

# Texas Water Development Board

# WATER Conditions

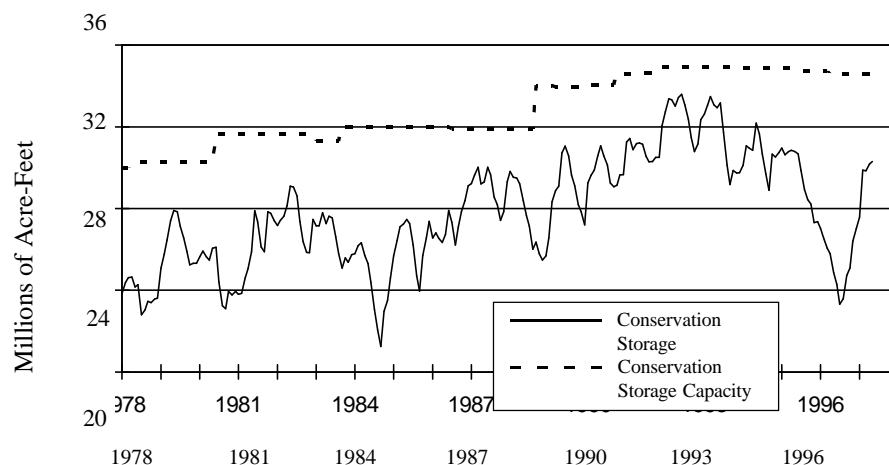
## RESERVOIR STORAGE

*May 1997*

Near the end of April, the 77 reservoirs monitored for this report held 30,168,560 acre-feet in conservation storage. This was 87 percent of the conservation storage capacity of the State's major reservoirs. Compared to last month, storage has increased 333,240 acre-feet. Compared to this month last year, storage has increased 3,987,490 acre-feet.

Of the monitored reservoirs, 44 held 100 percent or more of their conservation storage capacities near the end of April. Lakes Sulphur Springs, Tawakoni, Bridgeport, Eagle Mountain, Graham, Palo Pinto, Cleburne, Limestone, Brownwood, Cypress Springs, Sandlin, Fork, Toledo Bend, Palestine, Tyler, Cedar, Livingston, Coletto Creek, and Houston were full and spilling. An additional amount of water (acre-feet) was contained in the flood storage pool in each of the reservoirs as follows: Texoma, 462,800; Mayse, 11,000, Cooper, 19,890; Benbrook, 6,830; Pool, 3,980; Roberts, 66,140; Lewisville, 98,440; Grapevine, 32,820; Lavon, 150,230; Richland-Chambers, 67,800; Navarro, 23,790; Bardwell, 8,330; Whitney, 32,600; Waco, 23,600; Proctor, 34,480; Belton, 113,080; Stillhouse, 101,490; Georgetown, 12,960; Granger, 36,930; Patman, 778,060; Lake O' the Pines, 181,960; Rayburn, 323,920; Somerville, 5,900; Travis, 64,180; and Canyon, 10,300.

