

# Texas Water Development Board



# WATER Conditions

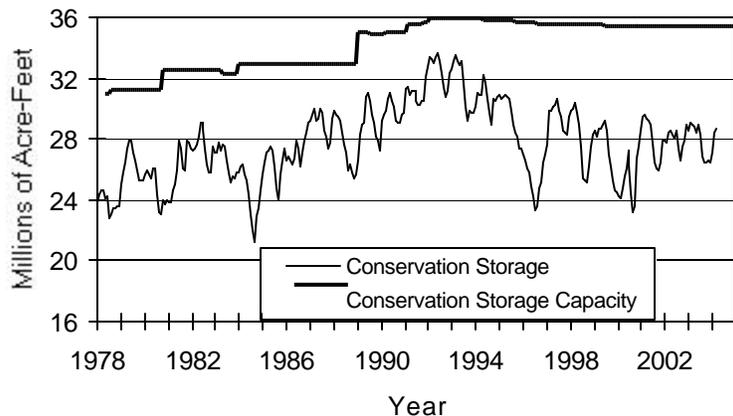
## RESERVOIR STORAGE

March 2004

Near the end of March, the 77 reservoirs monitored for this report held 28.7 million acre-feet in conservation storage, or 83.2 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 by 266,800 acre-feet (0.8% of conservation storage capacity). Compared to the previous year, storage is less, down 289,630 acre-feet (-0.8%).

Storage is near capacity in the Upper Coast Region (99%), East Region (96.8%) and South Central Region (91.6%), while the High Plains (23.6%) and Trans-Pecos (18.6%) Regions remained lower than one-third. Storage is at 100% in 19 reservoirs. Compared to this time last year, the Edwards Plateau had the largest increase in storage (+11.4%), while the South Central had the steepest decline (-8.3%).

### 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

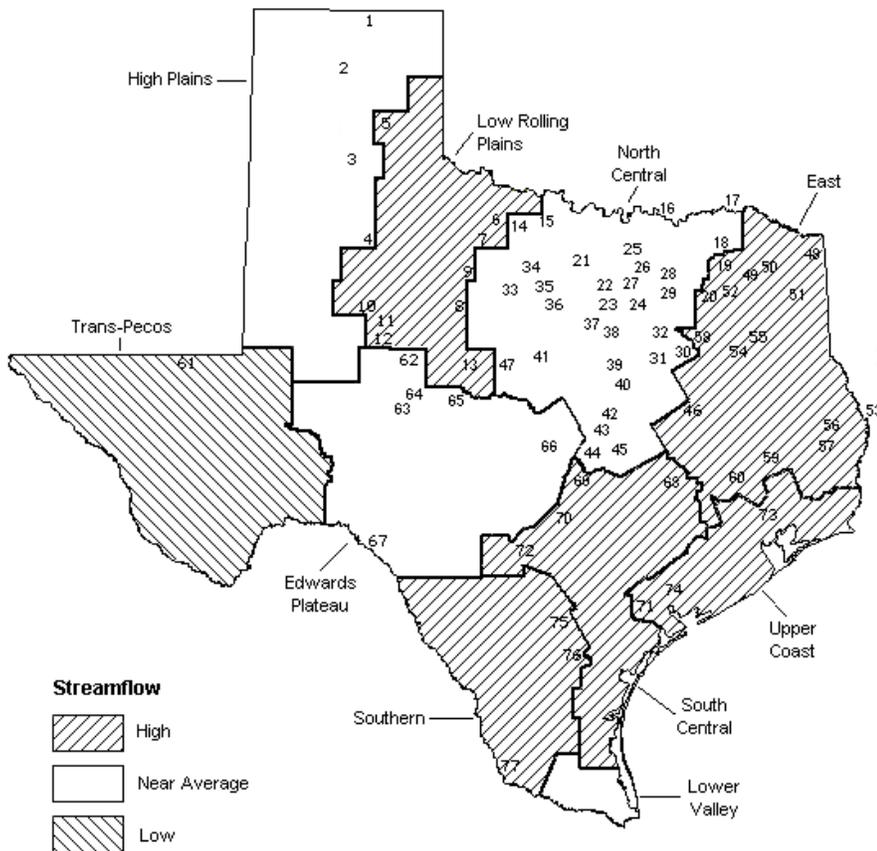
Of 29 reporting index stations in March, computed 31-day mean flows were high (5% - 30% exceedance) at 16 stations, near normal (30% - 70% exceedance) at 12 stations, and low (70% - 95% exceedance) at 1 stations. In comparison to February, flows increased at 19 index stations, and decreased at 10.

