regions, with the steepest decline in the East Region (-10%).

## 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.

PO BOX 13231 • 1700 N. Congress Avenue • Austin, TX 78711-3231
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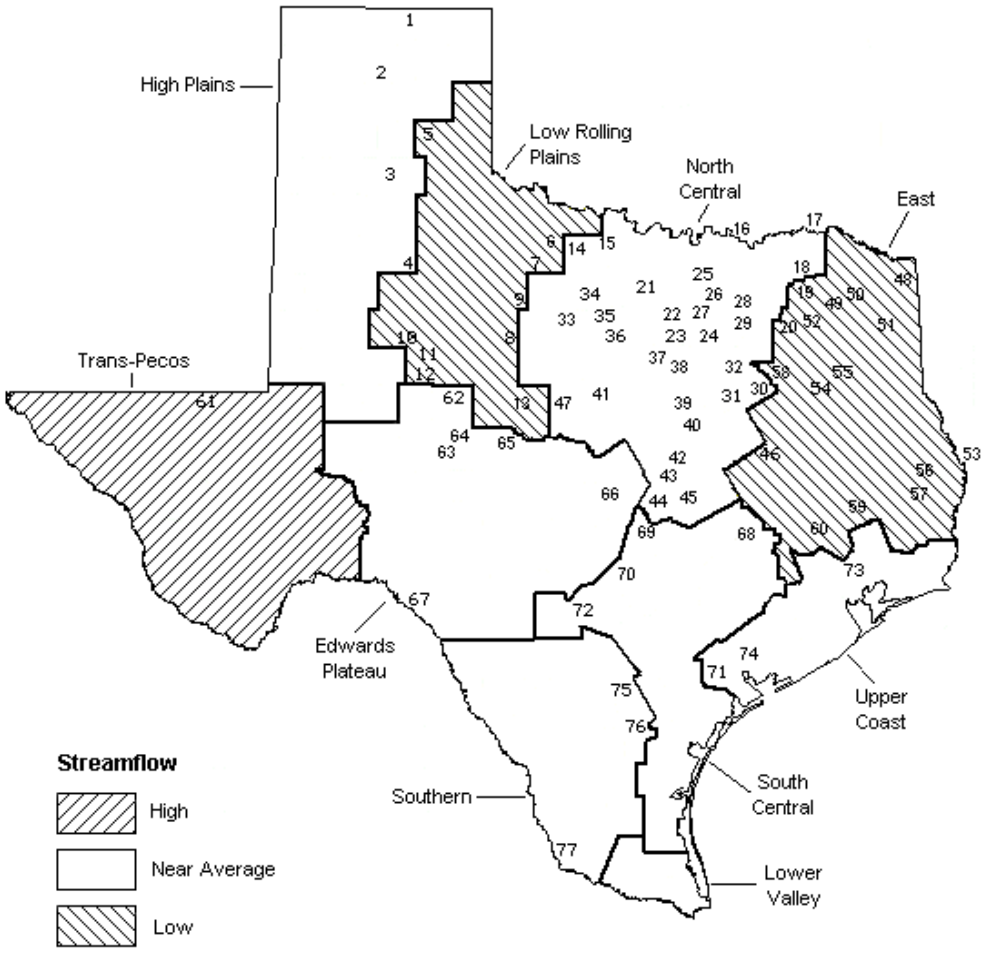
# *STREAMFLOW*

Of 29 reporting index stations in July, computed 30-day mean flows were high (5% - 30%) at 3 stations, low (70% - 95%) at 11 station, and near normal (30% - 70% exceedance) at the remaining 15 stations. Compared to June, flows have increased at 8 index stations and decreased at 21 stations.

On a regional basis, flows in July were high in the Trans-Pecos Region, low in Low Rolling and East Texas Regions, and normal everywhere else. Streamflow in the Lower Valley Region is not monitored.

## *JULY STREAMFLOW CONDITIONS*




Reservoirs Shown on Map

Duro Reservoir
Meredith
Kenzie Reservoir
e River Lake
nbelt Reservoir
Kemp
r's Creek Reservoir
Phantom Hill Reservoir
Stamford
e J. B. Thomas
e Colorado City
mpion Creek Reservoir
ds Creek Lake
e Kickapoo
e Arrowhead
e Texoma
Mayse Lake
per Lake
e Sulphur Springs
e Tawakoni
lgeport Reservoir
le Mountain Reservoir
brook Lake
Pool Lake
Roberts Lake
isville Lake
pevine Lake
on Lake
e Ray Hubbard
nland-Chambers Creek Lake
arro Mills Lake
dwell Lake
bard Creek Reservoir
e Graham
sum Kingdom Lake
e Palo Pinto
e Granbury
e Pat Cleburne
itney Lake
40. Waco Lake
41. Proctor Lake
42. Belton Lake
43. Stillhouse Hollow Lake
44. Lake Georgetown
45. Granger Lake
46. Lake Limestone
47. Lake Brownwood
48. Wright Patman Lake
49. Lake Cypress Springs
50. Lake Bob Sandlin
51. Lake O' the Pines
52. Lake Fork Reservoir
53. Toledo Bend Reservoir
54. Lake Palestine
55. Lake Tyler
56. Sam Rayburn Reservoir
57. B. A. Steinhagen Lake
58. Cedar Creek Reservoir
59. Lake Livingston
60. Lake Conroe
61. Red Bluff Reservoir
62. E. V. Spence Reservoir
63. Twin Buttes Reservoir
64. O. C. Fisher Lake
65. O. H. Ivie Reservoir
66. Lake Buchanan
67. Intl. Amistad Reservoir
68. Somerville Lake
69. Lake Travis
70. Canyon Lake
71. Coleto Creek Reservoir
72. Medina Lake
73. Lake Houston
74. Lake Texana
75. Choke Canyon Reservoir
76. Lake Corpus Christi
77. Intl. Falcon Reservoir

# CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

| Name of Lake or Reservoir | No. on Map | Conservation Storage Capacity (acre-feet) | Conservation Storage Late Jul. 2005 (acre-feet) | (%) | Change since Late June 2005 (acre-feet) | (%) | Change since Late July 2004 (acre-feet) | (%) |
|---|---|---|---|---|---|---|---|---|
| **HIGH PLAINS** | | | | | | | | |
| Palo Duro Reservoir | 1 | 60,900 | 2,970 | 5 | -360 | -1 | -3,240 | -5 |
| Lake Meredith (Texas) | 2 | 500,000 | 172,030 | 34 | -10,130 | -2 | 28,370 | 6 |
| Lake Meredith (Texas and Oklahoma) | (2) | 779,560 | 172,030 | 22 | -10,130 | -1 | 28,370 | 4 |
| MacKenzie Reservoir | 3 | 46,250 | 10,430 | 23 | -220 | 0 | 2,890 | 6 |
| White River Lake | 4 | 31,850 | 7,900 | 25 | -620 | -2 | 950 | 3 |
| TOTAL | | 639,000 | 193,330 | 30 | -11,330 | -2 | 28,970 | 5 |
| **LOW ROLLING PLAINS** | | | | | | | | |
| Greenbelt Reservoir | 5 | 58,200 | 24,670 | 42 | -1,260 | -2 | 1,060 | 2 |
| Lake Kemp | 6 | 319,600 | 208,000 | 65 | -14,600 | -5 | 35,720 | 11 |
| Miller's Creek Reservoir | 7 | 27,890 | 19,980 | 72 | -520 | -2 | 5,670 | 20 |
| Fort Phantom Hill Reservoir | 8 | 70,030 | 53,970 | 77 | -4,080 | -6 | 22,800 | 33 |
| Lake Stamford | 9 | 52,700 | 33,260 | 63 | -1,820 | -3 | 1,200 | 2 |
| Lake J. B. Thomas | 10 | 202,300 | 49,640 | 25 | -3,460 | -2 | 28,380 | 14 |
| Lake Colorado City | 11 | 30,800 | 27,750 | 90 | -860 | -3 | 6,020 | 20 |
| Champion Creek Reservoir | 12 | 41,600 | 4,710 | 11 | -120 | 0 | 1,470 | 4 |
| Hords Creek Lake | 13 | 8,600 | 7,420 | 86 | -330 | -4 | 4,640 | 54 |
| TOTAL | | 811,720 | 429,400 | 53 | -27,050 | -3 | 106,960 | 13 |
| **NORTH CENTRAL** | | | | | | | | |
| Lake Kickapoo | 14 | 106,000 | 60,420 | 57 | -2,760 | -3 | -5,890 | -6 |
| Lake Arrowhead | 15 | 262,100 | 174,050 | 66 | -8,550 | -3 | 47,250 | 18 |
| Lake Texoma | 16 | 2,722,300 | 2,257,940 | 83 | -29,200 | -1 | -451,830 | -17 |
| Pat Mayse Lake | 17 | 124,500 | 109,890 | 88 | -3,660 | -3 | -7,220 | -6 |
| Cooper Lake | 18 | 273,000 | 221,540 | 81 | -20,310 | -7 | 23,120 | 8 |
| Lake Sulphur Springs | 19 | 17,710 | 15,570 | 88 | -360 | -2 | -1,080 | -6 |
| Lake Tawakoni | 20 | 936,200 | 763,700 | 82 | -38,800 | -4 | -108,500 | -12 |
| Bridgeport Reservoir | 21 | 374,830 | 310,000 | 83 | -21,800 | -6 | -29,000 | -8 |
| Eagle Mountain Reservoir | 22 | 178,380 | 157,900 | 89 | -2,600 | -1 | -16,000 | -9 |
| Benbrook Lake | 23 | 88,200 | 73,170 | 83 | -6,480 | -7 | -8,620 | -10 |
| Joe Pool Lake | 24 | 175,800 | 170,040 | 97 | -2,580 | -1 | -5,760 | -3 |
| Ray Roberts Lake | 25 | 798,760 | 764,660 | 96 | -15,390 | -2 | -34,100 | -4 |
| Lewisville Lake | 26 | 555,000 | 555,000 | 100 | 0 | 0 | 0 | 0 |
| Grapevine Lake | 27 | 187,700 | 161,690 | 86 | -7,270 | -4 | -26,010 | -14 |
| Lavon Lake | 28 | 443,800 | 388,140 | 87 | -32,330 | -7 | -53,050 | -12 |
| Lake Ray Hubbard | 29 | 413,420 | 387,900 | 94 | -11,000 | -3 | -19,300 | -5 |
| Richland-Chambers Creek Lake | 30 | 1,103,820 | 1,077,000 | 98 | -23,000 | -2 | -26,820 | -2 |
| Navarro Mills Lake | 31 | 55,810 | 49,840 | 89 | -3,500 | -6 | -5,970 | -11 |
| Bardwell Lake | 32 | 53,580 | 44,800 | 84 | -310 | -1 | -2,180 | -4 |
| Hubbard Creek Reservoir | 33 | 317,800 | 183,240 | 58 | -2,750 | -1 | 56,020 | 18 |
| Lake Graham | 34 | 45,000 | 37,450 | 83 | -1,170 | -3 | 11,590 | 26 |
| Possum Kingdom Lake | 35 | 551,820 | 463,400 | 84 | -11,200 | -2 | 3,400 | 1 |
| Lake Palo Pinto | 36 | 27,650 | 21,420 | 77 | -1,970 | -7 | 580 | 2 |
| Lake Granbury | 37 | 135,680 | 125,400 | 92 | -6,900 | -5 | -8,300 | -6 |
| Lake Pat Cleburne | 38 | 25,300 | 22,750 | 90 | -1,350 | -5 | -2,550 | -10 |
| Whitney Lake | 39 | 622,800 | 544,530 | 87 | -21,960 | -4 | -75,360 | -12 |
| Waco Lake | 40 | 144,500 | 144,500 | 100 | 0 | 0 | 0 | 0 |
| Proctor Lake | 41 | 55,590 | 46,690 | 84 | -5,170 | -9 | -7,210 | -13 |
| Belton Lake | 42 | 434,500 | 425,630 | 98 | -8,090 | -2 | -8,870 | -2 |
| Stillhouse Hollow Lake | 43 | 226,060 | 226,060 | 100 | 0 | 0 | 0 | 0 |
| Lake Georgetown | 44 | 37,010 | 32,390 | 88 | -2,720 | -7 | -3,970 | -11 |
| Granger Lake | 45 | 54,280 | 54,280 | 100 | 0 | 0 | 0 | 0 |
| Lake Limestone | 46 | 215,750 | 193,950 | 90 | -9,670 | -4 | -17,450 | -8 |
| Lake Brownwood | 47 | 143,400 | 122,790 | 86 | -6,060 | -4 | -4,710 | -3 |
| TOTAL | | 11,908,050 | 10,387,730 | 87 | -308,910 | -3 | -787,790 | -7 |

# CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

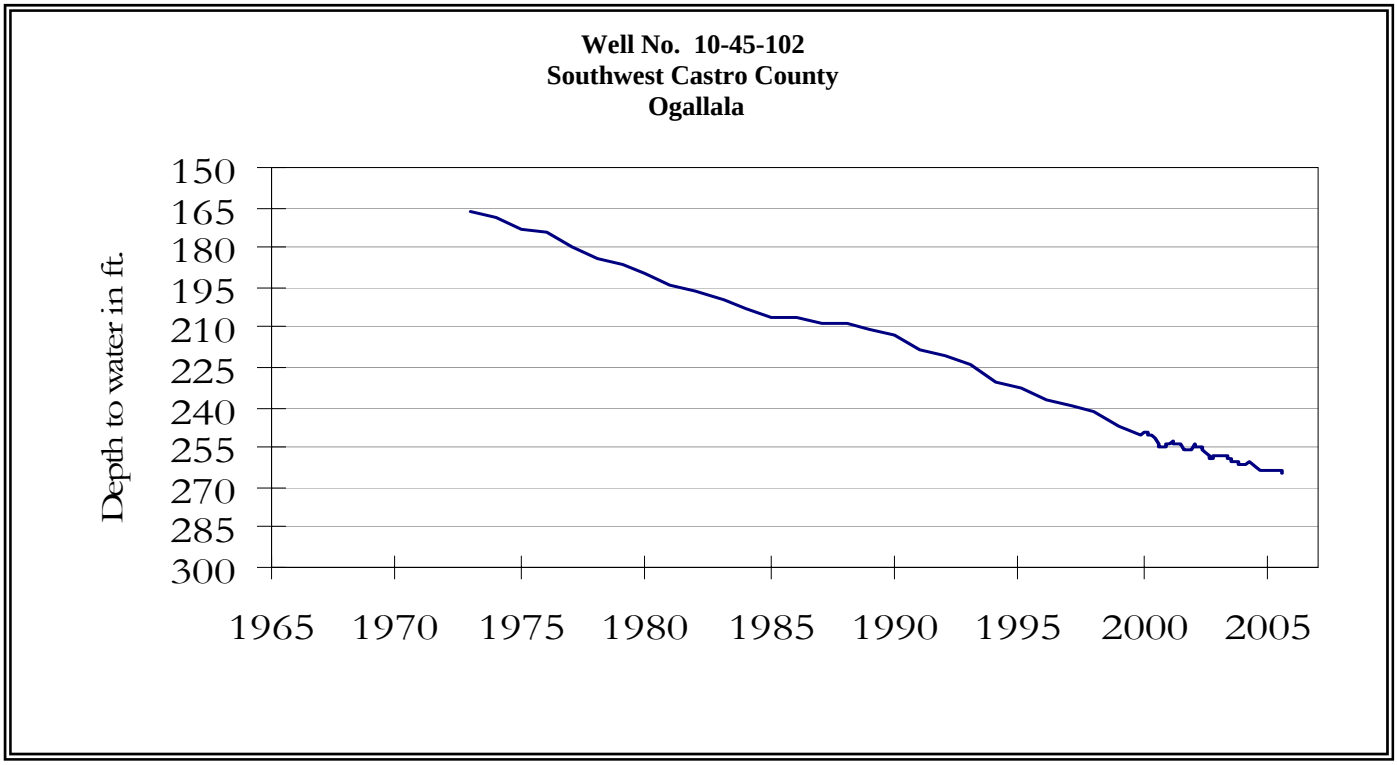
| Name of Lake or Reservoir | No. on Map | Conservation Storage Capacity (acre-feet) | Conservation Storage Late Jul. 2005 (acre-feet) | (%) | Change since Late June 2005 (acre-feet) | (%) | Change since Late July 2004 (acre-feet) | (%) |
|---|---|---|---|---|---|---|---|---|
| **EAST** | | | | | | | | |
| Wright Patman Lake | 48 | 142,700 | 142,700 | 100 | 0 | 0 | 0 | 0 |
| Lake Cypress Springs | 49 | 66,800 | 63,500 | 95 | -1,150 | -2 | -3,300 | -5 |
| Lake Bob Sandlin | 50 | 202,300 | 181,600 | 90 | -6,500 | -3 | -20,200 | -10 |
| Lake O' the Pines | 51 | 252,000 | 211,370 | 84 | -9,800 | -4 | -40,630 | -16 |
| Lake Fork Reservoir | 52 | 635,200 | 631,300 | 99 | -3,900 | -1 | -3,900 | -1 |
| Toledo Bend Reservoir | 53 | 4,472,900 | 3,578,000 | 80 | -248,000 | -6 | -780,000 | -17 |
| Lake Palestine | 54 | 411,300 | 390,720 | 95 | -9,530 | -2 | -14,550 | -4 |
| Lake Tyler | 55 | 73,700 | 70,660 | 96 | -2,620 | -4 | -3,040 | -4 |
| Sam Rayburn Reservoir | 56 | 2,876,300 | 2,658,530 | 92 | -95,420 | -3 | -215,880 | -8 |
| B. A. Steinhagen Lake | 57 | 94,200 | 69,570 | 74 | -20,270 | -22 | 410 | 0 |
| Cedar Creek Reservoir | 58 | 637,050 | 598,600 | 94 | -15,600 | -2 | -24,300 | -4 |
| Lake Livingston | 59 | 1,750,000 | 1,717,000 | 98 | 2,000 | 0 | -27,000 | -2 |
| Lake Conroe | 60 | 429,900 | 394,300 | 92 | -5,000 | -1 | -16,300 | -4 |
| TOTAL | | 12,044,350 | 10,707,850 | 89 | -415,790 | -3 | -1,148,690 | -10 |
| **TRANS-PECOS** | | | | | | | | |
| Red Bluff Reservoir | 61 | 307,000 | 95,710 | 31 | -18,080 | -6 | 27,410 | 9 |
| TOTAL | | 307,000 | 95,710 | 31 | -18,080 | -6 | 27,410 | 9 |
| **EDWARDS PLATEAU** | | | | | | | | |
| E. V. Spence Reservoir | 62 | 488,760 | 66,590 | 14 | -3,870 | -1 | 24,700 | 5 |
