

# Texas Water Development Board



**W** *Conditions* **AT** **R**

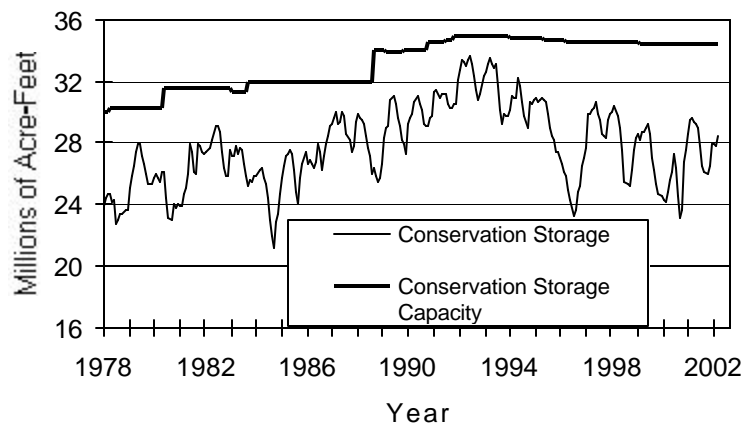
## RESERVOIR STORAGE

*March 2002*

Near the end of March, the 77 reservoirs monitored for this report held 28.4 million acre-feet in conservation storage, or 82.4 percent of the conservation storage capacity of the State's major reservoirs. Statewide total storage is below normal for this time of year. Storage increased during the month (+2.0% of conservation storage capacity). Compared to March 2001, storage is down 1.2 million acre-feet (-3.6%).

For the month, storage remained nearly constant in all climatic Regions. The East (98%), South Central (99%), and Upper Coast (94%) are all near capacity, while the High Plains (41%) Low Rolling Plains (35%), Trans-Pecos (14%), Southern (29%) and Edwards Plateau (49%) Regions remained low. Storage is at 100% in 32 reservoirs, eight more than last month. Compared to this time last year, storage decreased significantly in the High Plains (-19%), Trans-Pecos (-11%) and Edwards Plateau (-12%) 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.

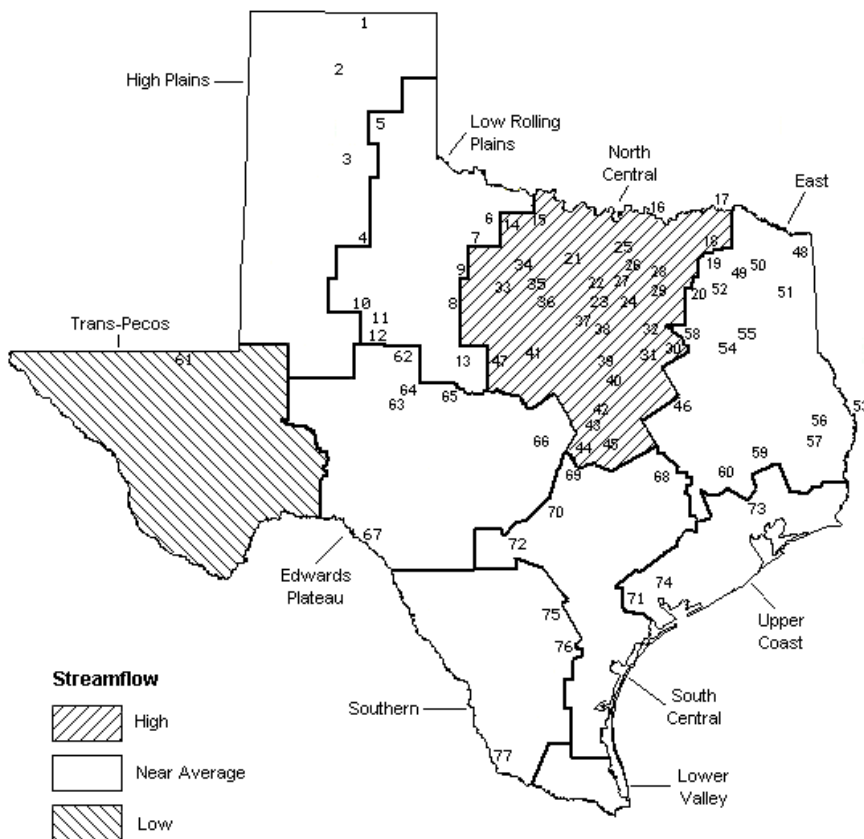
# STREAMFLOW

Of 29 reporting index stations in March, computed 30-day mean flows were high (5% - 30% exceedance) at 7 stations, near normal (30% - 70% exceedance) at 17 stations, and low (70% - 95% exceedance) at 5 stations. In comparison to February, flows increased at 9 index stations, decreased at 18 and remained unchanged at 2.