### 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.

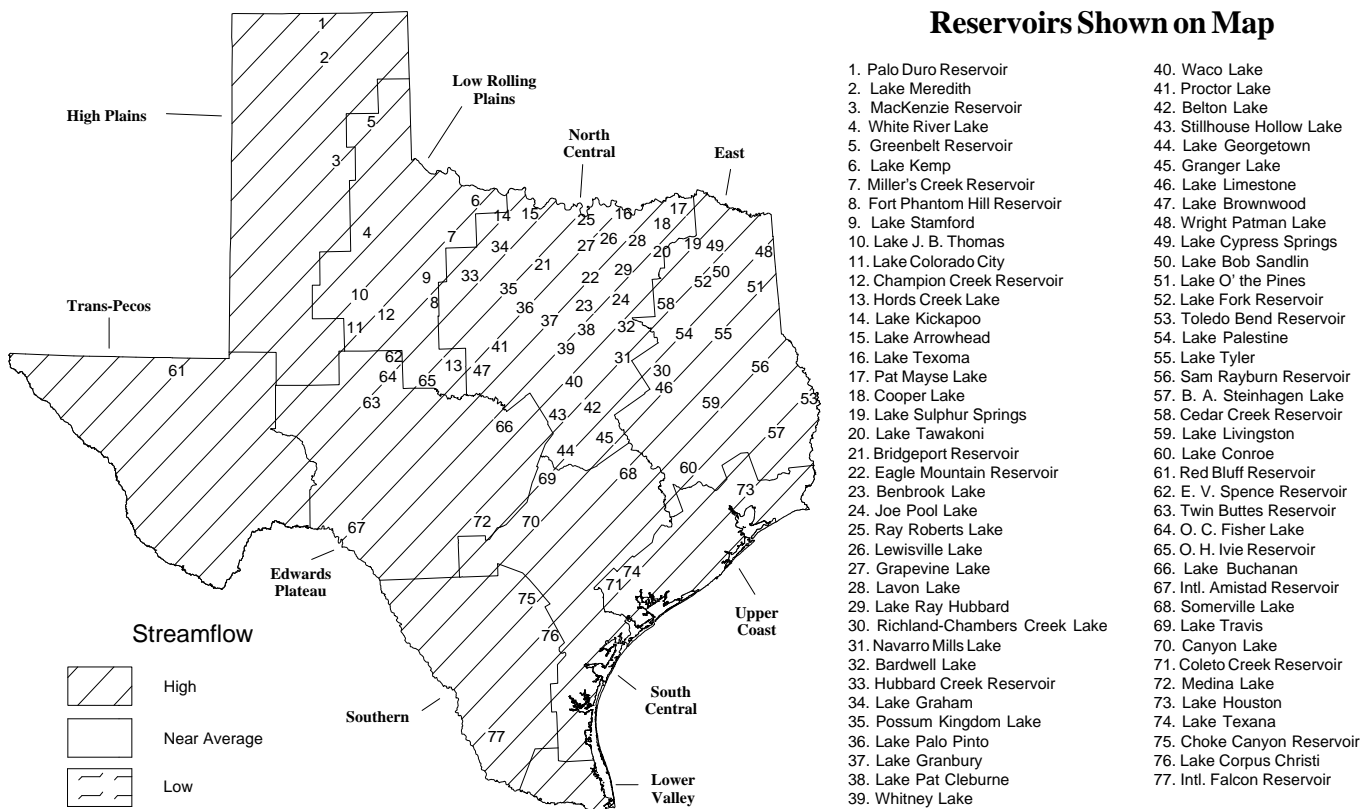
# STREAMFLOW

Streamflow conditions across Texas were above-normal during the month of April. Periods of heavy rainfall occurred throughout the month over all climatic divisions. For most of the state, the highest runoff occurred from storms early in the month. The driest period for most of the state occurred during the next to last week of the month. The following is a summary of the measured flows at various index stations across the State.

The index station for the East Texas climatic division is located on the Neches River near Rockland. Streamflow for April was in the above-normal range, averaging 6,344 cubic feet per second (cfs). The monthly average flow rate, when compared to the 1961-90 reference period, was 267 percent of the reference period median and 1,300 cfs above the near-normal level for this location. For North-central Texas, the index station is located on the

North Bosque River near Clifton. Streamflow past the gage was above normal for the eighth consecutive month, averaging 1,187 cfs, or 1,217 percent of the monthly reference period median. This was 785 cfs above the station's near-normal flow level. Elsewhere across the State, the index station for the Edwards Plateau is located on the North Concho River near Carlsbad. Streamflow past the gage averaged 7.92 cfs during the month, or 365 percent of the reference period median. This value was above-normal, 2.11 cfs above the station's near-normal April flow level. The index station for South-central Texas is located on the Guadalupe River near Spring Branch. Flow during the month at the station was above-normal, averaging 1,605 cfs past the gage. This was 674 percent of the month's reference period median flow rate and was 1,096 cfs above the near-normal streamflow level.