| Twin Buttes Reservoir | 63 | 177,800 | 39,720 | 22 | -2,100 | -1 | 34,830 | 20 |
| O.C. Fisher Lake | 64 | 119,200 | 5,770 | 5 | -570 | 0 | 3,880 | 3 |
| O. H. Ivie Reservoir | 65 | 554,340 | 301,700 | 54 | -13,700 | -2 | 127,920 | 23 |
| Lake Buchanan | 66 | 896,980 | 829,240 | 92 | -32,520 | -4 | -23,790 | -3 |
| Amistad Reservoir (Texas) | 67 | 1,771,030 | 2,354,000 | 133 | -83,000 | -5 | 680,000 | 38 |
| Amistad Reservoir (Texas and Mexico) | (67) | 3,151,300 | 2,755,000 | 87 | -82,000 | -3 | 867,000 | 28 |
| TOTAL | | 4,008,110 | 3,597,020 | 90 | -135,760 | -3 | 847,540 | 21 |
| **SOUTH CENTRAL** | | | | | | | | |
| Somerville Lake | 68 | 155,060 | 145,620 | 94 | -4,960 | -3 | -9,440 | -6 |
| Lake Travis | 69 | 1,144,100 | 1,013,400 | 89 | -70,200 | -6 | -130,700 | -11 |
| Canyon Lake | 70 | 385,600 | 379,590 | 98 | -4,390 | -1 | -6,010 | -2 |
| Coleto Creek Reservoir | 71 | 35,060 | 30,940 | 88 | -310 | -1 | -830 | -2 |
| Medina Lake | 72 | 254,000 | 239,100 | 94 | -11,000 | -4 | -14,900 | -6 |
| TOTAL | | 1,973,820 | 1,808,650 | 92 | -90,860 | -5 | -161,880 | -8 |
| **UPPER COAST** | | | | | | | | |
| Lake Houston | 73 | 128,860 | 128,860 | 100 | 0 | 0 | 0 | 0 |
| Lake Texana | 74 | 157,900 | 154,530 | 98 | 7,530 | 5 | -2,740 | -2 |
| TOTAL | | 286,760 | 283,390 | 99 | 7,530 | 3 | -2,740 | -1 |
| **SOUTHERN** | | | | | | | | |
| Choke Canyon Reservoir | 75 | 695,260 | 673,000 | 97 | -6,000 | -1 | -19,000 | -3 |
| Lake Corpus Christi | 76 | 241,240 | 202,700 | 84 | -2,300 | -1 | -38,540 | -16 |
| Falcon Reservoir (Texas) | 77 | 1,555,120 | 739,000 | 48 | -39,000 | -3 | 25,000 | 2 |
| Falcon Reservoir (Texas and Mexico) | (77) | 2,653,290 | 1,186,000 | 45 | -31,000 | -1 | -487,000 | -18 |
| TOTAL | | 2,491,620 | 1,614,700 | 65 | -47,300 | -2 | -32,540 | -1 |
| **STATE TOTAL** | | 34,470,430 | 29,117,780 | 84 | -1,047,550 | -3 | -1,122,760 | -3 |

Note:

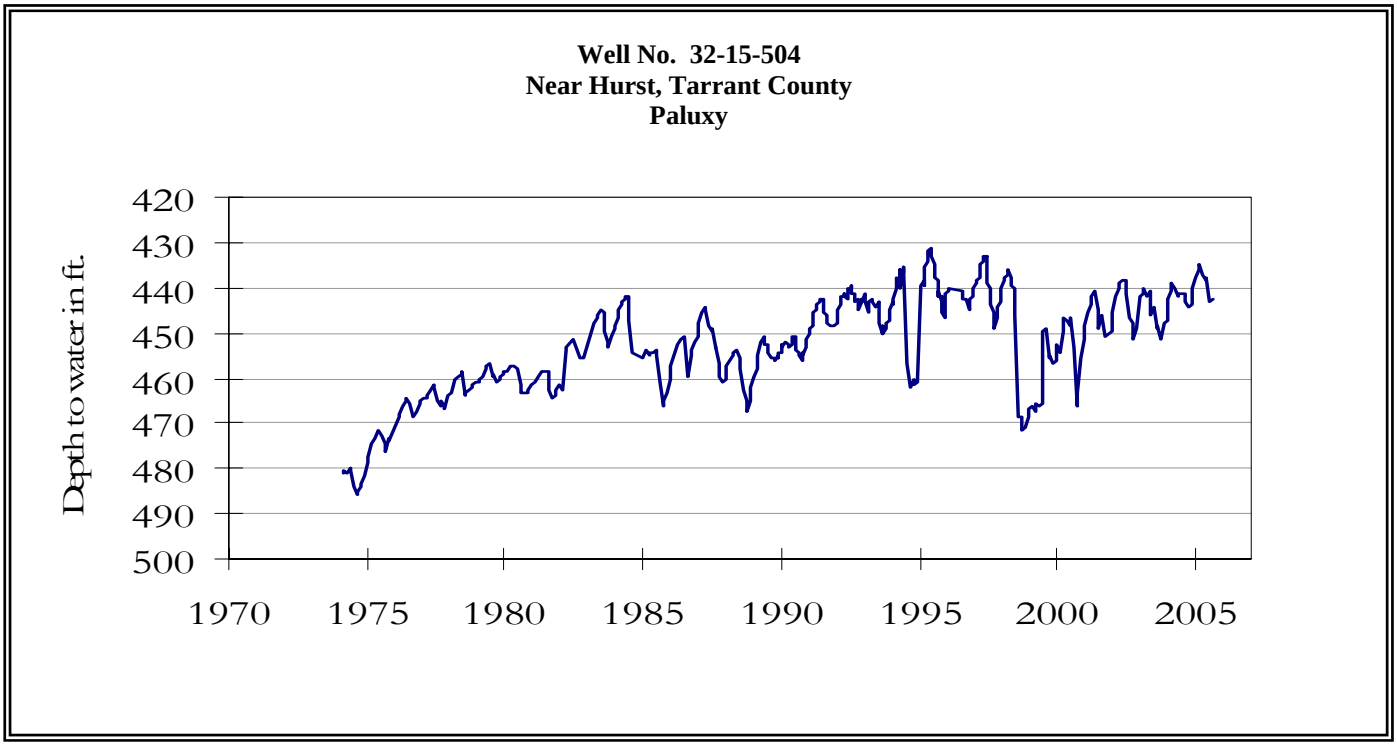
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included 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 % Change = 100 * (current conservation storage - past conservation storage)/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.