On a regional basis, flows in March were high in the North Central Region, low in the Trans-Pecos Region and near normal everywhere else.

## MARCH 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. Grapevine 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 March 2002 (acre-feet) (%)	Late February 2002 (acre-feet) (%)	Late March 2001 (acre-feet) (%)			
<b>HIGH PLAINS</b>								
Palo Duro Reservoir	1	60,900	5,240	9	-320	-1	-6,630	-11
Lake Meredith (Texas)	2	500,000	240,500	48	-8,100	-2	-109,200	-22
Lake Meredith (Texas and Oklahoma)	(2)	779,560	240,500	31	-8,100	-1	-109,200	-14
MacKenzie Reservoir	3	46,250	8,210	18	-140	0	-360	-1
White River Lake	4	31,850	6,970	22	-290	-1	-4,890	-15
<b>TOTAL</b>		<b>639,000</b>	<b>260,920</b>	<b>41</b>	<b>-8,850</b>	<b>-1</b>	<b>-121,080</b>	<b>-19</b>
<b>LOW ROLLING PLAINS</b>								
Greenbelt Reservoir	5	58,200	24,160	42	-170	0	-390	-1
Lake Kemp	6	319,600	141,000	44	7,100	2	-49,900	-16
Miller's Creek Reservoir	7	27,890	12,920	46	600	2	-1,190	-4
Fort Phantom Hill Reservoir	8	70,030	31,260	45	1,180	2	-8,850	-13
Lake Stamford	9	52,700	33,150	63	17,850	34	15,230	29
Lake J. B. Thomas	10	202,300	20,900	10	1,690	1	-3,940	-2
Lake Colorado City	11	30,800	18,600	60	-50	0	-2,020	-7
Champion Creek Reservoir	12	41,600	2,140	5	20	0	-2,240	-5
Hords Creek Lake	13	8,600	2,970	35	-30	0	-1,500	-17
<b>TOTAL</b>		<b>811,720</b>	<b>287,100</b>	<b>35</b>	<b>28,190</b>	<b>3</b>	<b>-54,800</b>	<b>-7</b>
<b>NORTH CENTRAL</b>								
Lake Kickapoo	14	106,000	71,300	67	1,720	2	-29,000	-27
Lake Arrowhead	15	262,100	149,900	57	-900	0	-53,300	-20
Lake Texoma	16	2,722,300	2,519,000	93	131,000	5	-69,000	-3
Pat Mayse Lake	17	124,500	124,500	100	600	0	0	0
Cooper Lake	18	273,000	273,000	100	0	0	0	0
Lake Sulphur Springs	19	17,710	17,110	97	350	2	-600	-3
Lake Tawakoni	20	936,200	936,200	100	46,000	5	0	0
Bridgeport Reservoir	21	374,830	293,400	78	11,600	3	-81,400	-22
Eagle Mountain Reservoir	22	178,380	167,500	94	24,100	14	-10,880	-6
Benbrook Lake	23	88,200	88,200	100	7,750	9	0	0
Joe Pool Lake	24	175,800	175,800	100	0	0	0	0
Ray Roberts Lake	25	798,760	798,760	100	33,860	4	0	0
Lewisville Lake	26	555,000	555,000	100	35,000	6	0	0
Grapevine Lake	27	187,700	187,700	100	42,800	23	0	0
Lavon Lake	28	443,800	443,800	100	4,900	1	0	0
Lake Ray Hubbard	29	413,420	413,420	100	2,020	0	320	0
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	0	0	0	0
Navarro Mills Lake	31	55,810	55,810	100	0	0	0	0
Bardwell Lake	32	53,580	53,220	99	6,710	13	-360	-1
Hubbard Creek Reservoir	33	317,800	120,200	38	4,400	1	-39,600	-12
Lake Graham	34	45,000	32,980	73	40	0	-12,020	-27
Possum Kingdom Lake	35	551,820	453,600	82	4,000	1	-76,900	-14
Lake Palo Pinto	36	27,650	24,430	88	9,960	36	-2,480	-9
Lake Granbury	37	135,680	131,400	97	3,000	2	3,300	2
Lake Pat Cleburne	38	25,300	25,300	100	0	0	0	0
Whitney Lake	39	622,800	609,000	98	121,100	19	-13,800	-2
Waco Lake	40	144,500	144,500	100	0	0	0	0
Proctor Lake	41	55,590	38,710	70	3,720	7	-16,880	-30
Belton Lake	42	434,500	434,500	100	0	0	0	0
Stillhouse Hollow Lake	43	226,060	226,060	100	0	0	0	0
Lake Georgetown	44	37,010	37,010	100	0	0	0	0
Granger Lake	45	54,280	54,280	100	0	0	0	0
Lake Limestone	46	215,750	215,750	100	350	0	0	0
Lake Brownwood	47	143,400	108,200	75	1,200	1	-21,000	-15
<b>TOTAL</b>		<b>11,908,050</b>	<b>11,083,360</b>	<b>93</b>	<b>495,280</b>	<b>4</b>	<b>-423,600</b>	<b>-4</b>

