Water for 2060

Governor's Water Conference
October 11, 2016

J. D. Strong
OWRB Executive Director
Experts predict that extreme events will only become more frequent.
Challenging Years Ahead

- More climate extremes
- Increasing demands for water
- Aging/failing infrastructure
- Shrinking budgets (at least near term)
2012 Update of the Oklahoma Comprehensive Water Plan

- Submitted to Governor and Legislature in 2012
- Most technically sound, extensively vetted Plan
- Executive Report & 13 Watershed Planning Region Reports

Overriding goal to provide safe, reliable water supplies to meet needs of all Oklahomans
Total Water Demands (2060)

Other Demands
762,326 AFY (31%)

M&I (Public Water Supply)
772,773 AFY (32%)

Crop Irrigation
897,464 AFY (37%)

Other Demands:
Thermoelectric Power - 450,227 AF (18%)
Oil & Gas - 115,570 AF (5%)
Livestock - 101,040 AF (4%)
Self-Supplied Industrial - 54,334 AF (2%)
Self-Supplied Residential - 41,155 AF (2%)

OCWP
New Reservoirs?

Potential Reservoir Sites
Category
- 4 - High Viability
- 3 - Lower Viability
Estimated Cost of New Reservoirs...

- 68 detailed studies for Potential new reservoirs
- Construction Costs: $9 million to over $1 billion
- Costs Dependable Yield $500 to $22,000 per AF

<table>
<thead>
<tr>
<th>Reservoir Name</th>
<th>County</th>
<th>Dependable Yield</th>
<th>Conservation Pool Storage</th>
<th>Updated Cost Estimate 2010</th>
<th>Cost per AF Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centerpoint Lake</td>
<td>Pottawatomie</td>
<td>700</td>
<td>3000</td>
<td>$8,943,000</td>
<td>$12,775.71</td>
</tr>
<tr>
<td>Muncrief Dam</td>
<td>McClain</td>
<td>20000</td>
<td>112000</td>
<td>$28,757,000</td>
<td>$1,437.85</td>
</tr>
<tr>
<td>Wellston Lake</td>
<td>Lincoln</td>
<td>7700</td>
<td>25000</td>
<td>$54,023,000</td>
<td>$7,015.97</td>
</tr>
<tr>
<td>Verden Reservoir</td>
<td>Caddo</td>
<td>5000</td>
<td>34000</td>
<td>$56,222,000</td>
<td>$11,244.40</td>
</tr>
<tr>
<td>Shidler Lake</td>
<td>Osage</td>
<td>16803</td>
<td>54920</td>
<td>$58,264,000</td>
<td>$3,467.48</td>
</tr>
</tbody>
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Five Lowest Estimated Proposals by Total Cost

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</thead>
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<tr>
<td>Caney Mountain Lake</td>
<td>Pushmataha</td>
<td>280055</td>
<td>384720</td>
<td>$131,312,000</td>
<td>$468.88</td>
</tr>
<tr>
<td>Durwood Reservoir</td>
<td>Johnston</td>
<td>232000</td>
<td>306000</td>
<td>$166,429,000</td>
<td>$717.37</td>
</tr>
<tr>
<td>Asher Lake</td>
<td>Pontotoc</td>
<td>400000</td>
<td>550000</td>
<td>$373,610,000</td>
<td>$9,340.03</td>
</tr>
<tr>
<td>Bennington Reservoir</td>
<td>Bryan County</td>
<td>179000</td>
<td>287420</td>
<td>$180,662,000</td>
<td>$1,009.28</td>
</tr>
<tr>
<td>Higgins Reservoir</td>
<td>Latimer</td>
<td>68000</td>
<td>190500</td>
<td>$84,651,000</td>
<td>$1,244.87</td>
</tr>
</tbody>
</table>
East-West Conveyance?