## STREAMFLOW CONDITIONS FOR APRIL COMPARED WITH PAST RECORD



CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity					
			Late April 1997		Late March 1997		Late April 1996	
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	14,170	23	9,170	15	2,180	4
Lake Meredith (Texas)	2	500,000	368,210	74	353,660	71	296,550	59
Lake Meredith (Texas & Oklahoma)	(2)	(779,560)	(362,540)	(47)	(361,990)	(46)	(315,980)	(40)
MacKenzie Reservoir	3	46,250	8,950	19	7,500	16	7,330	16
White River Lake	4	31,850	12,380	39	7,420	23	8,310	19
TOTAL		639,000	403,710	63	377,750	59	312,190	49
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	29,200	50	24,460	42	21,090	36
Lake Kemp	6	319,600	264,500	83	232,740	73	230,500	72
Miller's Creek Reservoir	7	27,890	12,740	46	11,940	43	12,080	43
Fort Phantom Hill Reservoir	8	70,030	66,480	95	64,260	92	51,300	73
Lake Stamford	9	52,700	22,000	42	23,220	44	29,200	55
Lake J. B. Thomas	10	202,300	12,610	6	10,420	5	11,680	6
Lake Colorado City	11	30,800	18,500	60	18,800	61	18,770	61
Champion Creek Reservoir	12	41,600	21,970	53	21,780	52	26,510	64
Hords Creek Lake	13	8,600	7,850	91	7,560	88	5,630	65
TOTAL		811,720	455,850	56	415,180	51	406,760	50
NORTH CENTRAL								
Lake Kickapoo	14	106,000	68,240	64	67,460	64	81,450	77
Lake Arrowhead	15	262,100	213,040	81	210,800	80	216,450	83
Lake Texoma	16	2,722,300	2,722,300	100	2,556,900	94	2,621,800	96
Pat Mayse Lake	17	124,500	124,500	100	124,500	100	104,500	84
Cooper Lake	18	273,000	273,000	100	273,000	100	263,360	96
Lake Sulphur Springs	19	17,710	17,710	100	17,710	100	12,190	69
Lake Tawakoni	20	936,200	936,200	100	936,200	100	771,500	82
Bridgeport Reservoir	21	374,830	374,830	100	374,830	100	322,900	86
Eagle Mountain Reservoir	22	178,380	178,380	100	178,380	100	157,660	88
Benbrook Lake	23	88,200	88,200	100	88,200	100	88,200	100
Joe Pool Lake	24	175,800	175,800	100	175,800	100	152,820	87
Ray Roberts Lake	25	798,760	798,760	100	798,760	100	752,610	94
Lewisville Lake	26	555,000	555,000	100	555,000	100	387,500	70
Grapevine Lake	27	187,700	187,700	100	187,700	100	145,090	77
Lavon Lake	28	443,800	443,800	100	443,800	100	316,000	71
Lake Ray Hubbard	29	490,000	488,790	99	487,700	99	404,900	83
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	1,103,820	100	987,320	89
Navarro Mills Lake	31	55,810	55,810	100	55,810	100	44,490	80
Bardwell Lake	32	53,580	53,580	100	53,580	100	45,210	84
Hubbard Creek Reservoir	33	317,800	317,000	99	314,300	99	239,700	75
Lake Graham	34	45,000	45,000	100	45,000	100	45,000	100
Possum Kingdom Lake	35	551,820	537,240	97	551,820	100	477,770	87
Lake Palo Pinto	36	42,200	42,200	100	42,200	100	34,670	82
Lake Granbury	37	135,680	130,170	96	135,680	100	135,680	100
Lake Pat Cleburne	38	25,300	25,300	100	25,300	100	20,800	82
Whitney Lake	39	622,800	622,800	100	622,800	100	493,040	79
Waco Lake	40	144,550	144,550	100	144,550	100	131,260	91

