November 2014

Water for 2060 Status Report

With passage of the Water for 2060 Act (HB 3055) in 2012, Oklahoma became the first state in the nation to establish a bold, statewide goal of consuming no more fresh water in 2060 than is consumed today.

Water for 2060 emphasizes the use of education and incentives, rather than mandates, to achieve this ambitious goal without limiting Oklahoma's future growth and prosperity.

Water for 2060 Act

HB 3055 (2012)--"The Legislature hereby declares that, in order to protect Oklahoma citizens from increased water supply shortages and groundwater depletions by the year 2060 in most of the eighty-two watershed planning basins in the state as described in the 2012 Update of the Oklahoma Comprehensive Water Plan, the public policy of this state is to establish and work toward a goal of consuming no more fresh water in the year 2060 than is consumed statewide in the year 2012, while continuing to grow the population and economy of the state and to achieve this goal through utilizing existing water supplies more efficiently and expanding the use of alternatives such as wastewater, brackish water, and other nonpotable supplies. Provided, however, that nothing in the Water for 2060 Act shall be construed as amending the provisions of law pertaining to rights or permits to use water."

Water for 2060 Advisory Council

A fifteen-member advisory council was created in 2013. The Council is chaired by J.D. Strong, OWRB Executive Director, and is comprised of fourteen members appointed by the Governor, Speaker of the House, and President Pro Tempore of the Senate. The members are well-versed in municipal, rural residential, agricultural, industrial, oil and gas, and recreational water uses, as well as water-efficiency, water and wastewater reuse, and marginal quality and brackish water use practices and technologies.

The 15 members are tasked with studying and recommending appropriate water conservation practices, incentives, and educational programs to moderate statewide water usage while supporting Oklahoma's population growth and economic development goals.

The OWRB has partnered with the U.S. Army Corps of Engineers to support the work of the Advisory Council. Quarterly meetings and workshops at the OWRB's Oklahoma City office have provided the Council an opportunity to hear from leaders in public water supply, crop irrigation, and a variety of industries, and consider strategies for increased water use efficiency.

Information gleaned from these workshops will be used to shape the recommendations to be submitted to the Governor, Speaker of the House, and President Pro Tempore by late 2015.

Advisory Council Members

J.D. Strong, OWRB Executive Director
Jim Bachmann (Tulsa)
Lauren Brookey (Tulsa)
Tom Buchanan (Altus)
Bob Drake (Davis)
Dan Galloway (Stillwater)
Roger Griffin (Broken Bow)
Charlette Hearne (Broken Bow)
Mark Helm (Oklahoma City)
Nathan Kuhnert (Oklahoma City)
Phil Richardson (Minco)
Kevin Smith (Enid)
Trent Smith (Choctaw)
Joe Taron (Shawnee)
Jerry Wiebe (Hooker)

Advisory Council Tasks

- **Recommend incentives for various water use efficiency measures and programs.**
- **Recommend education programs that modify and improve water consumption practices.**
- **Enhance existing or develop new financial assistance programs for leak detection/repair programs and encourage consolidation and regionalization of Oklahoma water systems.**

Advisory Council Meetings

The Water for 2060 Advisory Group has met six times to review current information and discuss future strategies for meeting the goals of Water for 2060.

Meeting 1 (August 20, 2013): Council members introduced themselves and gave brief descriptions of their interest and representation in the water community. The Council's responsibilities, incentive targets, and potential efficiency goals as specifically mentioned in HB 3055 were outlined. Conservation findings from the OCWP were reviewed, primarily focusing on the state's largest water use sectors, Municipal and Industrial (M&I) and Crop Irrigation. Members developed ideas for encouraging efficiency through incentives, rather than through mandates.

OCWP Water Conservation Analysis

Potential Water Savings

M&I and Agriculture Statewide Demand Projections and Water Savings for Conservation Scenarios (AFY)

	2010	2020	2030	2040	2050	2060
Baseline	1,377,318	1,455,309	1,523,273	1,587,406	1,642,069	1,711,392
Moderate	N/A	1,301,816	1,332,781	1,388,603	1,435,807	1,496,643
Substantial	N/A	1,155,397	1,170,248	1,209,372	1,244,123	1,295,569

Consuming no more fresh water in 2060 than we consume today is achievable.