## 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 March 2002 (acre-feet) (%)	Late February 2002 (acre-feet) (%)	Late March 2001 (acre-feet) (%)			
<b>EAST</b>								
Wright Patman Lake	48	142,700	142,700	100	0	0	0	0
Lake Cypress Springs	49	66,800	66,800	100	0	0	0	0
Lake Bob Sandlin	50	202,300	202,300	100	0	0	0	0
Lake O' the Pines	51	252,000	252,000	100	9,100	4	0	0
Lake Fork Reservoir	52	635,200	635,200	100	0	0	0	0
Toledo Bend Reservoir	53	4,472,900	4,318,000	97	204,000	5	-154,900	-3
Lake Palestine	54	411,300	411,300	100	0	0	0	0
Lake Tyler	55	73,700	73,700	100	0	0	0	0
Sam Rayburn Reservoir	56	2,876,300	2,876,300	100	0	0	0	0
B. A. Steinhagen Lake	57	94,200	55,450	59	2,130	2	-18,520	-20
Cedar Creek Reservoir	58	637,050	637,050	100	2,050	0	0	0
Lake Livingston	59	1,750,000	1,750,000	100	19,000	1	0	0
Lake Conroe	60	429,900	417,600	97	-200	0	-5,700	-1
TOTAL		12,044,350	11,838,400	98	236,080	2	-179,120	-1
<b>TRANS-PECOS</b>								
Red Bluff Reservoir	61	307,000	41,530	14	730	0	-33,190	-11
TOTAL		307,000	41,530	14	730	0	-33,190	-11
<b>EDWARDS PLATEAU</b>								
E. V. Spence Reservoir	62	488,760	54,650	11	-1,900	0	-27,290	-6
Twin Buttes Reservoir	63	177,800	8,900	5	410	0	-1,120	-1
O.C. Fisher Lake	64	119,200	4,140	3	-140	0	-4,860	-4
O. H. Ivie Reservoir	65	554,340	247,500	45	-3,200	-1	-72,100	-13
Lake Buchanan	66	896,980	791,800	88	14,900	2	-47,100	-5
Amistad Reservoir (Texas)	67	1,771,030	849,000	48	-3,000	0	-336,000	-19
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	991,000	31	1,000	0	-389,000	-12
TOTAL		4,008,110	1,955,990	49	7,070	0	-488,470	-12
<b>SOUTH CENTRAL</b>								
Somerville Lake	68	155,060	155,060	100	0	0	0	0
Lake Travis	69	1,144,100	1,144,000	100	-100	0	-100	0
Canyon Lake	70	385,600	381,200	99	1,500	0	-4,400	-1
Coletto Creek Reservoir	71	35,060	30,790	88	-570	-2	-790	-2
Medina Lake	72	254,000	247,600	97	-4,200	-2	15,300	6
TOTAL		1,973,820	1,958,650	99	-3,370	0	10,010	1
<b>UPPER COAST</b>								
Lake Houston	73	128,860	128,860	100	0	0	0	0
Lake Texana	74	157,900	139,800	89	-7,000	-4	-17,400	-11
TOTAL		286,760	268,660	94	-7,000	-2	-17,400	-6

