

RESERVOIR STORAGE

November 2012

At the end of the month, total storage in 109 of the state's major water supply reservoirs was at 20.2 million acre-feet*, or 65% of their total conservation storage capacity. This is 0.58 million acre-feet less than a month ago but 2.1 million acre-feet more than storage at this time last year.

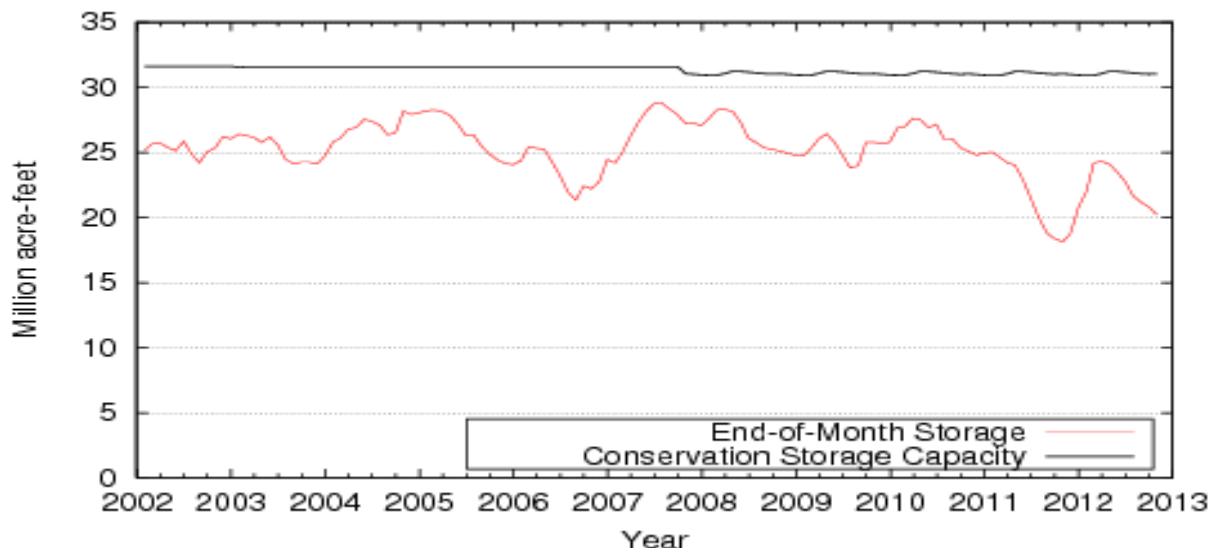
Only two reservoirs, Lake Houston and Wright Patman Lake, held 100% of conservation storage capacity. Fourteen (14) reservoirs were at or below 10% full: O. C. Fisher, Electra and Meredith were effectively empty, Twin Buttes and J. B. Thomas were at 1%, Palo Duro was at 2%, Hords Creek Lake was at 4%, White River was at 5%, E.V. Spence was at 6%, North Fork Buffalo Creek and Mackenzie were at 7%, Lake Abilene and Champion Creek Reservoir were at 9%, and Red Bluff was at 10% full.

Total combined storage was greater than 70% in the North Central (75%), East (85%), and Upper Coast (93%) regions. The regions with the lowest percentage storage were the High Plains (1%) and Trans-Pecos regions (10%). Storage over the last month declined in 8 regions and increased in 1 region.

Elephant Butte reservoir held 122,417 acre-feet, or 6% of storage capacity. This is 8,107 acft more than a month ago.

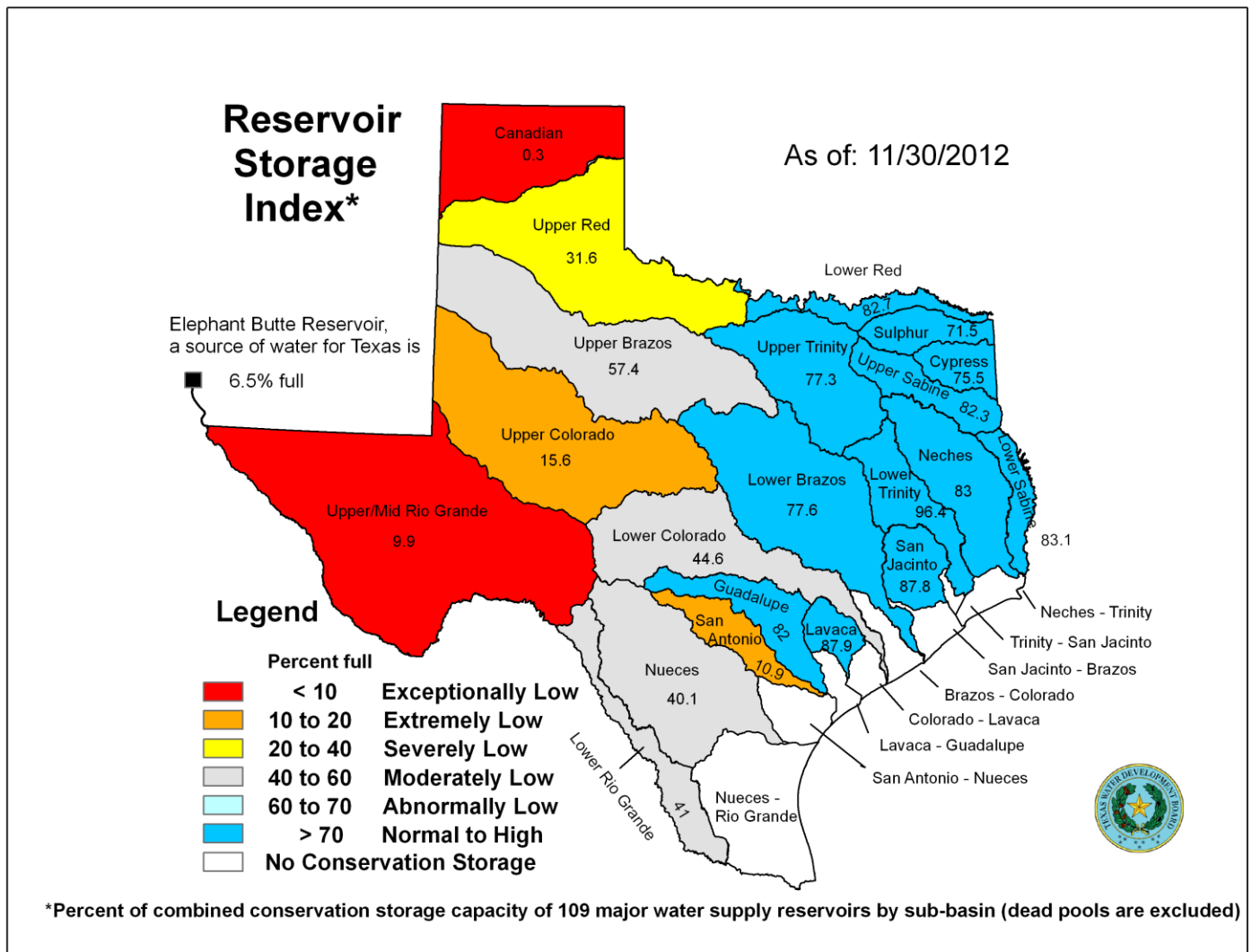
* Only the Texas share of storage in border reservoirs is counted.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