On a regional basis, flows in March were low in the Trans-Pecos Region, high in Low Rolling Plains, East Texas, South Central, Upper Coast and Southern Regions, 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 Mar. 2004 (acre-feet) (%)	Late February 2004 (acre-feet) (%)	Late March 2003 (acre-feet) (%)			
<b>HIGH PLAINS</b>								
Palo Duro Reservoir	1	60,900	2,470	4	-90	0	-640	-1
Lake Meredith (Texas)	2	500,000	135,830	27	1,470	0	-50,850	-10
Lake Meredith (Texas and Oklahoma)	(2)	779,560	135,830	17	1,470	0	-50,850	-7
MacKenzie Reservoir	3	46,250	5,740	12	-510	-1	-1,920	-4
White River Lake	4	31,850	6,500	20	1,010	3	1,220	4
<b>TOTAL</b>		<b>639,000</b>	<b>150,540</b>	<b>24</b>	<b>1,880</b>	<b>0</b>	<b>-52,190</b>	<b>-8</b>
<b>LOW ROLLING PLAINS</b>								
Greenbelt Reservoir	5	58,200	24,780	43	610	1	1,220	2
Lake Kemp	6	319,600	191,220	60	15,510	5	-46,280	-14
Miller's Creek Reservoir	7	27,890	11,830	42	-170	-1	-2,790	-10
Fort Phantom Hill Reservoir	8	70,030	28,790	41	-20	0	-11,300	-16
Lake Stamford	9	52,700	30,730	58	-530	-1	-7,220	-14
Lake J. B. Thomas	10	202,300	23,610	12	3,590	2	4,340	2
Lake Colorado City	11	30,800	22,740	74	2,620	9	6,980	23
Champion Creek Reservoir	12	41,600	3,520	8	100	0	1,350	3
Hords Creek Lake	13	8,600	2,370	28	0	0	50	1
<b>TOTAL</b>		<b>811,720</b>	<b>339,590</b>	<b>42</b>	<b>21,710</b>	<b>3</b>	<b>-53,650</b>	<b>-7</b>
<b>NORTH CENTRAL</b>								
Lake Kickapoo	14	106,000	61,380	58	40	0	-14,420	-14
Lake Arrowhead	15	262,100	121,760	46	480	0	-28,150	-11
Lake Texoma	16	2,722,300	2,387,310	88	266,270	10	3,120	0
Pat Mayse Lake	17	124,500	115,190	93	4,050	3	-7,220	-6
Cooper Lake	18	273,000	221,950	81	140	0	-51,050	-19
Lake Sulphur Springs	19	17,710	15,130	85	-2,580	-15	-2,580	-15
Lake Tawakoni	20	936,200	847,100	90	21,800	2	-45,800	-5
Bridgeport Reservoir	21	374,830	224,700	60	1,700	0	-54,100	-14
Eagle Mountain Reservoir	22	178,380	147,800	83	2,800	2	1,800	1
Benbrook Lake	23	88,200	84,240	96	-3,020	-3	-3,020	-3
Joe Pool Lake	24	175,800	175,800	100	0	0	0	0
Ray Roberts Lake	25	798,760	735,350	92	5,540	1	-63,410	-8
Lewisville Lake	26	555,000	546,750	99	11,050	2	-8,250	-1
Grapevine Lake	27	187,700	161,210	86	6,060	3	-22,400	-12
Lavon Lake	28	443,800	407,890	92	28,020	6	-35,910	-8
Lake Ray Hubbard	29	413,420	380,900	92	6,600	2	-29,600	-7
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	1,820	0	0	0
Navarro Mills Lake	31	55,810	55,810	100	0	0	0	0
Bardwell Lake	32	53,580	46,800	87	-4,210	-8	-910	-2
Hubbard Creek Reservoir	33	317,800	122,830	39	-1,040	0	-23,470	-7
Lake Graham	34	45,000	21,940	49	-200	0	-6,450	-14
Possum Kingdom Lake	35	551,820	431,700	78	14,600	3	-33,500	-6
Lake Palo Pinto	36	27,650	17,970	65	320	1	-3,560	-13
Lake Granbury	37	135,680	133,500	98	-300	0	200	0
Lake Pat Cleburne	38	25,300	24,890	98	1,980	8	190	1
Whitney Lake	39	622,800	505,510	81	28,540	5	13,860	2
Waco Lake	40	144,500	144,500	100	0	0	0	0
Proctor Lake	41	55,590	50,550	91	1,740	3	-5,040	-9
Belton Lake	42	434,500	434,500	100	0	0	0	0
Stillhouse Hollow Lake	43	226,060	219,940	97	-6,120	-3	-6,120	-3
Lake Georgetown	44	37,010	22,650	61	600	2	-14,360	-39
Granger Lake	45	54,280	54,280	100	0	0	0	0
Lake Limestone	46	215,750	215,620	100	-130	0	-130	0
Lake Brownwood	47	143,400	130,850	91	3,160	2	-1,070	-1
<b>TOTAL</b>		<b>11,908,050</b>	<b>10,372,120</b>	<b>87</b>	<b>389,710</b>	<b>3</b>	<b>-441,350</b>	<b>-4</b>

