

## Description of NTMWD Daily Water Use Charts

The NTMWD daily water use charts were originally prepared to track NTMWD Member City and Customer water use after mandatory drought management strategies were implemented during the 2005-2007 drought period. The year 2006 was a dry year in North Texas, similar to the year 2000. Water use in 2005 and following years is compared to year 2000 water use (with adjustments for population growth) to show how the drought management programs implemented by NTMWD, Member Cities, and Customers impacted water demands. The NTMWD daily water use charts continue to be regularly updated to monitor water use within the NTMWD service area after drought management strategies were lifted and the NTMWD Member Cities and Customers returned to their water conservation plans and water management strategies.

The daily water use charts show historical rainfall at Lavon Lake and compare the following:

- 1) Year 2000 demand (adjusted to 2005 through 2011 populations as described below)
- 2) 5 year average demand
- 3) Actual demand for 2005 through 2011

### Year 2000 Water Use Adjusted for Population Growth

The year 2000 demand (adjusted for growth) is shown as a purple line. It is shown as a seven day moving average to smooth the line and make comparisons easier to observe. The year 2000 was chosen for comparison because it was a dry year with high water demands and no significant drought response measures in place.

Since the NTMWD customer population base has grown since 2000, the 2000 demand numbers are increased to show what the anticipated water demand could be in later years with increased population. Population increases are based on North Central Texas Council of Governments estimates.

The year 2000 demand has been adjusted for years 2005 through 2011 as follows:

- 1) Year 2000 demand is increased by 22.88% to compare to year 2005 demand.
- 2) Year 2000 demand is increased by 27.77% to compare to year 2006 demand.
- 3) Year 2000 demand is increased by 32.85% to compare to year 2007 demand.
- 4) Year 2000 demand is increased by 37.33% to compare to year 2008 demand.
- 5) Year 2000 demand is increased by 41.45% to compare to year 2009 demand.
- 6) Year 2000 demand is increased by 42.39% to compare to year 2010 demand.
- 7) Year 2000 demand is increased by 45.95% to compare to year 2011 demand.

In each case the increase is equivalent to the estimated population growth since 2000.

### Five Year Average Water Use Demand

The five year average water use demand is shown so the daily water demand can be compared to an average demand for the NTMWD service area (this reflects varying rainfall conditions). The five year average water use demand is shown as the grey shading in the background of each chart. The five year average water use demand shown is for years 2005 through 2011.

### Actual Water Use Demand for Years 2005 through 2011

The actual water use demand for years 2005 through 2011 is a seven day moving average shown as a red line. Water pumpage is shown in million gallons on a secondary axis, which is labeled on the left side of each chart.

### Implementation of Drought Plan Stages

Labels on the figures indicate when various NTMWD Drought Contingency Plan stages were implemented in 2005 and when the drought stages were terminated in 2007.

### Rainfall

Historical daily rainfall at Lavon Lake is obtained from the United States Army Corps of Engineers website: <http://www.swf-wc.usace.army.mil/cgi-bin/rcshtml.pl?page=Hydrologic>. Rainfall is shown in inches on a secondary axis, which is labeled on the right side of each chart. Rainfall is shown because rainfall events often reduce water use (and extended dry periods are often associated with high water use).