Figures are based on the end of the month data at 109 major reservoirs that represent 95 percent of the total conservation storage capacity of the 188 major water supply reservoirs in Texas. Major reservoirs are defined as having a conservation storage capacity of 5,000 acre-feet or greater.

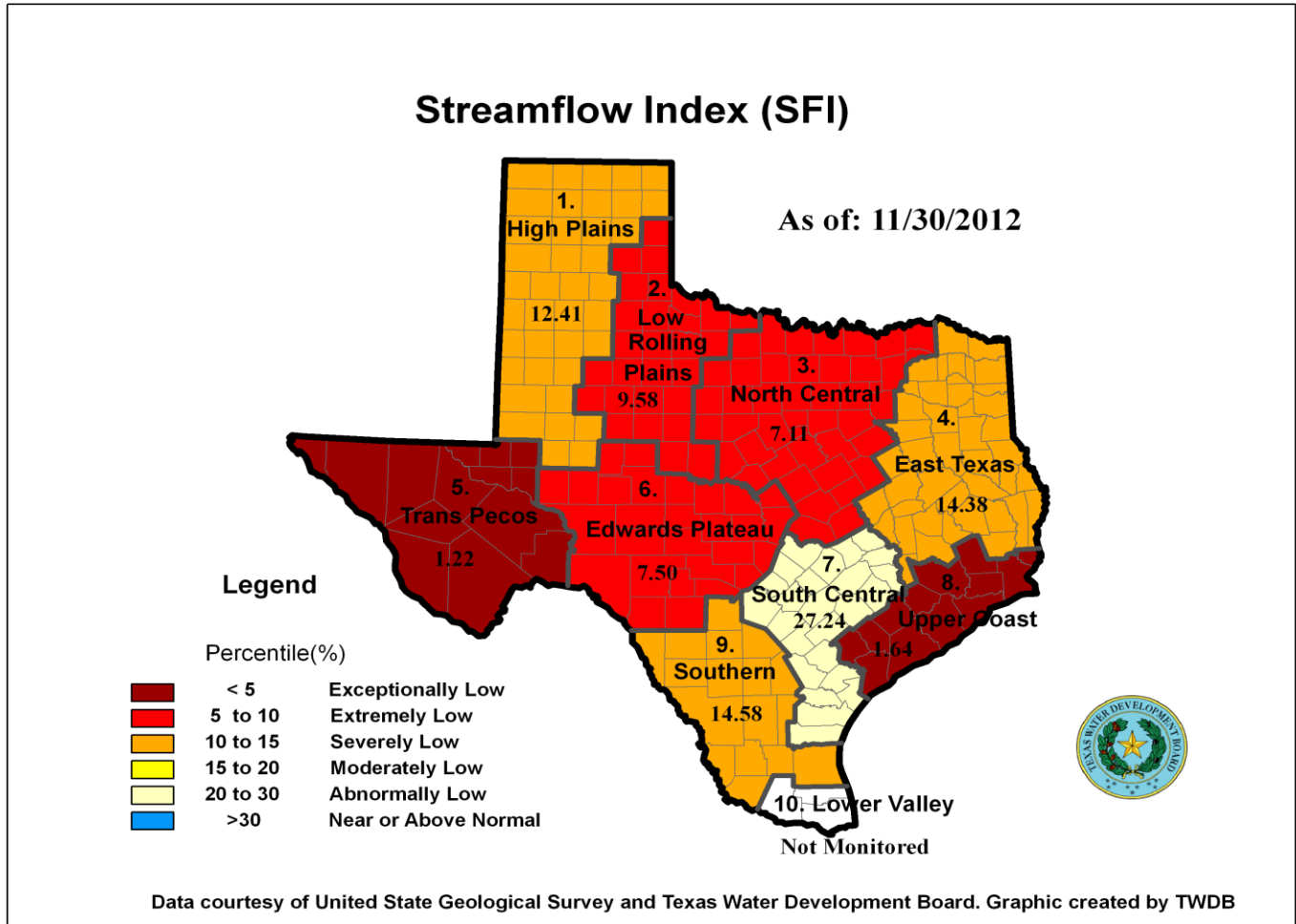
NOVEMBER RESERVOIR CONDITIONS



NOVEMBER STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 3 stations, extremely low (5-10%) at 15 stations, severely low (10-15%) at 3 stations, moderately low (15-20%) at 1 station, abnormally low (20% - 30%) at 3 stations, and near normal (30% - 70%) at the remaining 4 stations. Compared to last month, flows have increased at 6 index stations and decreased at 21 stations.