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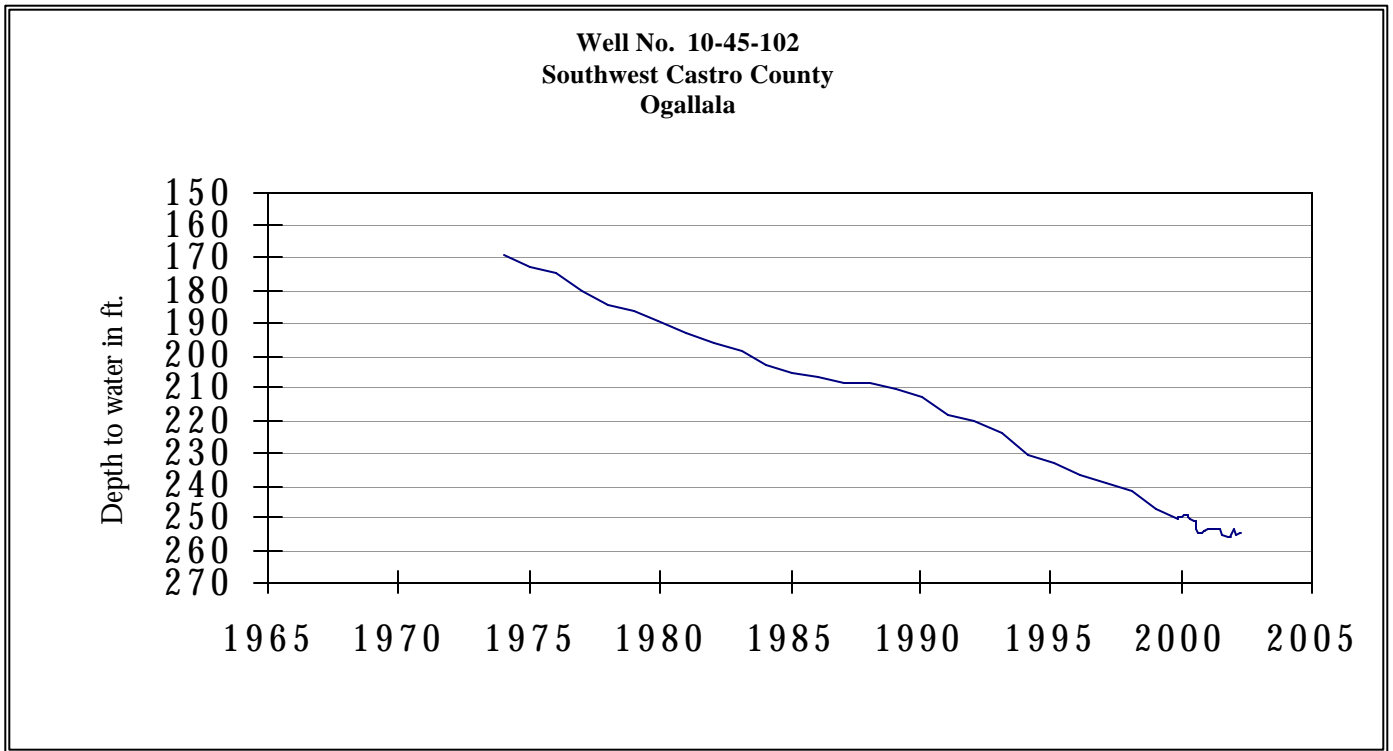
Name of Lake or Reservoir	No. on Map	Conservation Storage	Conservation Storage		Change since Late February		Change since Late March		
		Capacity (acre-feet)	Late March 2002 (acre-feet)	(%)	2002 (acre-feet)	(%)	2001 (acre-feet)	(%)	
<b>SOUTHERN</b>									
Choke Canyon Reservoir	75	695,260	266,000	38	-7,000	-1	-4,000	-1	
Lake Corpus Christi	76	241,240	225,800	94	-8,900	-4	124,200	51	
Falcon Reservoir (Texas)	77	1,555,120	225,000	14	-51,000	-3	-60,000	-4	
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	326,000	12	-55,000	-2	-4,000	0	
TOTAL		2,491,620	716,800	29	-66,900	-3	60,200	2	
<b>STATE TOTAL</b>		34,470,430	28,411,410	82	681,230	2	-1,247,450	-4	