The 2012 OCWP Update highlights water demand projections for 2060 with "Moderate" and "Substantial" conservation scenarios.

Meeting 2 (November 19, 2013): Public water suppliers (both municipal and rural water) shared insights and ideas regarding water efficiency practices, programs already in place that help support water efficiency in the public water supply sector, and the types of activities and incentives that would be most useful to public water suppliers. Presentations and related discussions resulted in the creation of lists of opportunities for water efficiency as well as constraints and obstacles. Guest speakers also gave an overview of existing programs to assist public water suppliers with the implementation of water efficiency projects. The group identified key areas for which public water supply efficiency incentives could be developed.

Meeting 3 (February 18, 2014): Agriculture producers from western Oklahoma provided insights on existing conservation and reuse practices. Speakers stressed the importance of existing advanced technology and emerging technologies, identifying possible incentives for water efficient practices as well as roadblocks to additional conservation practices. An overview of the Panhandle Regional Water Plan (PRWP) was presented, including the economics of OCWP conservation scenarios. An overview of NRCS conservation initiatives was also presented. The group discussed potential incentives and education programs for enhancing water efficiency in crop irrigation.

Meeting 4 (May 20, 2014): The group focused on development of a short-list of recommendations for Public Water Supply (PWS) and Crop Irrigation programs and incentives for water efficiency. The group mapped out the following details for these sectors: desired results, potential programs or measures, prioritization of each program or measure, and considerations.

Meeting 5 (August 19, 2014): The meeting focused on water use sectors other than PWS and Crop Irrigation. Industry Panelists included representatives from Dolese, Ward Petroleum, Devon, Western Farmers Electric Coop, and Public Service Company of Oklahoma. Existing practices in conservation and reuse were discussed, followed by a discussion on the potential impediments to additional conservation and reuse. The group developed a list of potential opportunities for incentives and outreach programs specifically geared toward encouraging and incentivizing additional water efficiencies in industrial water use applications.

Panhandle Tour

On August 15, 2014, Advisory Council members and other officials joined agricultural producers, industrial enterprises, and municipal officials from the Panhandle region for a review of water conservation practices and a tour of water reuse opportunities. The tour focused specifically on the Council's review of current water conservation and reuse practices. Attendees witnessed cutting edge irrigation practices at several Panhandle agricultural operations, including Fischer Farms, and livestock operations at Hitch Feeders.

The tour also included a visit to the City of Guymon's wastewater treatment facility and High Plains Bioenergy's biodiesel refinery near Guymon, both of which focused on discussions regarding prospective water reuse projects.

Oklahoma Water for 2060 Advisory Council and other partnering organizations tour Oklahoma's Panhandle region to review water conservation and reuse efforts by irrigators and municipalities.

Meeting 6 (November 18, 2014): The meeting focused on developing and refining the Advisory Council's draft recommendations. It included a discussion of existing financial assistance programs and potential enhancements toward greater water use efficiency, a discussion of changes to the current water management framework that could facilitate additional conservation, and an update on the Hot Spot Basin analyses (conservation, marginal quality water, and regionalization).

In the first quarter of 2015, the Advisory Council will focus its efforts on further developing its recommendations and documenting its findings for inclusion in its report to the Legislature and the Governor.

Regulatory Development

The Oklahoma Legislature established three subcommittees to evaluate water reuse requirements in the state. The three subcommittees, Oil and Gas, Water Quality Standards, and Technology, have been busy meeting to develop the regulatory and technology-based path forward for water reuse. The subcommittees are composed of representatives from state agencies and municipalities as well as technical experts in water reuse fields. Meetings have explored both existing and potential new regulatory structures for permitting, the appropriate water treatment technologies for reuse, and environmental and human health considerations. Rulemaking for oil and gas, industrial, and municipal water treatment plant water reuse is underway currently. Rulemaking for Indirect Potable Reuse is anticipated to begin in August 2015.

Research

During the 2014 Legislative session, Oklahoma Agricultural Experiment Station research programs received $1 million to further ongoing water research and develop critical new program support in water research across the state.

Wastewater reuse for crop irrigation is being researched at the South-Central Research Station. By recycling much of the 1.7 million gallons of wastewater pumped daily from the City of Chickasha into the Washita River, this program has the potential to save millions of gallons of fresh water while increasing crop production capabilities in the area.