On a regional basis, flows in this month were exceptionally low in Trans-Pecos and Upper Coast regions, extremely low in Low Rolling Plains, North Central, and Edwards Plateau regions, severely low in High Plains, East Texas, and Southern regions, and abnormally low in South Central region. Streamflow in the Lower Valley region is not monitored.



CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on	Conservation Storage	Conservation Storage	Change since Late Oct.	Change since Late Nov.
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	Map	Capacity (acre-feet)	Late Nov. (acre-feet)	2012 (%)	2012 (acre-feet)	(%)	2011 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,897	1,418	2	-135	0	-2,472	-4
Meredith, Lake (Texas)	2	500,000	0	0	0	0	0	0
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	0	0	0	0	0	0
MacKenzie Reservoir	3	46,429	3,152	7	-66	0	-1,163	-3
White River Lake	4	29,880	1,632	5	-257	-1	-2,991	-10
TOTAL		637,206	6,202	1	-458	0	-6,626	-1
LOW ROLLING PLAINS								
Greenbelt Lake	5	59,500	7,778	13	-348	-1	-2,781	-5
*Electra, Lake	6	5,626	0	0	-3	0	-53	-1
N. Fork Buffalo Crk Reservoir	7	15,400	1,028	7	-92	-1	-1,395	-9
Kemp, Lake	8	245,308	71,194	29	-1,743	-1	-13,969	-6
Millers Creek Reservoir	9	27,888	7,443	27	-346	-1	-2,941	-11
Alan Henry Reservoir	10	94,808	70,583	74	-953	-1	-4,407	-5
Stamford, Lake	11	51,570	14,340	28	-803	-2	-12,528	-24
J B Thomas, Lake	12	199,931	1,161	1	-143	0	-1,172	-1
Fort Phantom Hill, Lake	13	70,030	35,502	51	-918	-1	-2,015	-3
Sweetwater, Lake	14	10,006	1,751	17	-95	-1	-1,285	-13
Colorado City, Lake	15	31,793	11,281	35	-301	-1	1,326	4
Champion Creek Reservoir	16	41,618	3,842	9	-104	0	-1,058	-3
Abilene, Lake	17	6,099	541	9	-94	-2	-1,143	-19
Coleman, Lake	18	38,076	18,231	48	-489	-1	3,073	8
Hords Creek Lake	19	5,684	230	4	-73	-1	230	4
TOTAL		903,337	244,905	27	-6,505	-1	-40,118	-4
NORTH CENTRAL								
Nocona, Lake (Farmers Crk)	20	21,445	10,847	51	-369	-2	-2,208	-10
Hubert H Moss Lake	21	24,058	21,192	88	-347	-1	541	2
Texoma, Lake (Texas)	22	1,315,070	1,102,926	84	-23,832	-2	10,988	1
Texoma, Lake (Texas & Oklahoma)	(22)	2,630,141	2,205,852	84	-47,665	-2	21,976	1
*Pat Mayse Lake	23	117,844	97,739	83	-3,448	-3	308	0
Kickapoo, Lake	24	85,825	35,977	42	-1,234	-1	-9,154	-11
Arrowhead, Lake	25	235,997	99,847	42	-3,444	-1	-30,618	-13
Bonham, Lake	26	11,026	7,591	69	-345	-3	585	5
Crook, Lake	27	9,195	6,731	73	-258	-3	559	6
Amon G Carter, Lake	28	19,903	12,801	64	-325	-2	325	2
Ray Roberts, Lake	29	798,758	695,018	87	-13,842	-2	27,313	3
Jim Chapman Lake (Cooper)	30	260,332	157,121	60	-14,354	-6	78,784	30
Graham, Lake	31	45,260	34,756	77	-1,047	-2	-1,757	-4
*Lost Creek Reservoir	32	11,950	10,390	87	-174	-1	1,117	9
Bridgeport, Lake	33	366,236	213,662	58	-5,925	-2	-21,392	-6
Lewisville Lake	34	563,228	409,466	73	-17,192	-3	20,167	4
Lavon Lake	35	443,844	270,662	61	-16,581	-4	59,021	13
Hubbard Creek Reservoir	36	318,067	101,159	32	-4,515	-1	-38,781	-12
Possum Kingdom Lake	37	540,340	401,295	74	-9,639	-2	22,215	4
*Mineral Wells, Lake	38	7,065	5,140	73	-96	-1	71	1
Weatherford, Lake	39	17,789	10,809	61	-716	-4	534	3
Eagle Mountain Lake	40	179,880	134,913	75	-7,556	-4	9,336	5
Worth, Lake	41	24,500	14,907	61	-31	0	-1,519	-6
Grapevine Lake	42	164,702	121,629	74	-4,759	-3	-8,575	-5
Ray Hubbard, Lake	43	452,040	370,698	82	-15,798	-3	44,922	10
New Terrell City Lake	44	8,583	6,824	80	-227	-3	1,475	17
Daniel, Lake	45	9,435	2,997	32	-207	-2	-281	-3
Palo Pinto, Lake	46	26,827	17,367	65	-1,143	-4	-1,379	-5
Benbrook Lake	47	85,648	56,248	66	113	0	11,048	13
Arlington, Lake	48	40,156	25,999	65	-3,042	-8	590	1