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

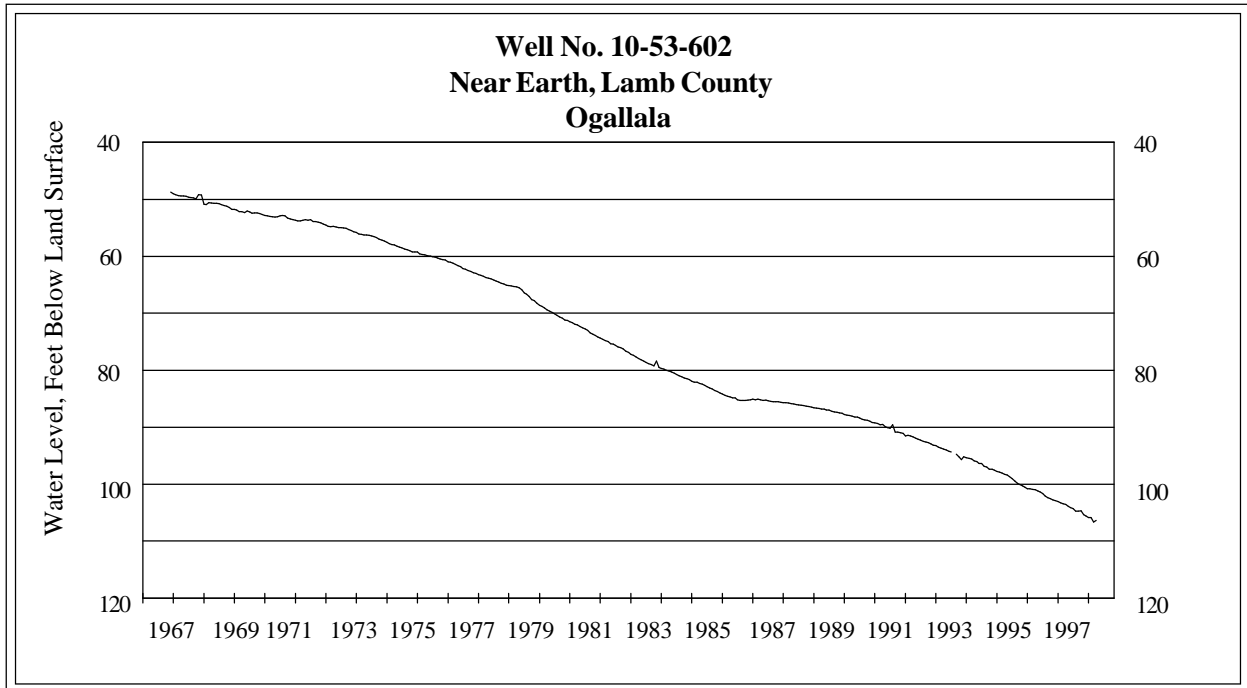
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity					
			Late April 1997	Late March 1997	Late April 1996			
NORTH CENTRAL (continued)								
Proctor Lake	41	55,590	55,590	100	55,590	100	55,380	99
Belton Lake	42	434,500	434,500	100	434,500	100	416,080	96
Stillhouse Hollow Lake	43	226,060	226,060	100	226,060	100	222,850	99
Lake Georgetown	44	37,010	37,010	100	37,010	100	21,790	59
Granger Lake	45	54,280	54,280	100	54,280	100	54,280	100
Lake Limestone	46	215,750	215,750	100	215,750	100	190,150	88
Lake Brownwood	47	143,400	143,400	100	142,700	99	114,500	80
TOTAL		11,999,230	11,890,310	99	11,737,490	98	10,528,900	88
EAST								
Wright Patman Lake	48	142,700	142,700	100	142,700	100	142,700	100
Lake Cypress Springs	49	66,800	66,800	100	66,800	100	65,450	98
Lake Bob Sandlin	50	202,300	202,300	100	202,300	100	175,550	87
Lake O' the Pines	51	252,000	252,000	100	252,000	100	251,620	99
Lake Fork Reservoir	52	635,200	635,200	100	635,200	100	635,200	100
Toledo Bend Reservoir	53	4,472,900	4,472,900	100	4,472,900	100	3,474,000	78
Lake Palestine	54	411,300	411,300	100	411,300	100	347,100	84
Lake Tyler	55	73,700	73,700	100	73,700	100	68,940	94
Sam Rayburn Reservoir	56	2,876,300	2,876,300	100	2,876,300	100	1,803,890	63
B. A. Steinhagen Lake	57	94,200	85,270	91	89,280	95	74,270	79
Cedar Creek Reservoir	58	637,050	637,050	100	637,050	100	564,100	89
Lake Livingston	59	1,750,000	1,750,000	100	1,750,000	100	1,750,000	100
Lake Conroe	60	429,900	416,970	97	417,170	97	425,870	99
TOTAL		12,044,350	12,022,490	99	12,026,700	99	9,778,690	81
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	73,050	24	78,930	26	76,020	25
TOTAL		307,000	73,050	24	78,930	26	76,020	25
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	484,800	124,000	26	122,000	25	144,300	30
Twin Buttes Reservoir	63	177,800	71,940	40	71,320	40	33,110	19
O. C. Fisher Lake	64	119,200	20,020	17	19,770	17	16,170	14
O. H. Ivie Reservoir	65	554,340	490,860	89	475,860	86	514,860	93
Lake Buchanan	66	896,980	871,450	97	868,300	97	723,980	81
Amistad Reservoir (Texas)	67	1,771,030	906,370	51	910,430	51	963,120	54
Amistad Reservoir (Texas & Mexico)	(67)	(3,151,300)	(1,333,620)	(42)	(1,260,650)	(40)	(1,208,770)	(38)
TOTAL		4,004,150	2,484,640	62	2,467,680	62	2,395,540	60
SOUTH CENTRAL								
Somerville Lake	68	155,060	155,060	100	155,060	100	155,060	100
Lake Travis	69	1,144,100	1,144,100	100	1,141,340	99	873,280	76
Canyon Lake	70	385,600	385,600	100	385,600	100	360,730	94
Coletto Creek Reservoir	71	35,060	35,060	100	35,060	100	23,390	67
Medina Lake	72	254,000	109,900	43	83,530	33	132,900	52
TOTAL		1,973,820	1,829,720	93	1,800,590	91	1,545,360	78