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Mar. 2004 (acre-feet) (%)	Change since Late February 2004 (acre-feet) (%)	Change since Late March 2003 (acre-feet) (%)
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### 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	0	0
Lake Bob Sandlin	50	202,300	202,300	100	5,000	2	0	0
Lake O' the Pines	51	252,000	247,090	98	-3,910	-2	19,980	8
Lake Fork Reservoir	52	635,200	635,200	100	4,500	1	0	0
Toledo Bend Reservoir	53	4,472,900	4,149,000	93	-323,900	-7	-195,000	-4
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	94,200	100	10,070	11	13,500	14
Cedar Creek Reservoir	58	637,050	592,200	93	16,500	3	-44,850	-7
Lake Livingston	59	1,750,000	1,750,000	100	0	0	15,000	1
Lake Conroe	60	429,900	419,700	98	-400	0	6,400	1
TOTAL		12,044,350	11,660,490	97	-292,140	-2	-184,970	-2

### TRANS-PECOS

Red Bluff Reservoir	61	307,000	57,230	19	840	0	-3,150	-1
TOTAL		307,000	57,230	19	840	0	-3,150	-1

### EDWARDS PLATEAU

E. V. Spence Reservoir	62	488,760	47,000	10	4,340	1	9,730	2
Twin Buttes Reservoir	63	177,800	5,450	3	610	0	-1,030	-1
O.C. Fisher Lake	64	119,200	2,820	2	-70	0	-310	0
O. H. Ivie Reservoir	65	554,340	191,830	35	-640	0	-12,670	-2
Lake Buchanan	66	896,980	829,240	92	12,800	1	-65,810	-7
Amistad Reservoir (Texas)	67	1,771,030	1,493,000	84	60,000	3	528,000	30
Amistad Reservoir (Texas and Mexico)	(67 )	3,151,300	1,694,000	54	111,000	4	576,000	18
TOTAL		4,008,110	2,569,340	64	77,040	2	457,910	11