**Note:**

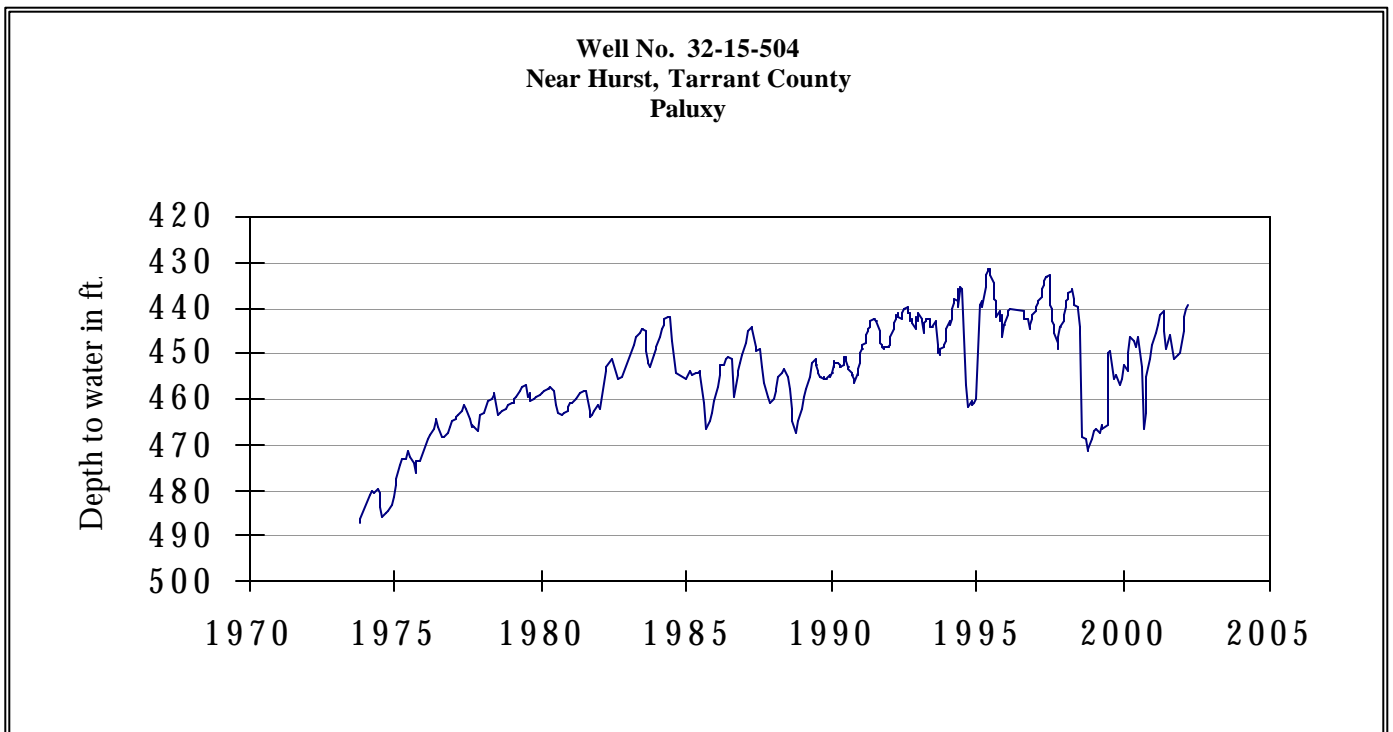
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included 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). Figures in parentheses for Lake Meredith represent the total conservation storage excluding 58,014 acre-feet of dead storage and are not included in State total. Preliminary figures are shown for the United States' share of conservation storage in International Amistad and International Falcon Reservoirs; the estimates may be subject to revision on completion of international water accounting. Texas (United States' share) and Mexico and are not included in State total.