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Nov. 2012 (acre-feet) (%)	Change since Late Oct. 2012 (acre-feet) (%)	Change since Late Nov. 2011 (acre-feet) (%)
NORTH CENTRAL (Continue)					
Joe Pool Lake	49	142,861	124,422 87	-2,806 -2	6,230 4
*Cisco, Lake	50	26,000	10,192 39	-226 -1	-788 -3
Leon, Lake	51	26,421	18,032 68	-516 -2	6,572 25
Granbury, Lake	52	128,046	92,042 72	-2,467 -2	2,926 2
Pat Cleburne, Lake	53	26,008	18,937 73	-743 -3	1,744 7
Waxahachie, Lake	54	10,779	9,153 85	6 0	1,996 19
Bardwell Lake	55	46,122	36,499 79	-1,437 -3	5,649 12
Proctor Lake	56	55,457	34,955 63	-1,730 -3	8,044 15
Whitney, Lake	57	553,349	384,749 70	-4,438 -1	109,470 20
Aquilla Lake	58	44,460	32,459 73	-1,695 -4	3,251 7
Navarro Mills Lake	59	49,826	38,254 77	-1,856 -4	7,155 14
*Halbert, Lake	60	6,033	4,200 70	-214 -4	735 12
Richland-Chambers Reservoir	61	1,087,839	903,474 83	-25,900 -2	154,966 14
*Brownwood, Lake	62	131,429	75,017 57	-2,158 -2	23,265 18
Waco, Lake	62	198,943	167,138 84	-5,491 -3	20,473 10
Limestone, Lake	64	208,015	152,436 73	-6,212 -3	49,247 24
Belton Lake	65	435,225	366,561 84	-9,071 -2	64,544 15
Stillhouse Hollow Lake	66	227,771	197,686 87	-5,677 -2	56,544 25
Georgetown, Lake	67	36,823	20,385 55	528 1	6,073 16
Granger Lake	68	50,779	46,310 91	-848 -2	14,443 28
Tawakoni, Lake	69	888,126	731,320 82	-19,170 -2	98,557 11
TOTAL		10,585,315	7,920,932 75	-242,454 -2	815,331 8
EAST					
Wright Patman Lake	70	122,593	122,593 100	-12,656 -10	0 0
*Sulphur Springs, Lake	71	17,838	13,849 78	-357 -2	5,336 30
Cypress Springs, Lake	72	66,756	60,249 90	-527 -1	6,617 10
Bob Sandlin, Lake	73	200,579	151,947 76	-4,975 -2	25,786 13
Fork Reservoir, Lake	74	604,927	492,200 81	-8,265 -1	72,455 12
O the Pines, Lake	75	238,933	170,411 71	-4,817 -2	-1,752 -1
Cedar Creek Reservoir in Trinity	76	644,686	530,539 82	-16,172 -3	110,186 17
Athens, Lake	77	29,435	23,437 80	-353 -1	2,555 9
Palestine, Lake	78	370,907	331,114 89	-5,949 -2	88,146 24
Tyler, Lake	79	73,256	52,847 72	-2,066 -3	10,823 15
Murvaul, Lake	80	38,284	34,689 91	-668 -2	10,614 28
Jacksonville, Lake	81	25,670	23,866 93	-424 -2	4,096 16
Nacogdoches, Lake	82	39,521	32,992 83	-770 -2	14,684 37
Houston County Lake	83	17,113	16,846 98	-165 -1	4,616 27
Sam Rayburn Reservoir	84	2,857,077	2,355,219 82	-81,598 -3	769,000 27
Toledo Bend Reservoir (Texas)	85	2,236,450	1,856,344 83	-33,652 -2	550,406 25
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	3,712,688 83	-67,305 -2	1,100,812 25
*Livingston, Lake	86	1,741,867	1,679,000 96	-29,000 -2	237,000 14
B A Steinhagen Lake	87	66,966	54,439 81	-1,835 -3	2,971 4
Conroe, Lake	88	416,188	354,158 85	-4,393 -1	78,437 19
TOTAL		9,809,046	8,356,739 85	-208,642 -2	1,991,976 20
TRANS-PECOS					
Red Bluff Reservoir	89	130,170	12,805 10	680 1	8,687 7
TOTAL		130,170	12,805 10	680 1	8,687 7

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake	No.	Conservation	Conservation	Change since	Change since
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or Reservoir	on Map	Storage Capacity (acre-feet)	Storage Late Nov. (acre-feet)	2012 (%)	Late Oct. 2012 (acre-feet)	(%)	Late Nov. 2011 (acre-feet)	(%)
EDWARDS PLATEAU								
Oak Creek Reservoir	90	39,260	12,175	31	-373	-1	-2,671	-7
E V Spence Reservoir	91	517,272	29,120	6	93	0	26,941	5
O C Fisher Lake	92	79,483	0	0	0	0	0	0
*O H Ivie Reservoir	93	554,335	130,210	23	-6,014	-1	27,698	5
Twin Buttes Reservoir	94	177,850	1,779	1	-297	0	1,779	1
Brady Creek Reservoir	95	29,110	7,079	24	-227	-1	-39	0
Buchanan, Lake	96	875,610	385,481	44	-10,714	-1	55,596	6
Lyndon B Johnson, Lake	97	113,323	111,440	98	122	0	-60	0
*Amistad Reservoir (Texas)	98	1,840,849	906,000	49	-51,000	-3	-624,000	-34
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	1,559,000	48	-53,000	-2	-1,221,000	-37
TOTAL		4,227,092	1,583,284	37	-68,410	-2	-514,756	-12
SOUTH CENTRAL								
Travis, Lake	99	1,113,255	438,780	39	-15,088	-1	53,555	5
*Austin, Lake	100	21,804	20,329	93	-401	-2	-250	-1
Somerville Lake	101	147,104	122,595	83	-3,097	-2	66,119	45
Canyon Lake	102	378,781	313,889	83	-4,812	-1	13,588	4
Medina Lake	103	254,823	27,739	11	-3,518	-1	-33,377	-13
*Coleto Creek Reservoir	104	31,040	22,121	71	-841	-3	-2,730	-9
TOTAL		1,946,807	945,453	49	-27,757	-1	96,905	5
UPPER COAST								
Houston, Lake	105	128,863	128,863	100	0	0	363	0
Texana, Lake	106	159,640	140,443	88	-9,681	-6	78,805	49
TOTAL		288,503	269,306	93	-9,681	-3	79,168	27
SOUTHERN								
Choke Canyon Reservoir	107	695,262	342,623	49	-11,181	-2	-88,465	-13
Corpus Christi, Lake	108	256,961	40,364	16	-3,751	-1	-50,490	-20
*Falcon Reservoir (Texas)	109	1,551,034	485,000	31	3,000	0	-211,000	-14
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	651,000	25	-3,000	0	-465,000	-18
TOTAL		2,503,257	867,987	35	-11,932	0	-349,955	-14
STATE TOTAL		31,030,733	20,207,613	65	-575,159	-2	2,080,612	7