### SOUTH CENTRAL

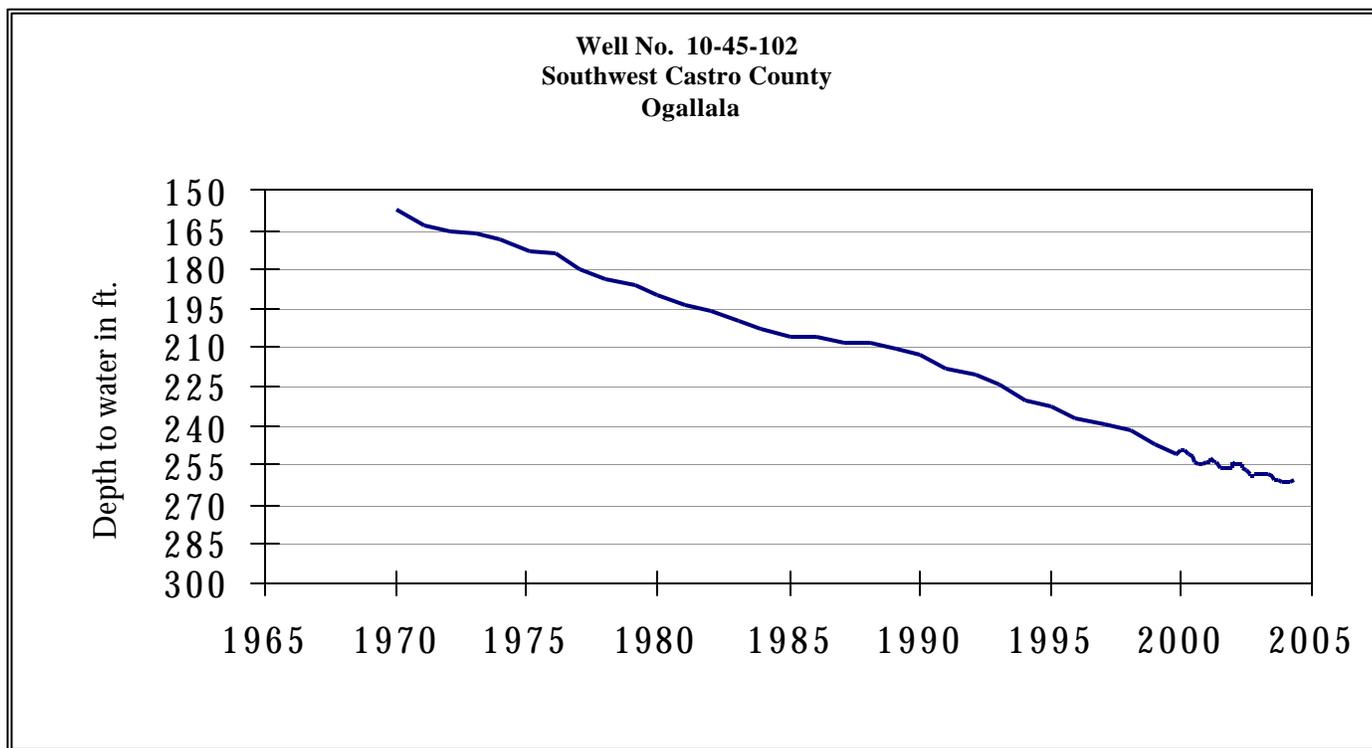
Somerville Lake	68	155,060	155,060	100	0	0	0	0
Lake Travis	69	1,144,100	1,004,900	88	16,730	1	-139,200	-12
Canyon Lake	70	385,600	380,090	99	1,480	0	-5,510	-1
Coletto Creek Reservoir	71	35,060	31,960	91	60	0	280	1