# MARCH GROUND WATER LEVELS IN OBSERVATION WELLS

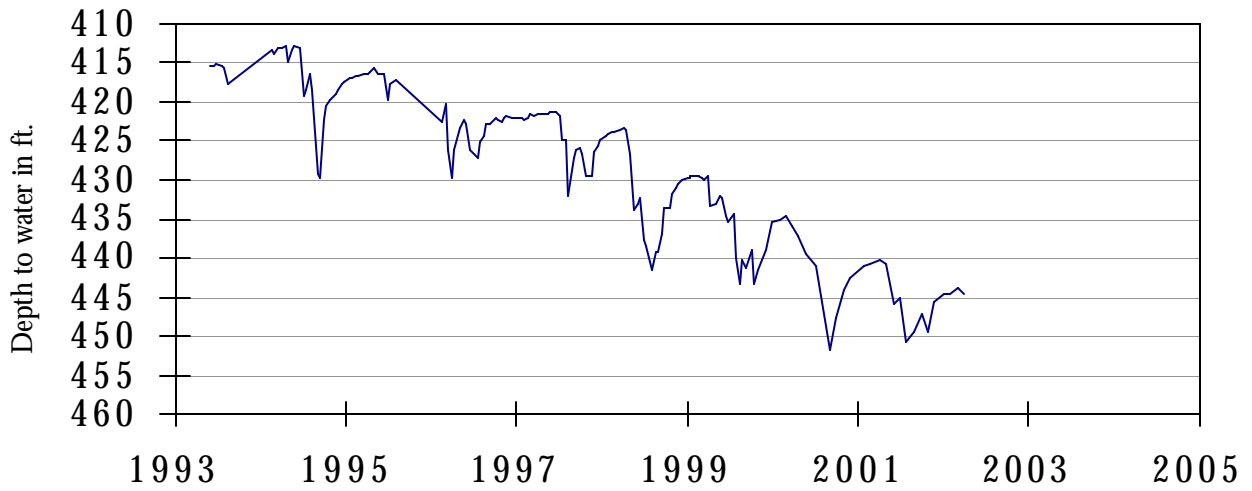


The late March water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 254.92 feet below land surface. This measurement was 0.02 feet above last month's measurement, 1.59 feet below last year's measurement, and 98.92 feet below the initial measurement recorded in 1968.



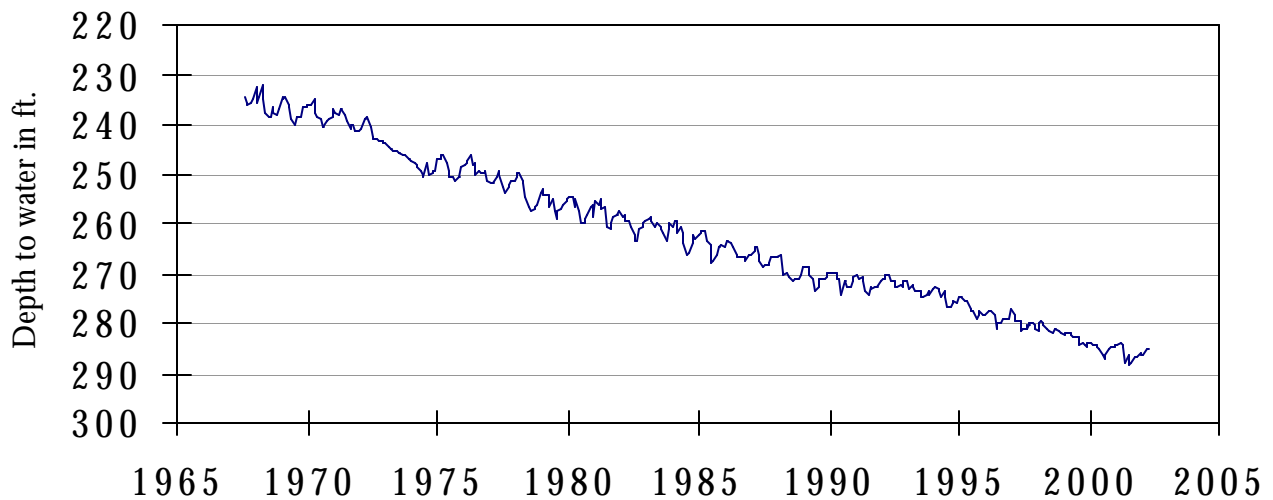
The late March water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 439.21 feet below land surface. This measurement was 1.23 feet above last month's measurement, 2.55 feet above last year's measurement, and 45.82 feet below the initial measurement recorded in 1953.