* Conservation volume is used as conservation storage capacity because the dead storage is unknown.

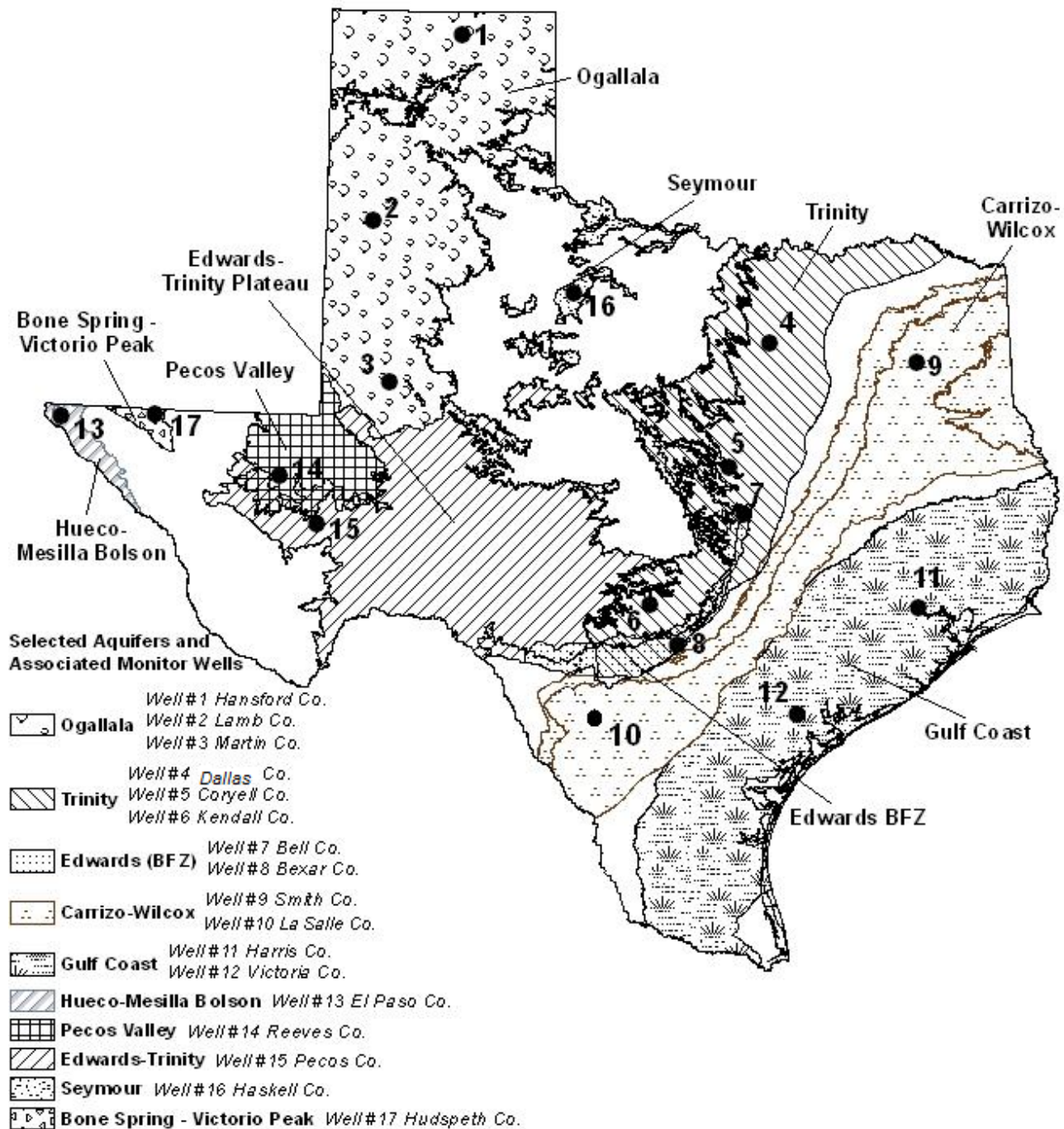
In Addition

Elephant Butte Reservoir	1,975,000	122,417	6	8,107	0	-116,742	-6
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Note:

Conservation storage capacity is the space available to store water above the lowest outlet and below the 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 the dead storage. Conservation storage percentage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir on date shown. Percent change is given by $100 \times (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$. Figures shown are for the Texas share of conservation storage in all reservoirs.