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

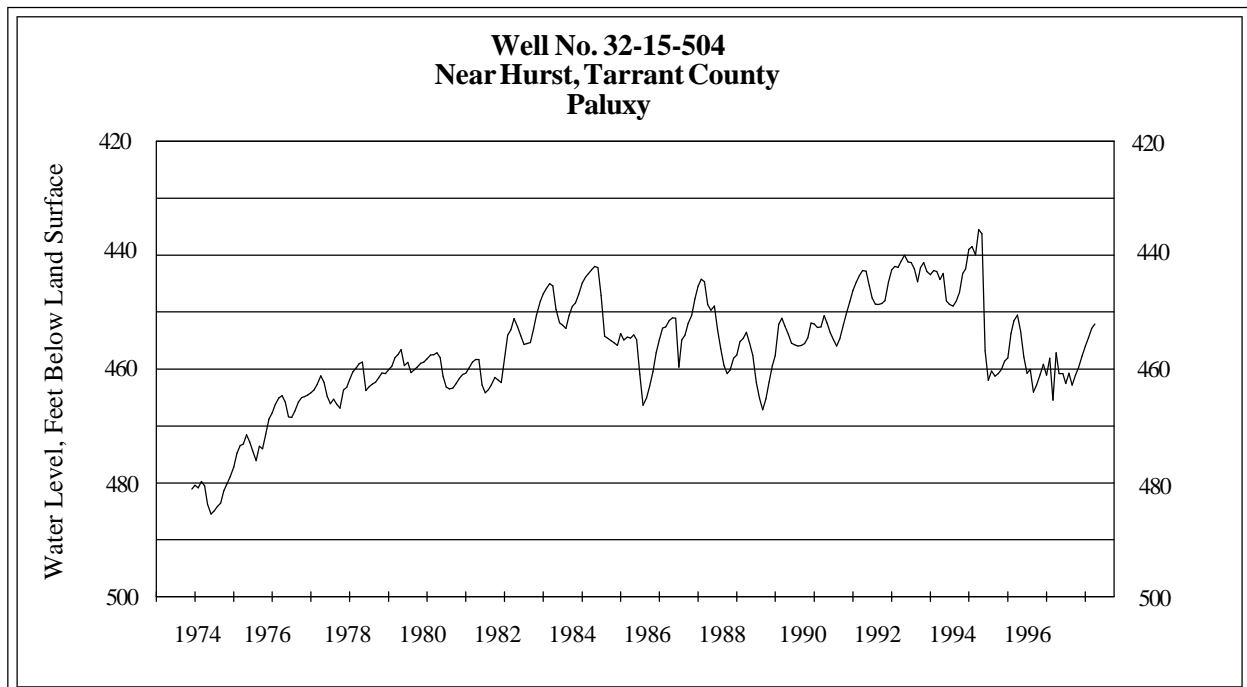
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity					
			Late April 1997		Late March 1997		Late April 1996	
UPPER COAST								
Lake Houston	73	128,860	128,860	100	128,860	100	128,860	100
Lake Texana	74	157,900	157,810	99	157,360	99	140,700	89
TOTAL		286,760	286,670	99	286,220	99	269,560	94
SOUTHERN								
Choke Canyon Reservoir	75	695,260	169,310	24	169,310	24	225,210	32
Lake Corpus Christi	76	241,240	128,000	53	106,600	44	103,800	43
Falcon Reservoir (Texas)	77	1,555,120	424,810	27	368,870	24	286,180	18
Falcon Reservoir (Texas & Mexico)	(77)	(2,653,290)	(563,440)	(21)	(598,300)	(23)	(781,520)	(29)
TOTAL		2,491,620	722,120	29	644,780	26	868,050	35
STATE TOTAL		34,557,650	30,168,560	87	29,835,320	86	26,181,070	76

**NOTES:** 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.) Percentages are based on the conservation storage capacity of and the conservation storage in the reservoirs for date shown. Current data are based on elevations near end of month at 74 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 parenthesis 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 Texas (United States' share) and Mexico and are not included in State total.

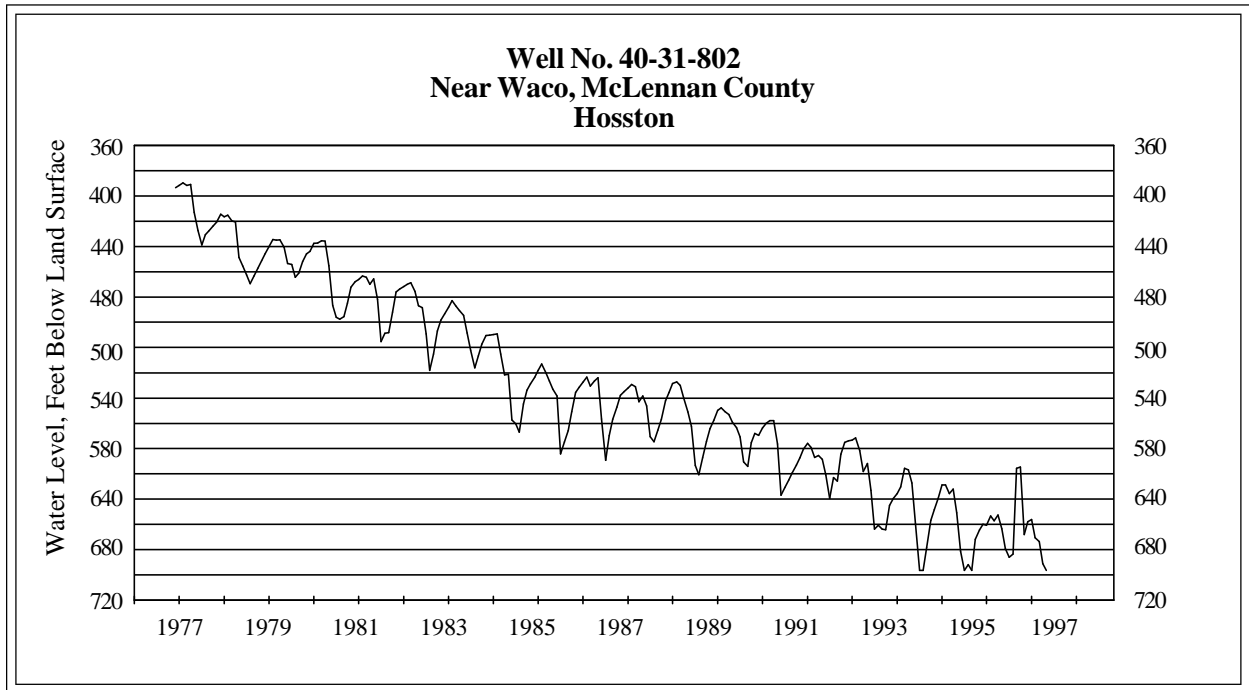
# GROUND WATER LEVELS IN OBSERVATION WELLS