Irrigation delivery efficiency is being researched in Southwest Oklahoma at the Tipton Valley Research Center to determine increases in efficiency through the use of new linear irrigation systems. Potential water savings through the use of drip irrigation systems is being researched at the Panhandle Research and Extension Center in Goodwell.

Outreach & Education

Funding of $1 million was provided to Oklahoma Cooperative Extension Service for expansion of education programs on plant and animal drought management as well as low-impact development and other scientific water management and water-related issues. Part of the funding will provide enhanced development and delivery of "Water 101," an in-service course for county educators designed to increase their knowledge of scientific water management and water-related issues. Funding will also be used to conduct high-priority drought-related scientific inquiries related to a variety of agronomic and horticultural crops and best management practices.

Information & Publications

A Water for 2060 Background Report was developed to provide technical support for the Advisory Council. The report summarizes the conservation measures and findings of the Oklahoma Comprehensive Water Plan (OCWP) Water Demand Forecast Report (2011), and contains information on state-level irrigation and municipal conservation programs in Oklahoma and other states. The full report is available on the Water for 2060 web page at **www.owrb.ok.gov/2060**.

The Water for 2060 web page contains all information related to the advisory group and its meetings, plus a variety of water conservation, efficiency, reuse/recycling facts and tips. A printable Water for 2060 Fact Sheet gives a quick overview of the initiative, goals for future work, and pertinent information about ongoing studies. The web page also includes a summary of the OCWP's projected effects of water conservation scenarios on statewide water demand, and a summary of the OCWP priority recommendation on conservation.

Water for 2060 Drought Grants

In September 2014, Governor Mary Fallin announced that the state of Oklahoma will commit $1.5 million in drought grants to help fund projects that demonstrate responsible water use. Eligible entities include counties, towns and municipalities, public works authorities, and rural water and sewer districts. Eligible projects must demonstrate water efficiency and drought resiliency within the community or water/wastewater system. Applications must be submitted by November 26, 2014.

Water efficiency is defined as the use of improved technologies and practices to deliver equal or better services with less water. Water efficiency encompasses responsible water use and water reuse efforts, as well as water loss reduction and prevention to protect water resources for the future.

Hot Spot Basin Meetings and Demonstration Studies

During the spring of 2014, four public meetings were held in Western Oklahoma to share information and obtain feedback on water conservation strategies that could mitigate projected water shortages in Oklahoma's most compromised areas. The meetings were attended by agriculture producers, water providers, and interested citizens residing in and around twelve basins determined by the Oklahoma Comprehensive Water Plan (OCWP) to have the potential for the most significant water supply challenges within the next 50 years.

OCWP Water Conservation Analysis
What is the Impact on Hot Spots?

Source	Baseline Shortage	Total & Percent Reduction from Baseline Shortage			
		Moderate Level		Substantial Level	
Surface Water	14,590 AFY	7,440 AFY	51%	8,676 AFY	60%
Alluvial Groundwater	12,070 AFY	6,036 AFY	50%	9,036 AFY	75%
Bedrock Groundwater	69,000 AFY	24,080 AFY	35%	61,320 AFY	89%

OCWP analysis of future demand in "hot spot" basins with Moderate and Substantial Level conservation scenarios shows significant reductions in water shortages for surface water and alluvial and bedrock groundwater.

The OWRB and its planning partners are now initiating three in-depth studies. One study will focus on water conservation initiatives in Basin 26, part of the Beaver-Cache Watershed Planning Region located near Duncan. Selection of this basin was based on predominant water use by municipal and rural water systems and significant local interest in expanding conservation efforts. Public water supply system regionalization will be the focus of a second study in Basin 38, part of the Southwest Watershed Planning Region located near Altus. This basin was chosen based on proximity of water providers to one another and the potential to increase supplies and reliability. The third study will focus on the use of marginal quality water supplies in Basin 51, part of the Central Watershed Planning Region located between Watonga and Yukon. This basin has limited groundwater availability due to water quality concerns and provides multiple municipal reuse opportunities.

The studies will help address projected water challenges within the basins and demonstrate the effectiveness of these strategies for other areas of the state.

OCWP "Hot Spot" Basins Selected for Analysis