Water Supply Update

January 26, 2012
Topics

• Water Supply Update
  ▪ Lake Texoma Status
• Weather Forecast
• Lake Level Modeling
• Water Use Goals & Performance
• Drought Response Actions
  ▪ City of Dallas Interim Supply
  ▪ Texoma Pipeline Extension
  ▪ Trinity Main Stem Pipeline & Pump Station
• Drought Stage Recommendation
<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Conservation Pool Elevation</th>
<th>Current Elevation</th>
<th>Down</th>
<th>NTMWD’s Storage Capacity %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavon</td>
<td>492.0’</td>
<td>483.82’</td>
<td>8.18’</td>
<td>64</td>
</tr>
<tr>
<td>Chapman</td>
<td>440.0’</td>
<td>429.96’</td>
<td>10.04’</td>
<td>15</td>
</tr>
<tr>
<td>Tawakoni</td>
<td>437.5’</td>
<td>432.15’</td>
<td>5.35’</td>
<td>79</td>
</tr>
<tr>
<td>Texoma</td>
<td>617.0’</td>
<td>614.79’</td>
<td>2.21’</td>
<td>100*</td>
</tr>
</tbody>
</table>

* Not available due to Zebra mussel infestation
Lake Texoma Update

- USACE approval for seasonal pumping
  - Received draft 12/22
  - Resolving technical & legal issues
  - Met with Tulsa District Commander on 1/19

- Pipeline & pumps
  - Pipeline ready for pigging
  - Pumps ready for installation

- Sampling
  - Veligers are still present
Congressional Assistance

- Preparing legislation seeking relief from Lacey Act
  - Lacey Act states “can’t transport zebras across state line”
- Meeting with delegation in mid February
- Earliest legislation could be enacted in fall
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events such as individual storms cannot be accurately forecast more than a few days in advance. Use caution for applications such as crops that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor Intensity levels, but do not necessarily imply drought elimination.
January 5, 2012 La Niña Forecast:

“La Niña likely dissipates sometime between March and May”
Summary of Current Situation

• Full Lake Texoma supply not available
• Upper Sabine Basin supply reduced
• Lake Jim Chapman supply limited
• Temporary diversion permit from Lake Lavon
  ▪ Permit good until 2014

Good News:
• More water in Lake Lavon than in previous worst case analysis:
  ▪ 12/31 – 11,900 acre-feet more in storage than projected
  ▪ 12/31 – Reservoir 0.82 foot higher than projected
  ▪ 1/25 – Recent rainfall will further increase storage
  ▪ Results from more inflow, less evaporation, and/or less demand in December than worst case allow a continuation of Stage 3
Demand Goals

• Goals for Annual Payment Period 2011-12 (October-September)
• Based on use in Annual Payment Period 2010-11
• Contract language:
  “If treated water from the system must be rationed, such rationing shall, within the limits permitted by law, be done by the District on the basis of the relative actual total amount of all treated water from the entire System taken by each such Contracting Party, respectively, during the last preceding Annual Payment Period in which rationing by said parties was not necessary.”
• Reductions due to drought measures:
  ▪ Assume 5 percent Stage 2
  ▪ Assume 10 percent Stage 3
• Goals are for cumulative use in fiscal year
## NTMWD Pumping through December 31