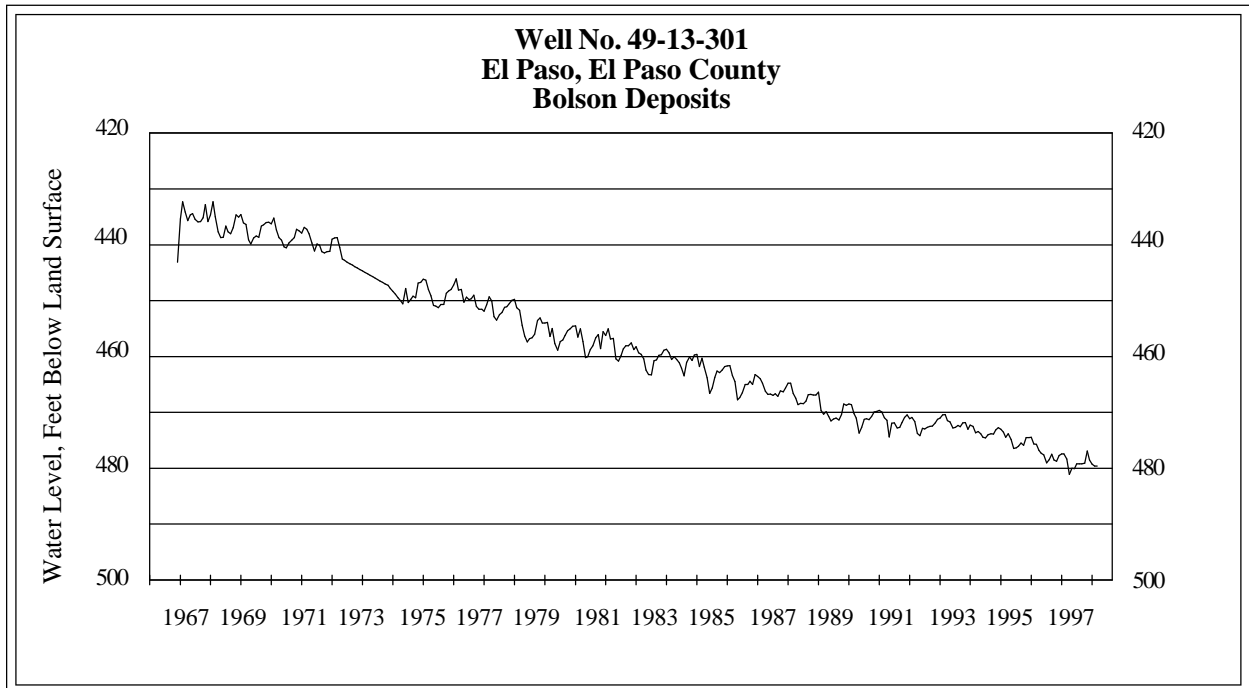
The April water-level measurement in this Ogallala aquifer well, elevation 3667 feet above sea level, was 106.60 feet below land surface. This was 0.75 of a foot below last month's measurement, 3.15 feet below last year's measurement, and 78.45 feet below the initial measurement recorded in 1950.