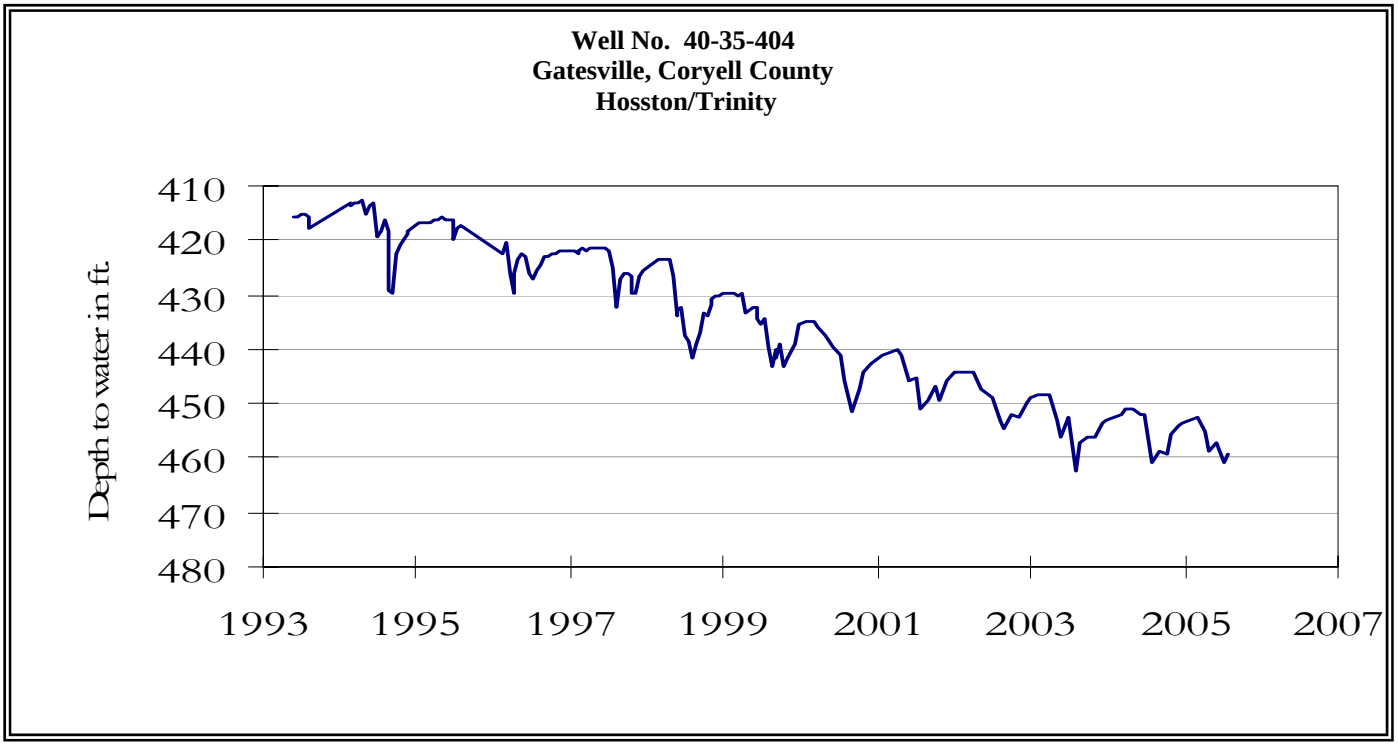
## JULY GROUND WATER LEVELS IN OBSERVATION WELLS



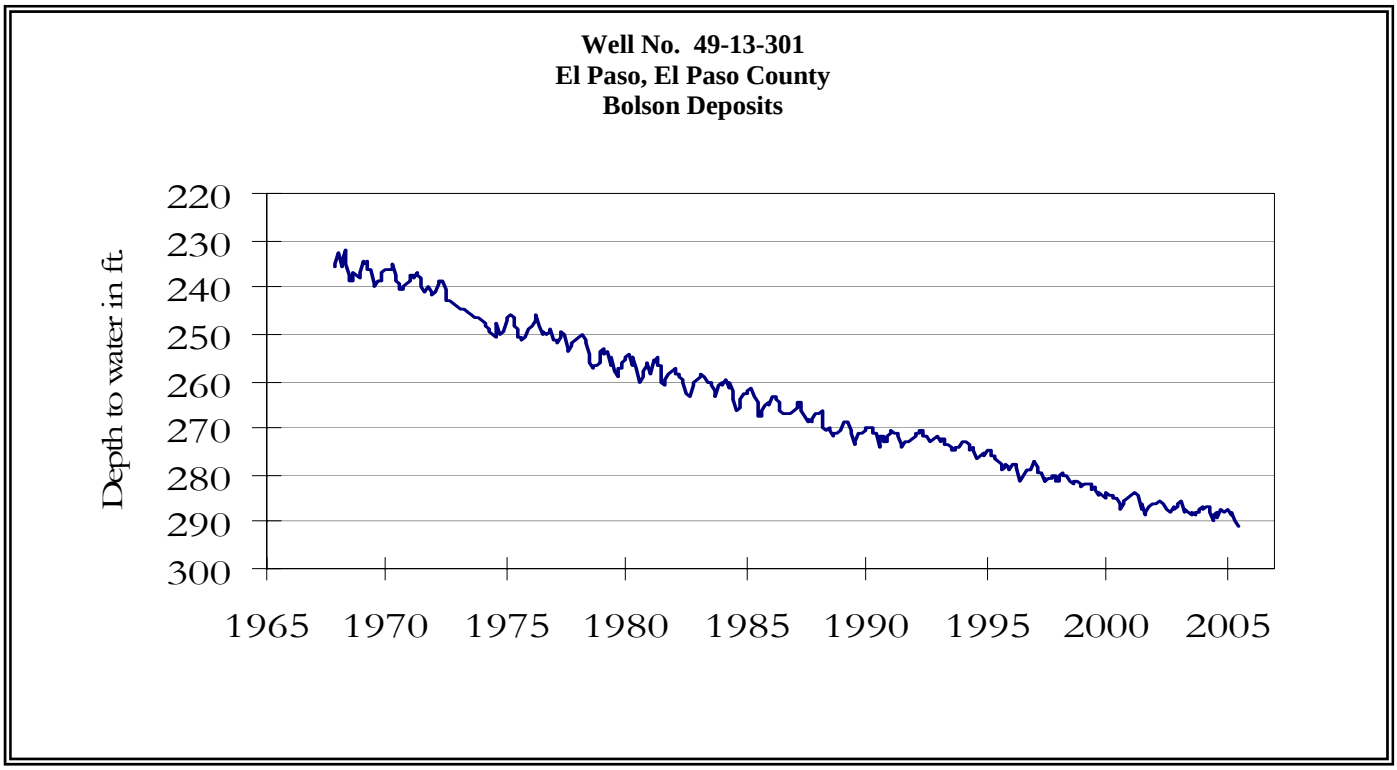

The late July water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 264.40 feet below land surface. This measurement was 0.54 feet below last month's measurement, 1.40 feet below last year's measurement, and 108.40 feet below the initial measurement recorded in 1968.