**North Texas Municipal Water District Raw Water Diversions**

**Annual Payment Period 2012 Water Use Goal and Actual Use**

<table>
<thead>
<tr>
<th>Month</th>
<th>Actual Use in WY 2010-11</th>
<th>Reduction for Goal</th>
<th>Goal for Month</th>
<th>WY 2011-12 Year to Date Use</th>
<th>Use in 1000 Gallons</th>
<th>WY 2012 Use</th>
<th>WY 2012 Year to Date Use</th>
<th>Year to Date Amount Over (Under) Goal</th>
<th>Year to Date Percent Over (Under) Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct</td>
<td>9,339,931</td>
<td>5%</td>
<td>8,872,934</td>
<td>8,759,187</td>
<td>(1.3%)</td>
<td>8,759,187</td>
<td>8,872,934</td>
<td>(113,747)</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>Nov</td>
<td>6,556,172</td>
<td>10%</td>
<td>5,900,555</td>
<td>5,768,289</td>
<td>(2.2%)</td>
<td>14,527,476</td>
<td>14,773,489</td>
<td>(246,013)</td>
<td>(1.7%)</td>
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<tr>
<td>Dec</td>
<td>6,526,956</td>
<td>10%</td>
<td>5,874,260</td>
<td>5,271,193</td>
<td>(10.3%)</td>
<td>19,798,669</td>
<td>20,647,750</td>
<td>(849,081)</td>
<td>(4.1%)</td>
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<tr>
<td>Jan</td>
<td>5,281,846</td>
<td>10%</td>
<td>4,753,661</td>
<td>25,401,410</td>
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<td></td>
<td></td>
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<tr>
<td>Feb</td>
<td>5,154,984</td>
<td>10%</td>
<td>4,639,486</td>
<td>30,040,896</td>
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<td></td>
<td></td>
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<tr>
<td>Mar</td>
<td>7,297,127</td>
<td>10%</td>
<td>6,567,414</td>
<td>36,608,310</td>
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<td></td>
<td></td>
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<tr>
<td>Apr</td>
<td>7,506,420</td>
<td>10%</td>
<td>6,755,778</td>
<td>43,364,088</td>
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<td></td>
<td></td>
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<tr>
<td>May</td>
<td>7,622,692</td>
<td>10%</td>
<td>6,860,423</td>
<td>50,224,511</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Jun</td>
<td>12,147,259</td>
<td>10%</td>
<td>10,932,533</td>
<td>61,157,044</td>
<td></td>
<td></td>
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<tr>
<td>Jul</td>
<td>15,652,404</td>
<td>10%</td>
<td>14,087,164</td>
<td>75,244,208</td>
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<td></td>
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<tr>
<td>Aug</td>
<td>15,948,537</td>
<td>10%</td>
<td>14,353,683</td>
<td>89,597,891</td>
<td></td>
<td></td>
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<tr>
<td>Sep</td>
<td>12,417,265</td>
<td>10%</td>
<td>11,175,539</td>
<td>100,773,430</td>
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</tbody>
</table>
NTMWD Pumping through December 31

Comparison of FY 2012 Water Use and Goal
NTMWD Raw Water Diversions

Cumulative FYTD Use (1,000 gallons)

Month

Oct-11 Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12

Actual Cumulative Use
Cumulative Monthly Goal
Drought Response Actions

• Dallas Interim Raw Water Supply
• Extend Lake Texoma Pipeline
• Trinity Main Stem Pipeline & Pump Station
Dallas Interim Raw Water Supply

- DWU will recommend an interim contract
  - 60 MGD
  - 3-year term
  - From Tawakoni, Lake Fork, Ray Hubbard & Trinity Main Stem
  - Contract being prepared
    - Dallas Council briefing scheduled for 2/1
    - Action Item on January Board Agenda
Extend Lake Texoma Pipeline

Recommended Pipeline Route, November 21, 2011
Extend Lake Texoma Pipeline

Key Project Milestones to Date

• 20+ pipeline alignments evaluated over 48 mile pipeline length
• Right-of-entry gained from over 300 property owners
• Option contract on balancing reservoir site
• Aerial survey completed
• Property boundary survey complete
• Concept to connect to Wylie WTP developed
• Construction Manager at Risk (CMAR) selected for project
  ▪ Board consideration at January Board meeting
Main Stem Pipeline & Temporary Pump Station

Recommended Pipeline Route, January 2012
Main Stem Pipeline & Temporary Pump Station

Key Project Milestones to Date

- Evaluated 13 alignment alternatives. Final alignment determined.
- Evaluated 3 pump station sites. Final pump station site selected.
- Field visits by environmental personnel & archaeological group.
- Aerial surveys were conducted.
- CMAR project delivery is being utilized to expedite completion.
  - CMAR will be considered at January Board meeting.
Path Forward

• Continue with current Stage 3 provisions
• Extend twice per month outdoor watering strategy until June 1\textsuperscript{st}
  ▪ Reduce turf irrigation with focus on trees, shrubs, and foundations
• Continue to evaluate water supply status monthly
Drought Stage Recommendation

• Justification:
  ▪ Recent improvement in long-term weather forecast
  ▪ Historically more rainfall in spring months
  ▪ More inflow into reservoirs than worst-case model predicted
  ▪ January 13th modeling extends Stage 3
  ▪ Dallas interim supply being finalized
  ▪ Most cities are approaching or meeting goals
Path Forward Continued

• To remain in Stage 3 or improve, we need:
  ▪ Normal rainfall pattern
  ▪ Seasonal pumping from Texoma
  ▪ Interim raw water supply from Dallas
  ▪ All Member Cities & Customers meeting or exceeding “Goals”
Questions