Medina Lake	72	254,000	235,500	93	12,000	5	-18,500	-7
TOTAL		1,973,820	1,807,510	92	30,270	2	-162,930	-8

### UPPER COAST

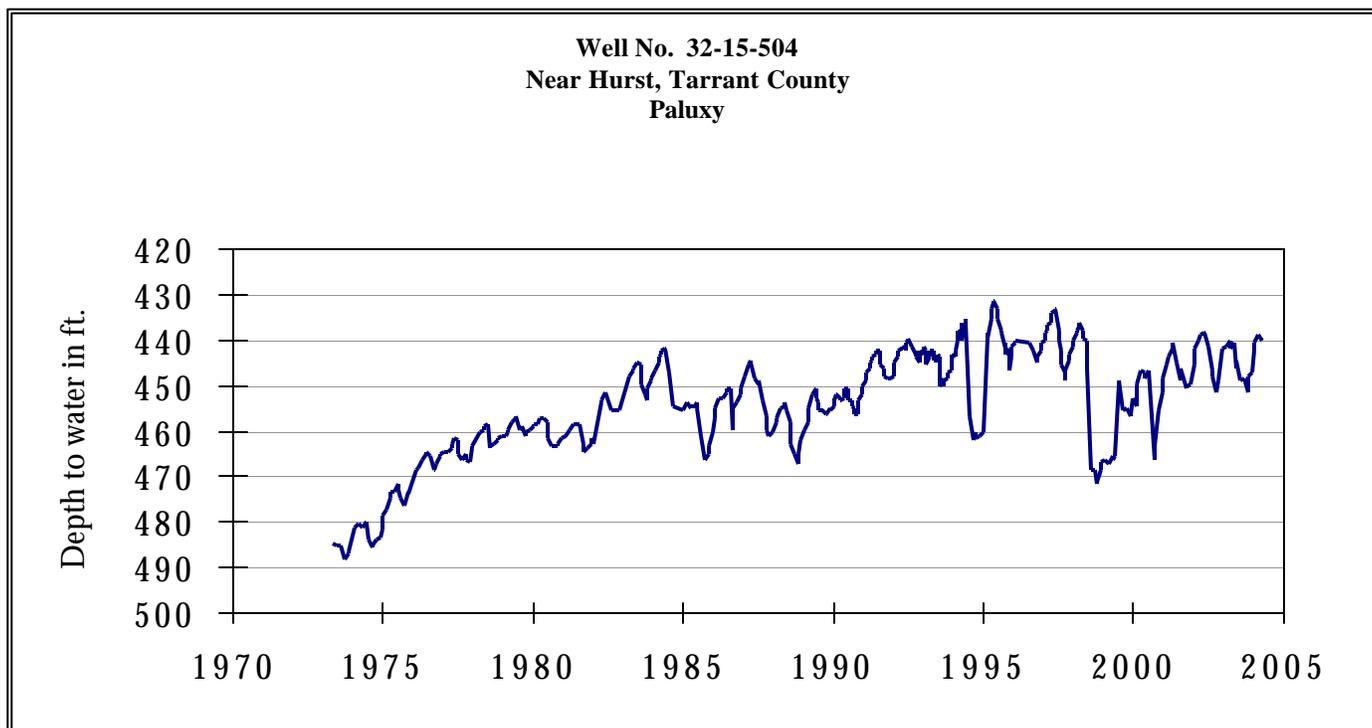
Lake Houston	73	128,860	128,860	100	0	0	0	0
Lake Texana	74	157,900	155,040	98	-1,210	-1	0	0
TOTAL		286,760	283,900	99	-1,210	0	0	0



