



Water-Data Report 2011

**07233550 Palo Duro Reservoir near Spearman, TX**

Beaver Basin  
Palo Duro Subbasin

LOCATION.--Lat 36°20'52", long 101°09'52" referenced to North American Datum of 1983, Hansford County, TX, Hydrologic Unit 11100104, on intake tower south of dam on Palo Duro Creek, 11 mi north of Spearman.

DRAINAGE AREA.--1,415 mi<sup>2</sup> of which 520 mi<sup>2</sup> probably is noncontributing.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--June 1999 to Sept. 2002 (daily mean contents), Oct. 2002 to current year (daily mean elevation). Due to water level decline in the reservoir causing the gage orifice to be isolated from the main body of water, from Oct. 15, 2005 to Jun. 15, 2010, published daily values are once-daily observer readings.

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929. Satellite telemeter at station.

COOPERATION.--Area-capacity curves developed by Freese and Nichols, Inc. and provided by the Palo Duro River Authority.

REMARKS.--Records good. The lake is formed by a rolled earthfill dam 3,800 ft long. The dam was completed Feb. 11, 1991, and storage began May 22, 1991. The dam and lake are owned by the Palo Duro River Authority. Data regarding the dam are given in the following table:

	Elevation (feet)
Top of dam.....	2,943.0
Design flood (2-foot freeboard).....	2,919.0
Crest of spillway.....	2,915.0
Lowest gated outlet .....	2,892.0

EXTREMES FOR PERIOD OF RECORD.--(period of daily mean contents) Maximum contents, 32,910 acre-ft, Jul. 1, 1999, elevation, 2,877.89 ft; minimum contents, 4,000 acre-ft, Sept. 30, 2002, elevation, 2,846.23 ft; (period of daily mean elevation) maximum elevation, 2,879.75 ft, Jun. 15, 2010; minimum elevation, 2,829.96 ft, Apr. 14, 2010.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 2,867.47 ft, Oct. 1; minimum elevation, 2,848.89 ft, Sept. 30.