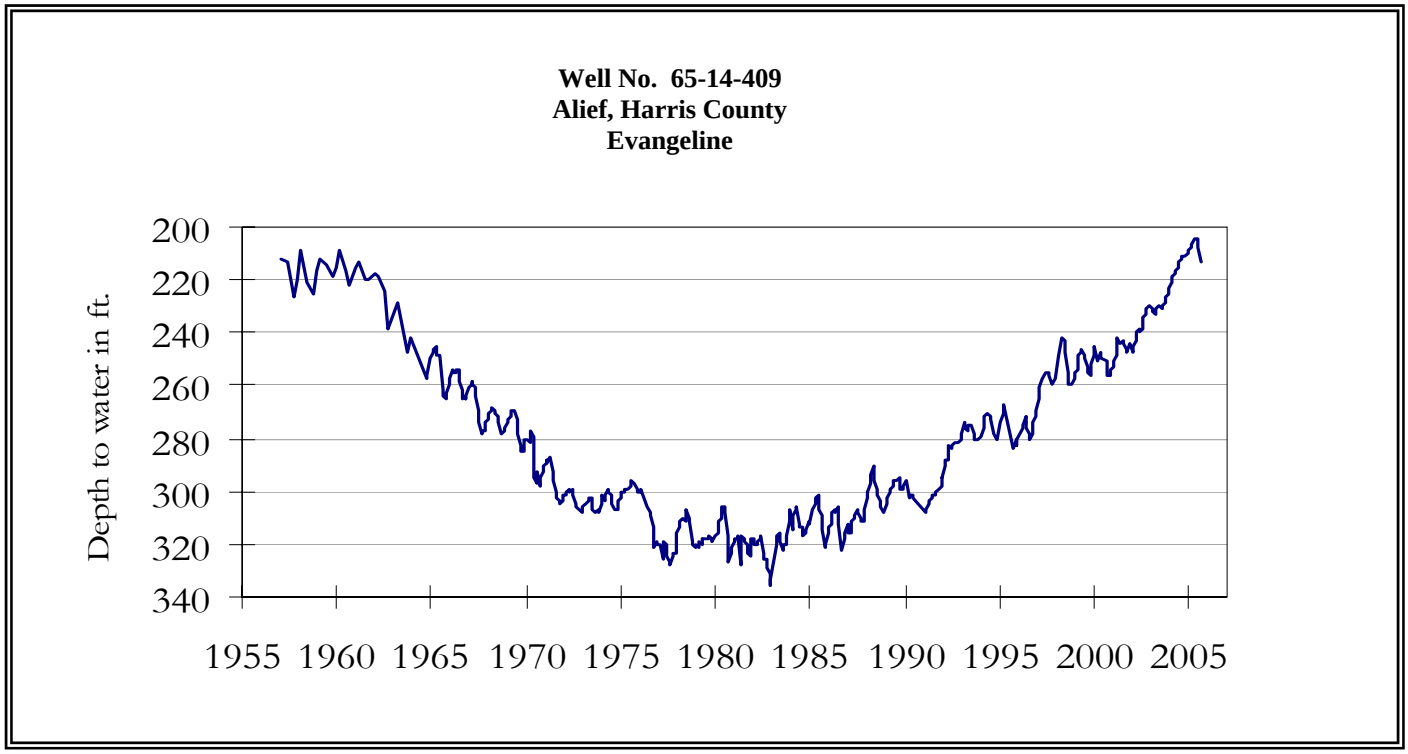

The late July water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 442.45 feet below land surface. This measurement was 0.83 feet above last month's measurement, 1.25 feet below last year's measurement, and 64.45 feet below the initial measurement recorded in 1953.



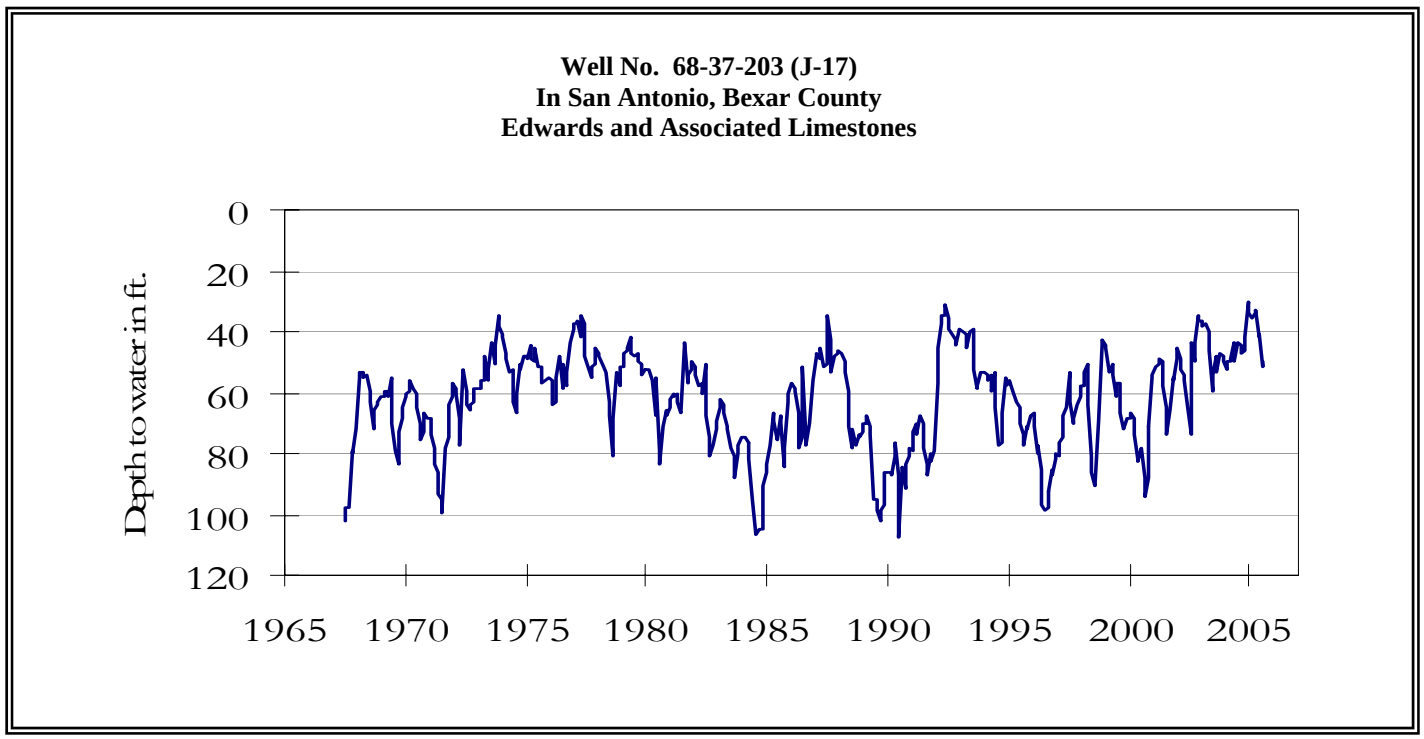

The late July water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 459.27 feet below land surface. This water level was 1.55 feet above last month's measurement, 1.33 feet above last year's measurement, and 167.27 feet below the initial measurement recorded in 1955.