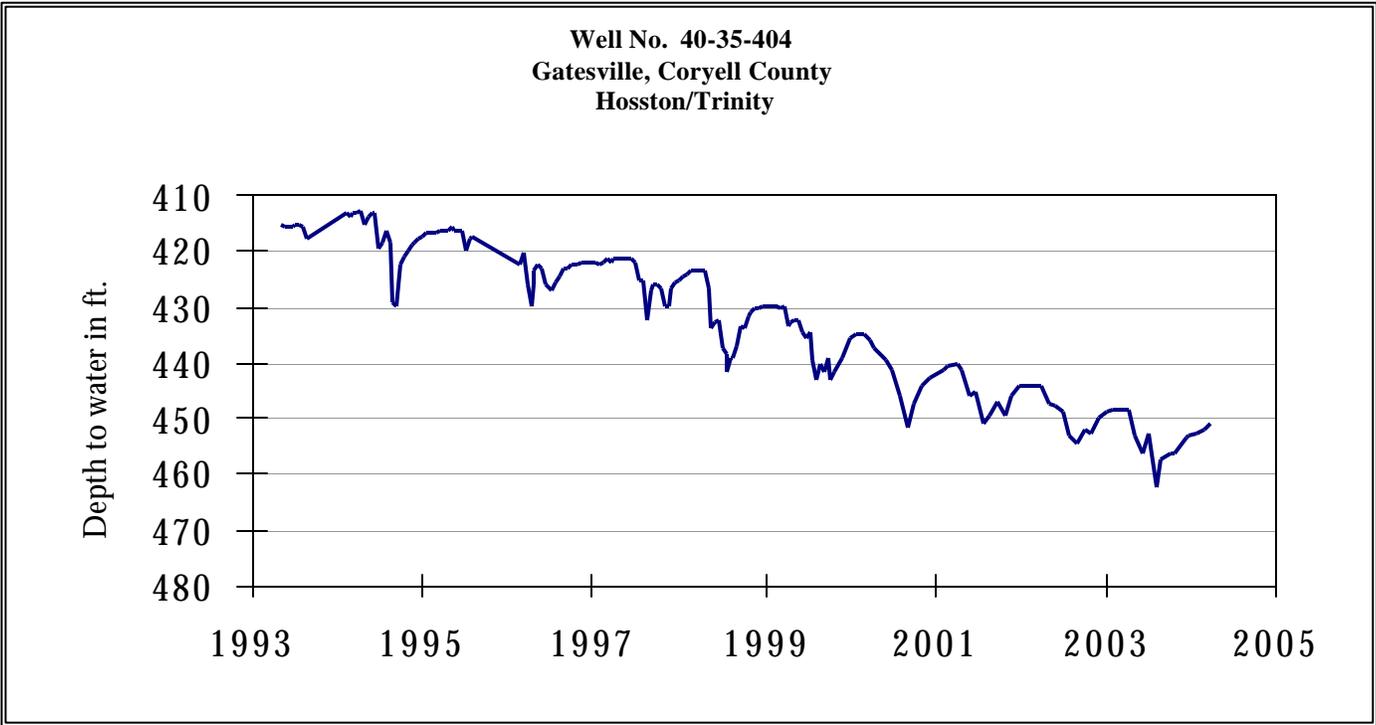
## MARCH GROUND WATER LEVELS IN OBSERVATION WELLS



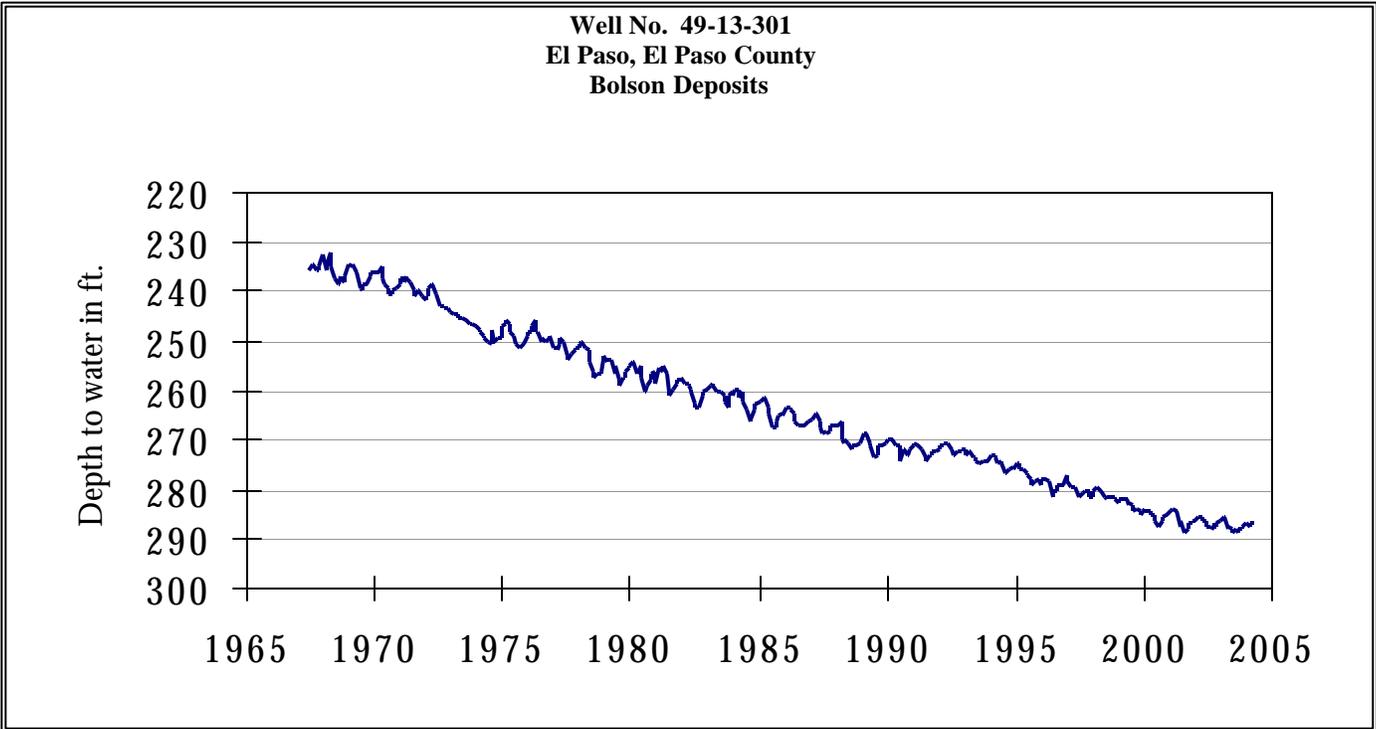
The late March water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 260.80 feet below land surface. This measurement was 0.17 foot above last month's measurement, 2.48 feet below last year's measurement, and 104.80 feet below the initial measurement recorded in 1968.



The late March water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 439.90 feet below land surface. This measurement was 1.15 feet below last month's measurement, 2.31 feet above last year's measurement, and 46.51 feet below the initial measurement recorded in 1953.