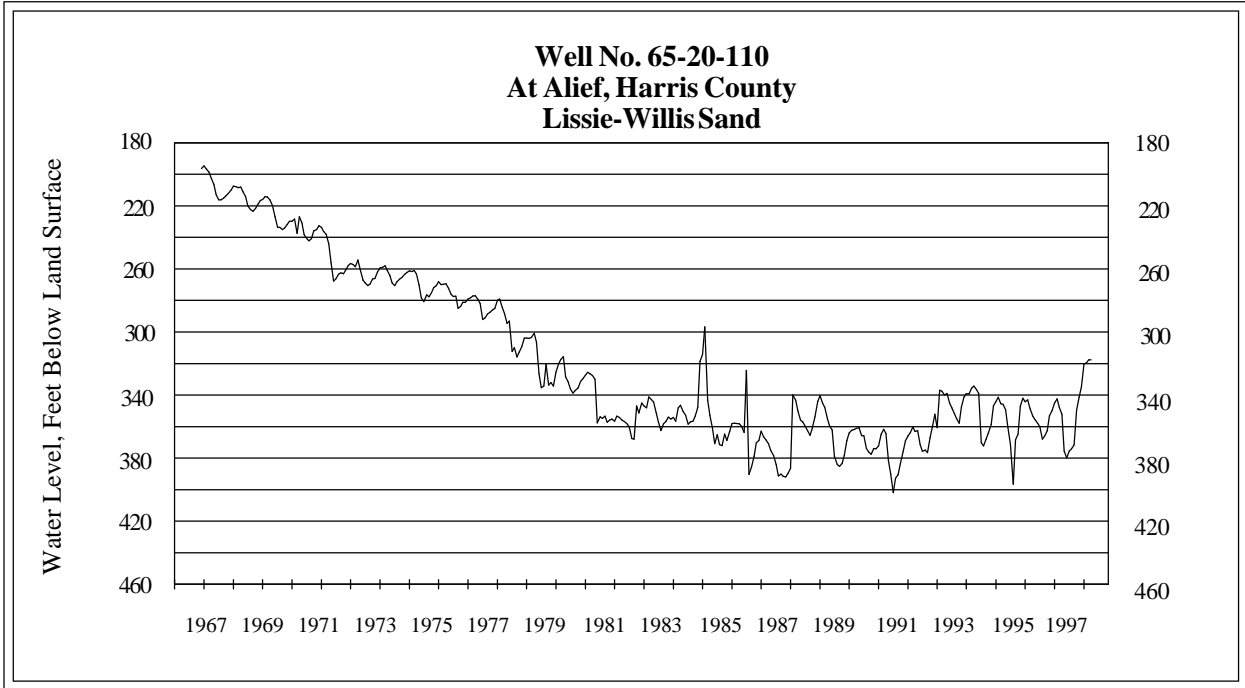
The April water-level measurement in this Paluxy aquifer well, elevation 535 feet above sea level, was 452.91 feet below land surface. The April measurement was 1.58 feet above last month's measurement, 3.78 feet above last year's measurement, and 59.52 feet below the initial measurement recorded in 1953.



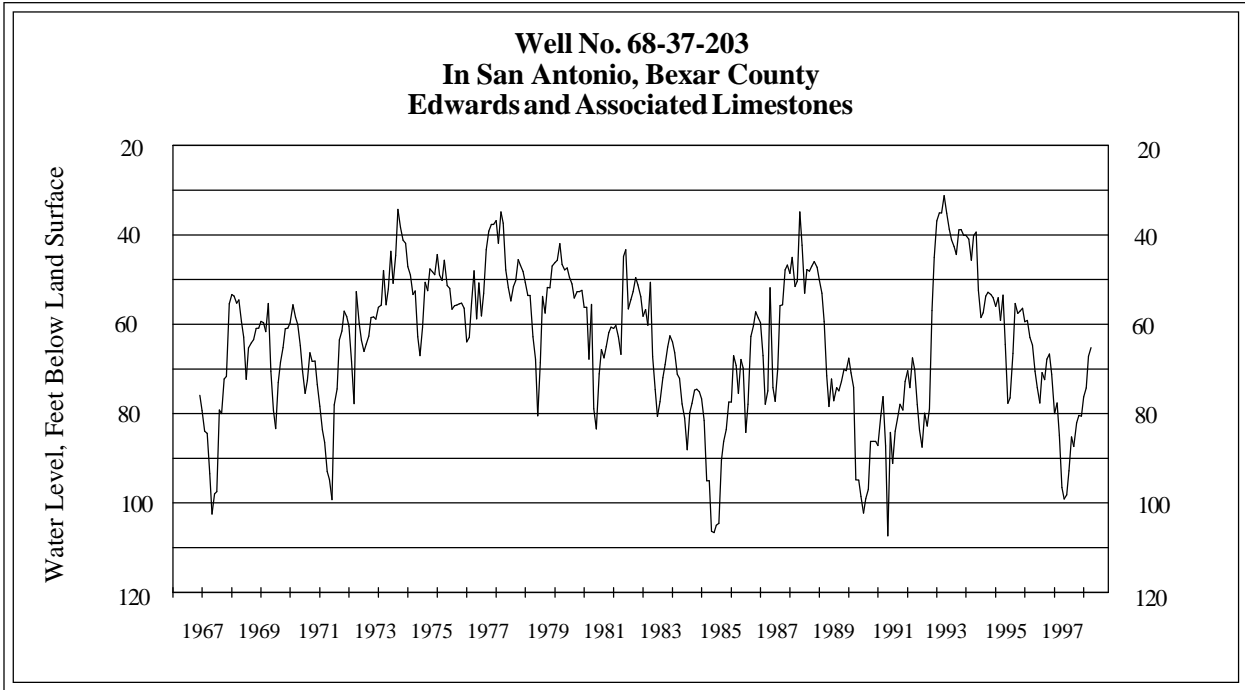
The April water-level measurement in this Hosston Formation aquifer well, elevation 593 feet above sea level, was not available, and will be replaced with another Hosston Formation in Coryell County next month.