NOVEMBER 2012 GROUNDWATER LEVELS IN OBSERVATION WELLS



November, 2012

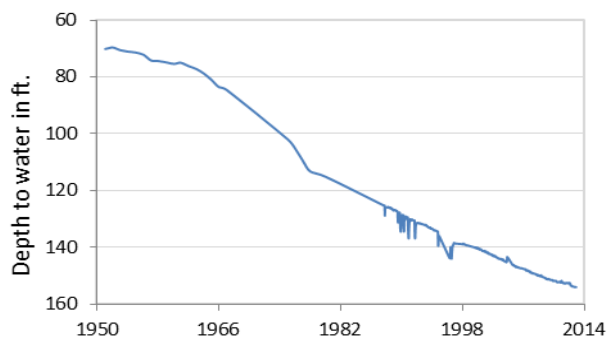
Water level measurements were available for sixteen of seventeen key monitoring wells in the state. Water levels rose in nine of the monitoring wells since the beginning of November, ranging from 0.1 feet in the Martin County Ogallala Aquifer well to 10.06 foot in the Pecos County Edwards Trinity Aquifer well. Water levels remained unchanged in the Hansford Ogallala well and declined in six monitoring wells, ranging from 0.2 feet in the Lamb County Ogallala Aquifer well to 13.01 feet in the La Salle County Carrizo-Wilcox Aquifer well. The J-17 well in San Antonio recorded a water level of 82.79 feet below land surface or 648.21 feet above mean sea level. This water level is 1.79 feet below the Stage II critical management level in that segment of the Edwards Aquifer. Stage II restrictions were declared by the EAA on September 18th when the ten-day average fell below the 650-foot elevation or 81 feet below land surface.

* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

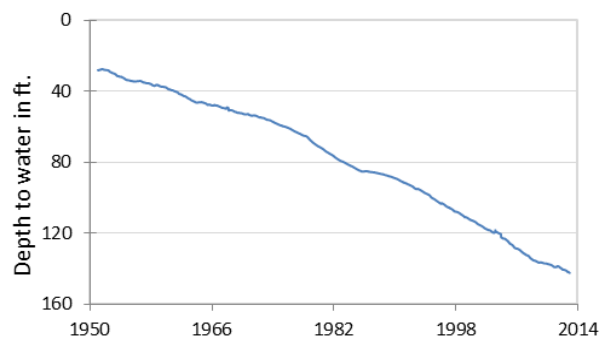
Monitoring Well	Nov	Oct	Month Change	Year Change	Historical Change
(1) Hansford 0354301	154	154	0	-1.32	-83.88
(2) Lamb 1053602	142.35	142.15	-0.2	-2.28	-114.2
(3) Martin 2739903	139.79	139.89	0.1	-0.04	-34.9
(4) Dallas 3319101	491.26	489.72	-1.54	-7.24	-269.26
(5) Coryell 4035404	504.2	505.1	0.9	-9.66	-212.2
(6) Kendall 6802609	137.2	139.61	2.41	8.9	-77.2
(7) Bell 5804816	125.79	125.49	-0.3	-0.25	-2.66
(8) Bexar 6837203	82.79	84.1	1.31	-1.69	-36.15
(9) Smith 3430907	439.3	435.77	-3.53	-1.49	-73.3
(10) La Salle 7738103	448.5	435.49	-13.01	NA	-195.43
(11) Harris 6514409	202.56	201.53	-1.03	6.8	-67.06
(12) Victoria 8017502	36.94	37.16	0.22	2.91	-2.94
(13) El Paso 4913301	NA	292.9	NA	NA	-61
(14) Reeves 4644501	148.63	151.81	3.18	0.09	-56.54
(15) Pecos 5216802	211.49	221.55	10.06	3.81	35.39
(16) Haskell 2135748	47.26	47.47	0.21	-0.99	-5.93
(17) Hudspeth 4807516	140.52	145.34	4.82	-1.05	-36.6

NOVEMBER GROUNDWATER LEVELS IN OBSERVATION WELLS

(1) State Well ID 03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



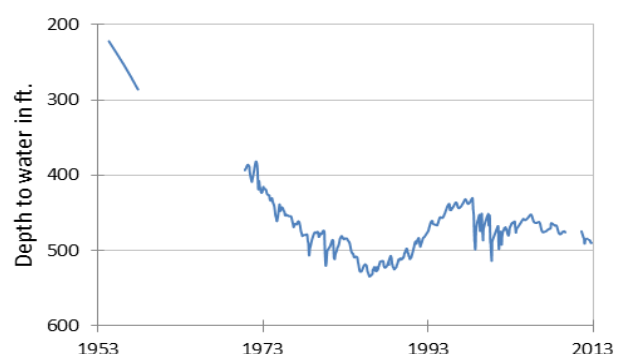
(2) State Well ID 10-53-602
Near Earth, Lamb County
Ogallala Aquifer



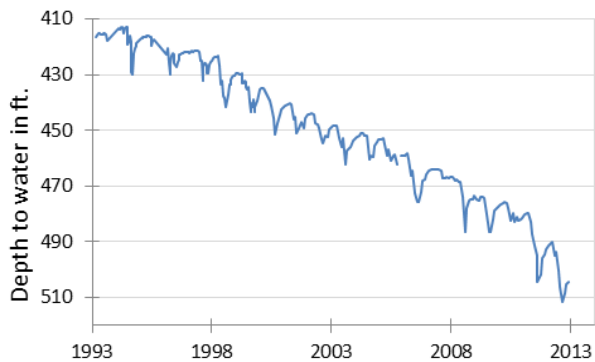
(3) State Well ID 27-39-903
Northwest Martin County
Ogallala Aquifer