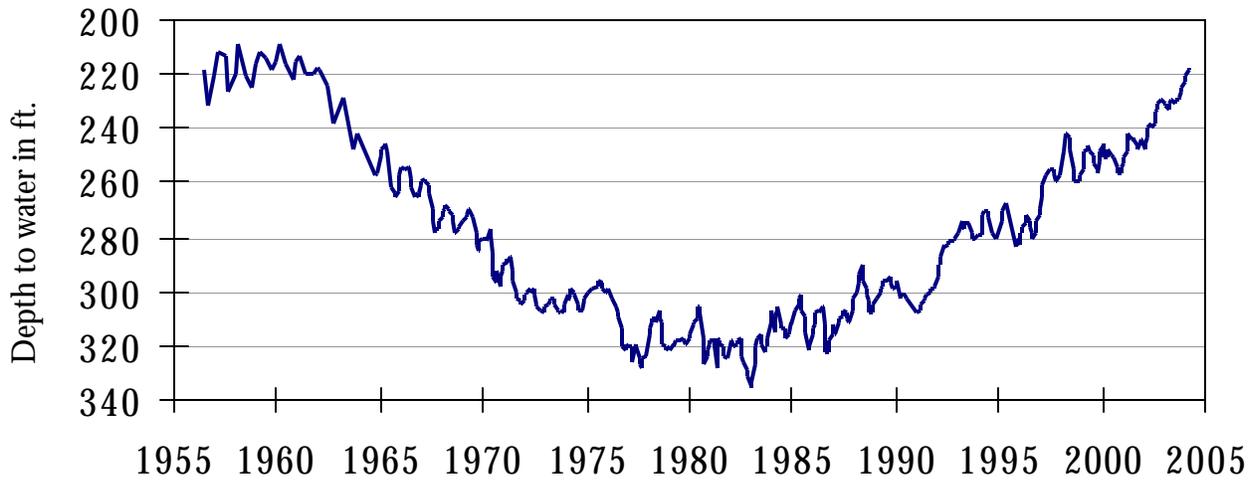


The late March water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 451.20 feet below land surface. This measurement was 0.65 foot above last month's measurement, 2.66 feet below last year's measurement, and 159.20 feet below the initial measurement recorded in 1955.



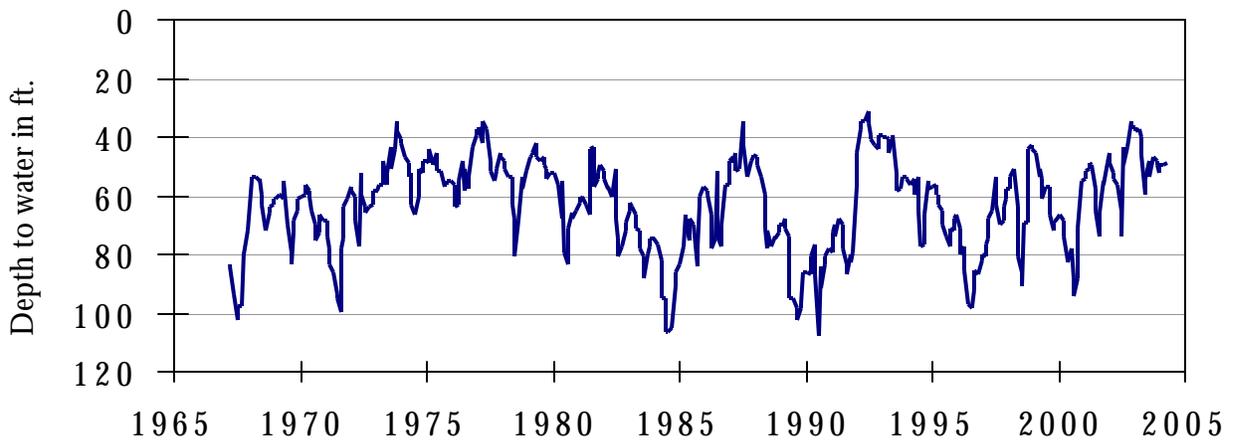
The late March water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 286.90 feet below land surface. This was 0.11 foot below last month's measurement, 0.85 foot above last year's measurement, and 55.00 feet below the initial measurement recorded in 1964.