## 07233550 Palo Duro Reservoir near Spearman, TX—Continued

**ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,867.43	2,865.35	2,863.88	2,862.37	2,860.96	2,859.78	2,858.49	2,857.00	2,855.41	2,853.60	2,851.82	2,850.24
2	2,867.34	2,865.29	2,863.82	2,862.32	2,860.89	2,859.73	2,858.46	2,856.95	2,855.36	2,853.54	2,851.75	2,850.18
3	2,867.28	2,865.23	2,863.78	2,862.26	2,860.84	2,859.69	2,858.42	2,856.91	2,855.29	2,853.49	2,851.69	2,850.12
4	2,867.21	2,865.16	2,863.72	2,862.22	2,860.80	2,859.65	2,858.35	2,856.87	2,855.22	2,853.44	2,851.65	2,850.04
5	2,867.13	2,865.10	2,863.66	2,862.17	2,860.77	2,859.60	2,858.31	2,856.79	2,855.16	2,853.39	2,851.62	2,849.98
6	2,867.04	2,865.04	2,863.62	2,862.14	2,860.73	2,859.56	2,858.25	2,856.75	2,855.11	2,853.34	2,851.59	2,849.93
7	2,866.97	2,864.98	2,863.56	2,862.08	2,860.69	2,859.51	2,858.19	2,856.70	2,855.04	2,853.28	2,851.55	2,849.86
8	2,866.91	2,864.91	2,863.51	2,862.05	2,860.66	2,859.47	2,858.14	2,856.66	2,854.98	2,853.24	2,851.48	2,849.83
9	2,866.82	2,864.85	2,863.47	2,862.00	2,860.62	2,859.42	2,858.09	2,856.59	2,854.92	2,853.18	2,851.42	2,849.78
10	2,866.75	2,864.78	2,863.43	2,861.94	2,860.58	2,859.37	2,858.03	2,856.54	2,854.86	2,853.12	2,851.36	2,849.73
11	2,866.69	2,864.72	2,863.38	2,861.88	2,860.53	2,859.34	2,857.96	2,856.53	2,854.81	2,853.06	2,851.32	2,849.69
12	2,866.61	2,864.84	2,863.31	2,861.83	2,860.50	2,859.28	2,857.91	2,856.49	2,854.76	2,853.00	2,851.27	2,849.65
13	2,866.54	2,864.84	2,863.26	2,861.79	2,860.47	2,859.24	2,857.85	2,856.43	2,854.70	2,852.95	2,851.23	2,849.60
14	2,866.47	2,864.85	2,863.22	2,861.74	2,860.43	2,859.20	2,857.81	2,856.36	2,854.63	2,852.89	2,851.19	2,849.59
15	2,866.41	2,864.81	2,863.17	2,861.70	2,860.39	2,859.16	2,857.76	2,856.32	2,854.58	2,852.84	2,851.13	2,849.55
16	2,866.34	2,864.76	2,863.12	2,861.66	2,860.36	2,859.12	2,857.67	2,856.28	2,854.53	2,852.78	2,851.07	2,849.52
17	2,866.27	2,864.70	2,863.09	2,861.62	2,860.32	2,859.07	2,857.62	2,856.26	2,854.46	2,852.71	2,851.02	2,849.47
18	2,866.21	2,864.64	2,863.05	2,861.59	2,860.27	2,859.03	2,857.58	2,856.18	2,854.40	2,852.66	2,850.97	2,849.42
19	2,866.14	2,864.59	2,863.00	2,861.55	2,860.24	2,859.01	2,857.53	2,856.14	2,854.35	2,852.60	2,850.91	2,849.38
20	2,866.07	2,864.53	2,862.96	2,861.50	2,860.21	2,858.99	2,857.48	2,856.08	2,854.28	2,852.53	2,850.88	2,849.33
21	2,866.05	2,864.47	2,862.91	2,861.45	2,860.15	2,858.96	2,857.45	2,856.03	2,854.20	2,852.46	2,850.83	2,849.27
22	2,866.06	2,864.41	2,862.86	2,861.40	2,860.11	2,858.92	2,857.40	2,855.97	2,854.16	2,852.40	2,850.78	2,849.26
23	2,865.99	2,864.36	2,862.81	2,861.36	2,860.06	2,858.85	2,857.34	2,855.93	2,854.11	2,852.34	2,850.72	2,849.23
24	2,865.93	2,864.30	2,862.75	2,861.31	2,860.01	2,858.81	2,857.29	2,855.88	2,854.05	2,852.28	2,850.67	2,849.19
25	2,865.87	2,864.22	2,862.70	2,861.26	2,859.96	2,858.77	2,857.26	2,855.81	2,853.99	2,852.23	2,850.62	2,849.16
26	2,865.79	2,864.16	2,862.67	2,861.22	2,859.92	2,858.72	2,857.23	2,855.73	2,853.93	2,852.17	2,850.57	2,849.12
27	2,865.71	2,864.11	2,862.61	2,861.18	2,859.89	2,858.67	2,857.23	2,855.68	2,853.86	2,852.11	2,850.51	2,849.07
28	2,865.63	2,864.07	2,862.56	2,861.14	2,859.83	2,858.64	2,857.18	2,855.62	2,853.80	2,852.04	2,850.46	2,849.03
29	2,865.57	2,864.01	2,862.53	2,861.10	---	2,858.60	2,857.15	2,855.59	2,853.75	2,851.98	2,850.41	2,848.98
30	2,865.49	2,863.94	2,862.49	2,861.05	---	2,858.57	2,857.07	2,855.53	2,853.68	2,851.94	2,850.36	2,848.91
31	2,865.43	---	2,862.43	2,861.00	---	2,858.53	---	2,855.44	---	2,851.88	2,850.31	---
<b>Mean</b>	2,866.39	2,864.67	2,863.14	2,861.67	2,860.40	2,859.14	2,857.75	2,856.26	2,854.55	2,852.76	2,851.07	2,849.54
<b>Max</b>	2,867.43	2,865.35	2,863.88	2,862.37	2,860.96	2,859.78	2,858.49	2,857.00	2,855.41	2,853.60	2,851.82	2,850.24
<b>Min</b>	2,865.43	2,863.94	2,862.43	2,861.00	2,859.83	2,858.53	2,857.07	2,855.44	2,853.68	2,851.88	2,850.31	2,848.91

Water Year 2011	
<b>Mean</b>	2,858.11
<b>Max</b>	2,867.43
<b>Min</b>	2,848.91

07233550 Palo Duro Reservoir near Spearman, TX—Continued