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



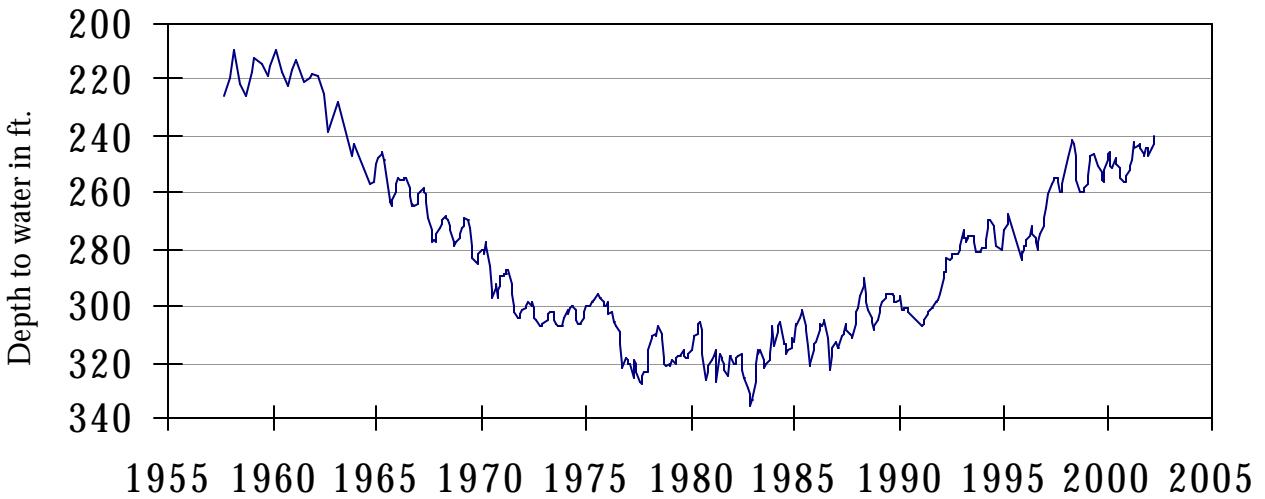
The late March water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 444.45 feet below land surface. This measurement was 0.45 feet below last month's measurement, 4.25 feet below last year's measurement, and 152.45 feet below the initial measurement recorded in 1955.

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



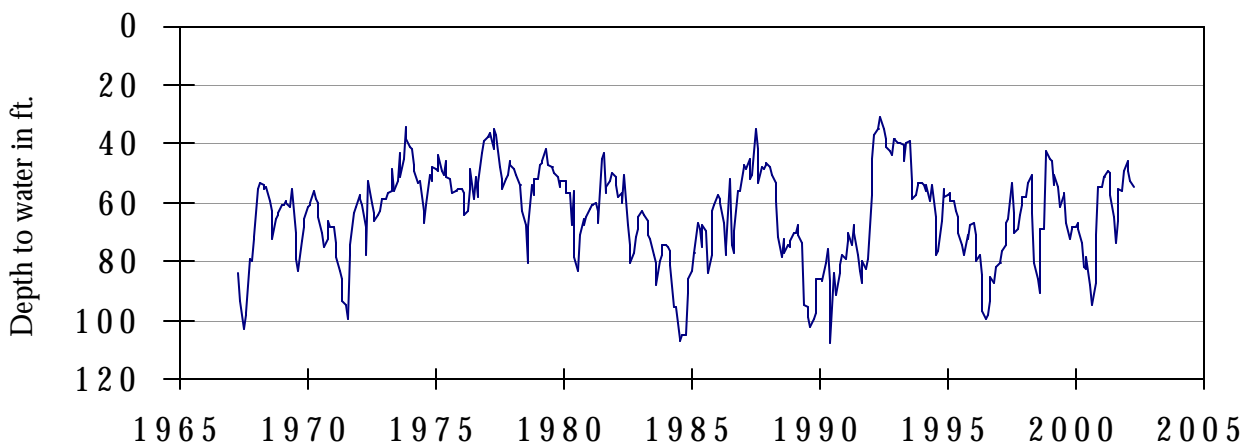
The late March water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 285.38 feet below land surface. This was 0.06 feet below last month's measurement, 0.95 feet below last year's measurement, and 53.48 feet below the initial measurement recorded in 1964.