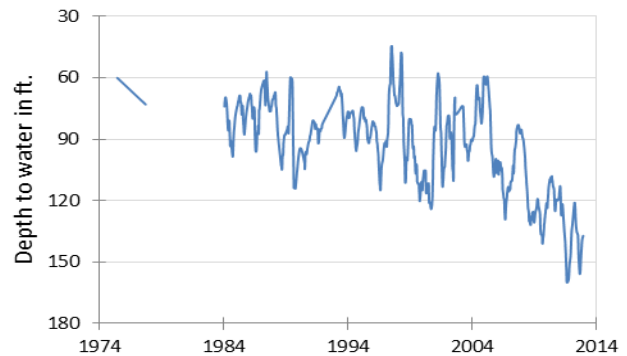
(4) State Well ID 33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer



**(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



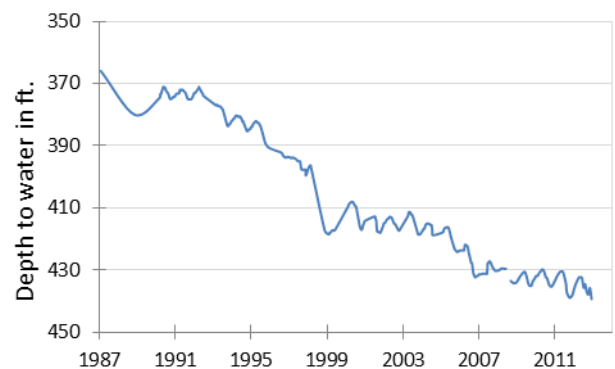
**(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



**(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (BFZ) Aquifer**



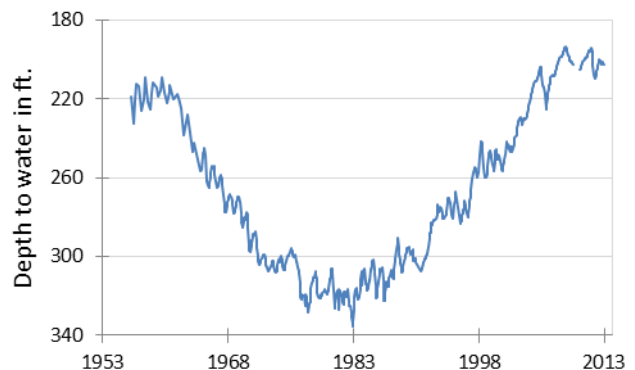
**(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



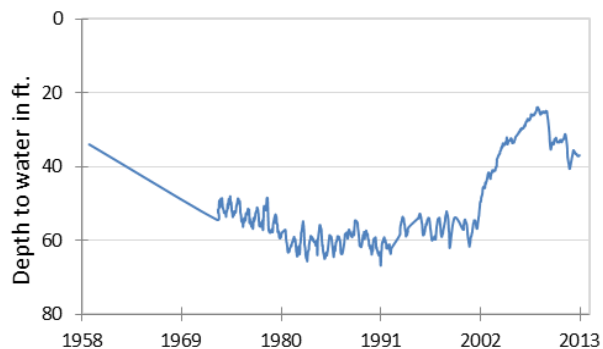
**(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



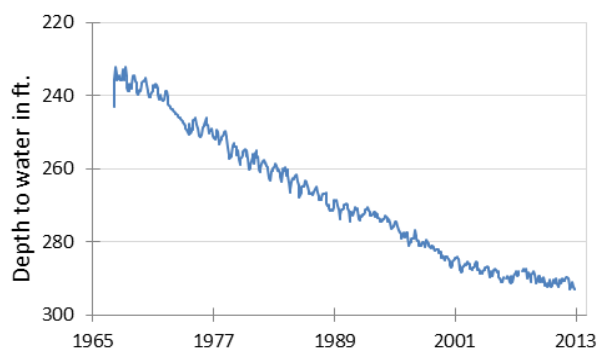
**(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



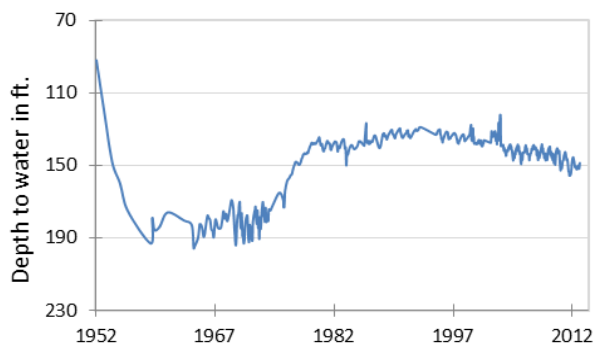
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



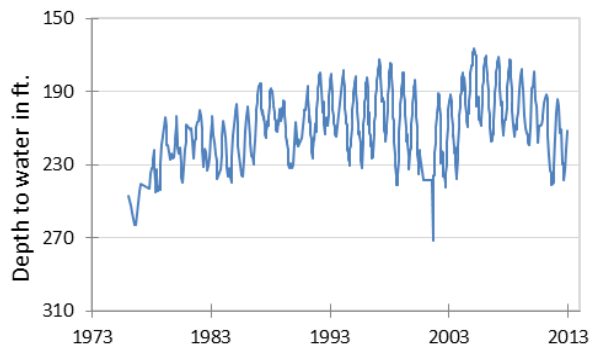
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



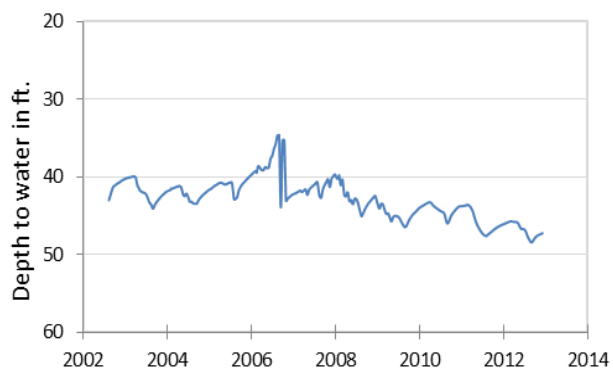
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