$4-20 Billion
+ $600 Million annual O&M
Smaller Out-of-Basin Water Transfers

Kaw to Enid/NW?
Infrastructure Financing
Conservation, Reuse, Recycling
Monitoring
Supply Reliability
Fish & Recreation Flows
Excess/Surplus
State/Tribal Resolution
Regional Planning
Conserve/Reuse/Recycle

WATER FOR 2060
EFFICIENCY • CONSERVATION • RECYCLING • REUSE

An Act

ENROLLED HOUSE
BILL NO. 3055

By: Steele, Lockhart
of the House

and

Fields of the Senate

An Act relating to waters and water rights; creating the Water for 2060 Act; providing short title; stating Legislative findings; stating goal for water consumption by certain year; amending 82 O.S. 2011, Section 1088.1, which relates to the Oklahoma Water Conservation Grant Program; modifying name of act; adding rural water districts to act; authorizing certain water reuse projects; creating the Water for 2060 Advisory Council; stating membership and providing for appointments; requiring Executive Director of the Oklahoma Water Resources Board to serve as chair; providing for quorum, membership vacancies and administrative support for Advisory
“Oklahoma is truly unique in setting such an ambitious goal for water efficiency, conservation, recycling and reuse... There is no doubt that it will take each and every one of us working together to become the nation’s most water-efficient state.”

~ Governor Mary Fallin
## Water for 2060 Advisory Council Recommendations

<table>
<thead>
<tr>
<th>All Water Use Sectors (A)</th>
<th>PWS-1 Develop an Oklahoma public water supply system water efficiency best practices guide.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PWS-2 Develop a state recognition and rewards program for highly efficient public water supply systems.</td>
</tr>
<tr>
<td></td>
<td>PWS-3 Develop an Oklahoma water system loss reduction best practices guide.</td>
</tr>
<tr>
<td></td>
<td>PWS-4 Provide state funding and financing for water system loss reduction.</td>
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<tr>
<td></td>
<td>PWS-5 Encourage regionalization and supply sharing.</td>
</tr>
</tbody>
</table>

### Public Water Supply (PWS)

<table>
<thead>
<tr>
<th>CI-1 Apply state financing programs to water-efficient crop irrigation equipment conversion and practices.</th>
</tr>
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<tr>
<td>CI-2 Develop an Oklahoma crop irrigation best practices guide.</td>
</tr>
<tr>
<td>CI-3 Actively support federal crop insurance reform.</td>
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</tbody>
</table>

### Crop Irrigation (CI)

<table>
<thead>
<tr>
<th>EI-1 Facilitate increased sharing of information and supplies between energy and industry water users.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI-2 Develop an energy and industry water use best practices guidance and recognition program.</td>
</tr>
<tr>
<td>EI-2 Promote industrial use of marginal quality waters.</td>
</tr>
</tbody>
</table>
Education & Outreach Campaigns

Dewey says, "Adjust your sprinkler system to the change of the season. Plants need a lot less water in the fall and winter."

Fall tips to save even more.
Recognition/Incentive Programs

<table>
<thead>
<tr>
<th>Mark</th>
<th>What It Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>Identifies a water-efficient product that has been independently tested and certified to meet EPA WaterSense criteria for efficiency and performance.</td>
</tr>
<tr>
<td>Promotional Label</td>
<td>Advertises the availability of WaterSense labeled products and encourages consumers to look for them. Shows consumers what the WaterSense label looks like.</td>
</tr>
<tr>
<td>Partner Logo</td>
<td>Signifies an organization’s commitment to promoting water efficiency, demonstrated by a signed partnership agreement between that organization and EPA.</td>
</tr>
<tr>
<td>Promotional Logo</td>
<td>Promotes the WaterSense program in materials when talking about WaterSense in general or educating the public about the program.</td>
</tr>
</tbody>
</table>
Marginal Quality Water

Basins with Greatest Potential to Offset Fresh Water Use with MQ Water
Aquifer Storage & Recovery
Regionalization

- Oklahoma has ~700 water systems serving less than 1,000 customers
- Economy of scale benefits; systems with multiple sources more resistant to drought
Break the Cycle

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Thank You!

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