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



The late March water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 239.96 feet below land surface. This was 2.92 feet above last month's measurement, 1.72 feet above last year's measurement, and 136.73 feet below the initial measurement recorded in 1947.

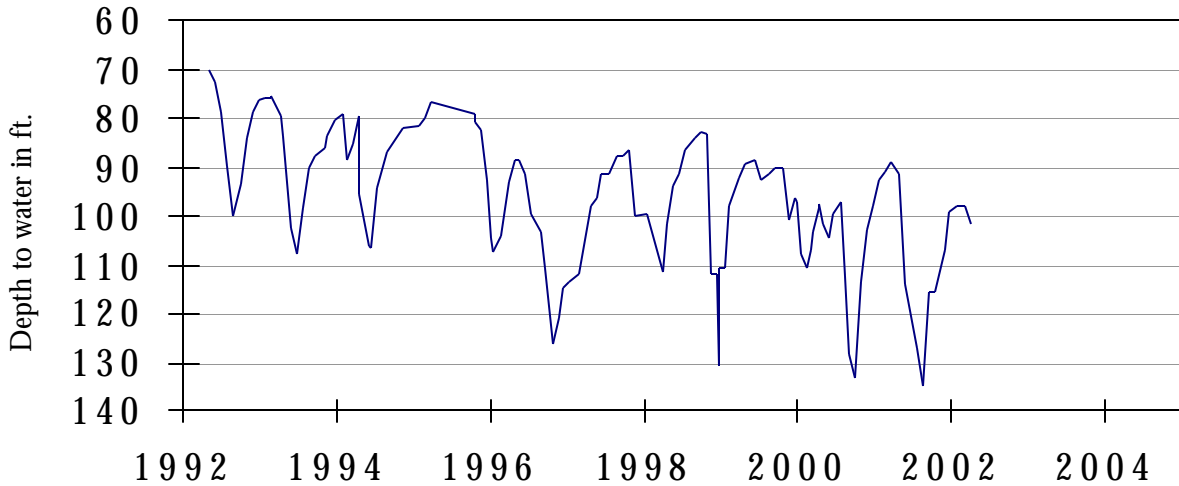
**Well No. 68-37-203 (J-17)  
In San Antonio, Bexar County  
Edwards and Associated Limestones**



The late March water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 54.36 feet below land surface. This was 1.90 feet below last month's measurement, 5.17 feet below last year's measurement, and 5.26 feet above the initial measurement recorded in 1962.



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



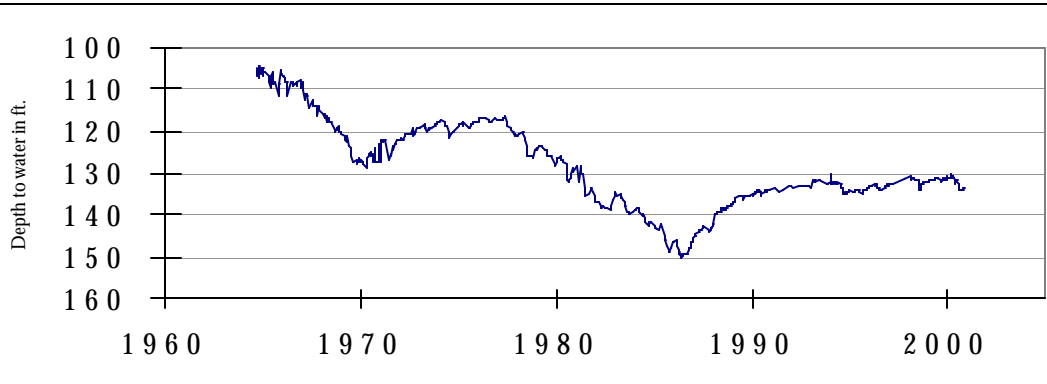
The late March water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 101.77 feet below land surface. This measurement was 3.42 feet below last month's measurement, 13.07 feet below last year's measurement, and 20.52 feet below the initial measurement recorded in 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. 2739903  
Martin County**



This 182 ft. deep recorder well, located approximately 26 miles south of Midland, at an elevation of 2,895 feet above sea level, was completed in the southern portion of the Ogallala aquifer. The aquifer water levels illustrate a twenty year decline from the 60's through the 80's that is associated with periods of drought and increased demand. Minor water level fluctuations are linked to seasonal irrigation drawdown and recharge cycles.

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