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



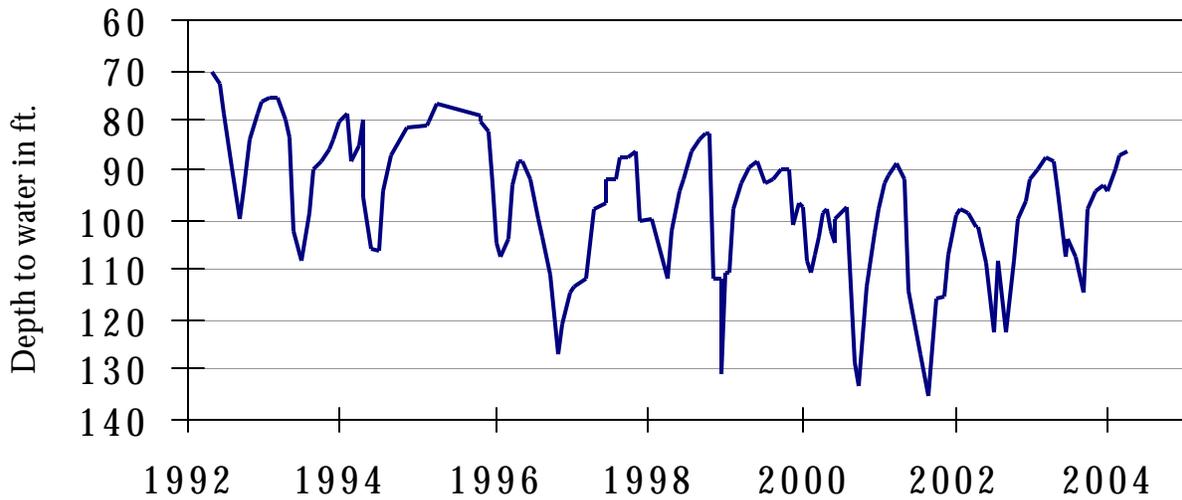
The late March water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 217.50 feet below land surface. This was 1.37 feet above last month's measurement, 13.31 feet above last year's measurement, and 114.27 feet below the initial measurement 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 48.60 feet below land surface. This was 1.42 feet above last month's measurement, 8.81 feet below last year's measurement, and 11.02 feet above the initial measurement recorded in 1962.

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



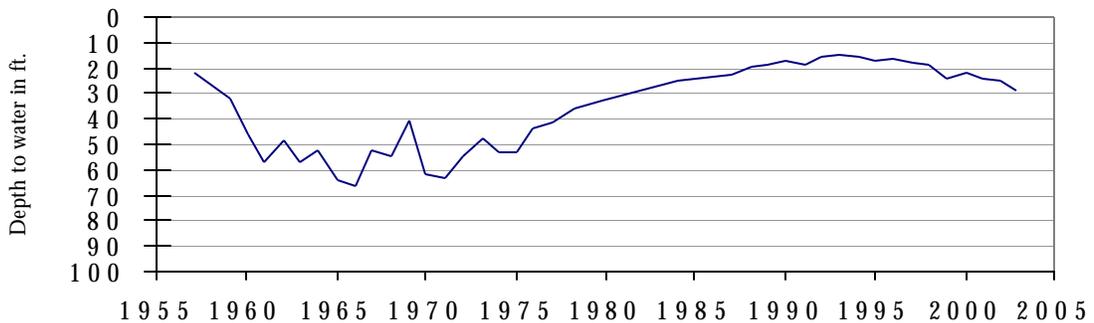
The late March water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 86.64 feet below land surface. This measurement was 0.59 foot above last month's measurement, 1.47 feet above last year's measurement, and 5.39 feet below the initial measurement recorded in 1965.

***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. 24-61-401  
Terry County**



This 117 ft. unused observation well, located four miles northwest of the town of Wellman at an elevation of 3,337 feet above sea level, was completed in the Edwards-Trinity (High Plains) Aquifer. Water pumped from the aquifer is used primarily for irrigation. The water level in this well has stabilized and risen over time only because the well is inactive. Monitoring the Edwards-Trinity (High Plains) is recommended because of the aquifer's potential to augment Ogallala water supplies.

**March 31, 2004**

Water levels increased in five key monitoring wells since the beginning of March, ranging from 0.17 foot in the Castro County (Ogallala Aquifer) well to 1.42 feet in San Antonio, Bexar (Edwards Aquifer) well and decreased in two key monitoring wells (El Paso, El Paso County, Hueco Bolson aquifer, 0.11 feet and Near Hurst, Tarrant County, Paluxy Formation Trinity aquifer, 1.15 feet).

*TEXAS WATER DEVELOPMENT BOARD*

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