The April water-level measurement in this Bolson Deposits aquifer well, elevation 3,882 feet above sea level, was 279.62 feet below land surface. This was 0.35 feet below last month's measurement, 2.17 feet below last year's measurement, and 47.72 feet below the initial measurement recorded in 1964.

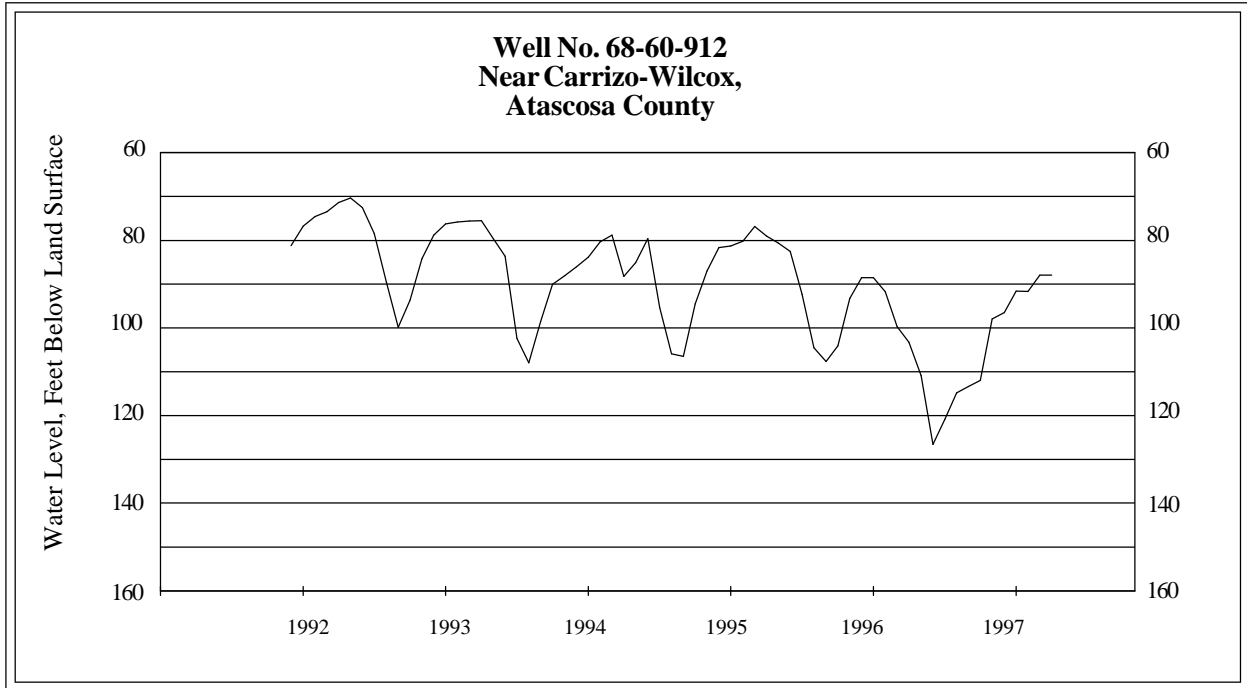


The April water-level measurement in this Lissie Willis Sand aquifer well, elevation 83 feet above sea level, was 317.75 feet below land surface. This was 1.93 feet above last month's measurement, last year's measurement was not available, and 281.75 feet below the initial measurement recorded in 1939.



The April water-level measurement in this Edwards aquifer well, elevation 731 feet above sea level, was 67.20 feet below land surface. This was 7.10 feet above last month's measurement, and 7.58 feet below the initial measurement recorded in 1962.





The April water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 87.91 feet below land surface. This was 3.79 feet above last month's measurement, 11.84 feet above last year's measurement, and 6.66 feet below the initial measurement recorded in 1992.