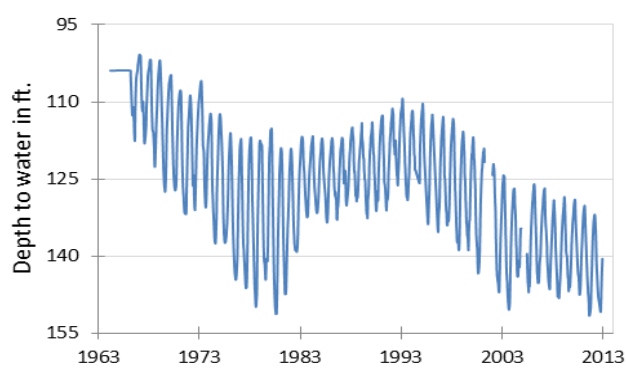
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



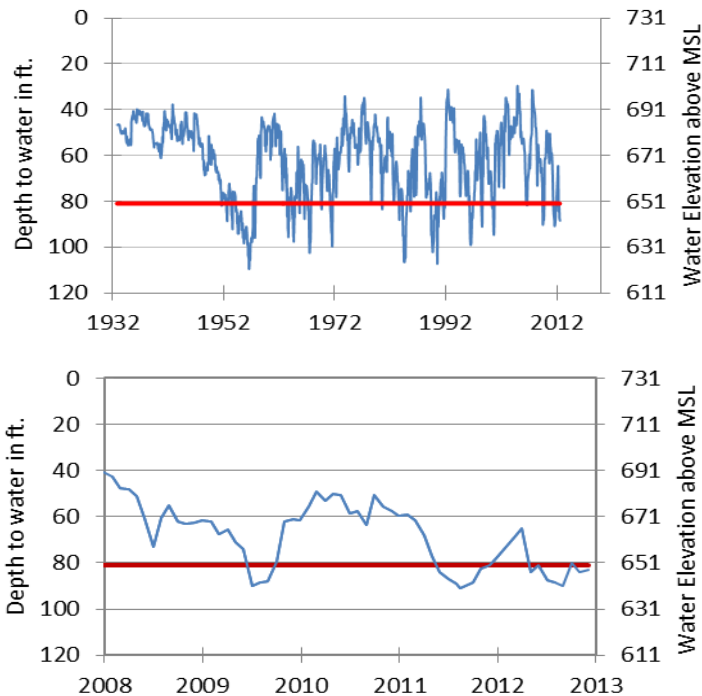
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer



(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



(8) State Well ID 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (BFZ) Aquifer

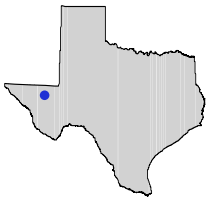


The late November water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 82.79 feet below land surface, or 648.21 feet above mean sea level. This was 4.2 feet below last month's measurement, 1.39 feet below last year's measurement, and 37.46 feet below the initial measurement recorded in 1932.

*** Water levels below the red line indicate Edwards Aquifer Authority Stage II drought restrictions. ***

HYDROGRAPH OF THE MONTH

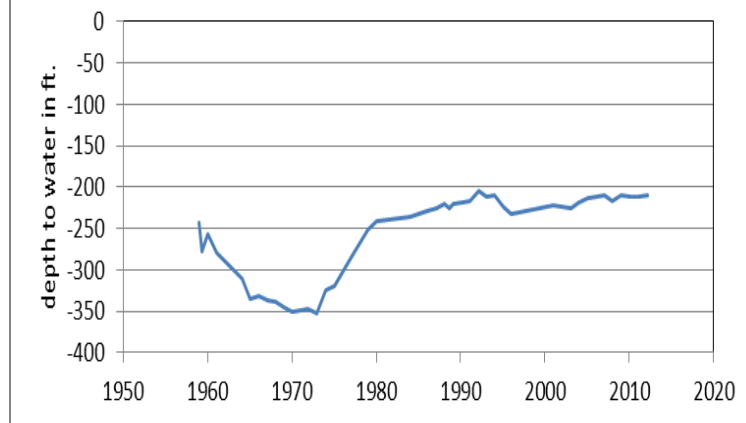
Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.



Pecos Valley Aquifer

The Pecos Valley Aquifer is a major aquifer in far west Texas situated within the erosional basin of the Pecos River. The aquifer is composed of alluvial and windblown sediments that fill several structural basins, the largest of which are the Pecos Trough and Monument Draw Trough. These troughs overlay, and were generated by, the dissolution and collapse of older, more soluble rocks within the Paleozoic Delaware Basin. The thickness of this alluvial fill reaches 1,500 feet in some places. The sources of the alluvium are the exposed Mesozoic rocks in northwest Texas and southeast New Mexico. Total dissolved solids concentrations in the Pecos Valley Aquifer range from less than 200 to more than 10,000 milligrams per liter. The chemical quality of water in the aquifer is highly variable, changing with location and depth. Production from the aquifer has historically been used for irrigation and municipal supply; the brackish waters of the aquifer present at greater depths have been recently suggested as a source for potential desalination facilities.

Well #46-44-704 Reeves County



This hydrograph depicts water level change in a 1,406-foot deep well, elevation of 2,691 feet, drilled in 1956 in central Reeves County. Reported flow was 940 gallons/minute in 1959. Water levels declined as a result of irrigation until the mid-seventies, but have since rebounded in this currently unused well.

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