The late July water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 290.84 feet below land surface. This was 0.14 feet below last month's measurement, 2.94 feet below last year's measurement, and 58.94 feet below the initial measurement recorded in 1964.

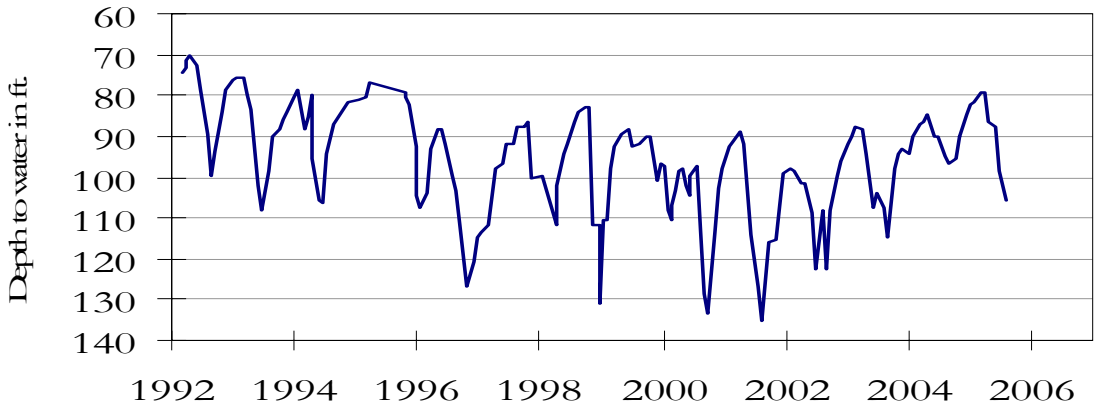



The late July water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 212.85 feet below land surface. This was 5.42 feet below last month's measurement, 0.85 feet below last year's measurement, and 77.35 feet below the initial measurement recorded in 1947.



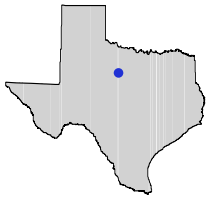

The late July water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 49.38 feet below land surface. This was 2.56 feet above last month's measurement, 4.98 feet below last year's measurement, and 2.74 feet below the initial measurement recorded in 1962.

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



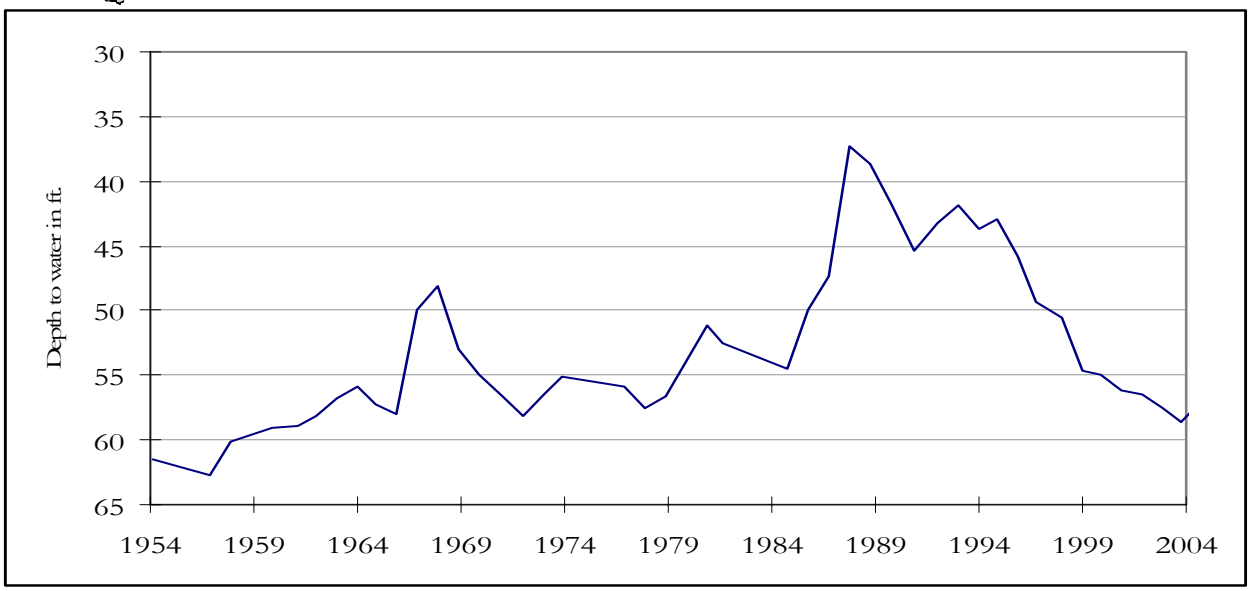

The late July water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 105.46 feet below land surface. This measurement was 7.24 feet below last month's measurement, 10.37 feet below last year's measurement, and 70.10 feet below the initial measurement recorded in 1965.

## *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. 29-42-501**
**Mitchell County**




This water level observation well, located 5 miles south of Colorado City, at an elevation of 2126 feet ASL, was completed in the Dockum aquifer. Recharge to the aquifer is negligible ezcept in the outcrop areas where approximately 23,500 ac-ft is estimated to occur annually.

July, 2005

Water levels rose in three of the seven key monitoring wells since the beginning of July, ranging from 0.83 feet in the Tarrant Co. Paluxy well to 2.56 feet in the Bexar Co. J-17 well. The water level declined in the remaining four monitoring wells, ranging from 0.14 feet in the El Paso Co. (Bolson Deposits) well to 7.24 feet in the Atascosa Co. Carrizo well. The J-17 well recorded a water level of 49.38 feet below the land surface, a rise of 2.56 feet from the June 2005 measurement. This water level is approximately thirty-one (31) feet above the Stage 1 critical management criteria.

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