

OKLAHOMA Water News

2nd Quarter 2014

Inside

Ninth Annual Water Day Draws Interest at Capitol

State of the Art Water Treatment Plant Opens in Broken Arrow

OWRB's Financial Assistance Team Wins Best Display at Capitol

ISF Activity Summary Report Available Online

Wasinger Selected for EPA Financial Committee

Brian Vance Retires

Water for 2060: Water Reuse

OWRB Publishes Report on Oklahoma Monitoring Activities

New BUMP Report Features Groundwater Component

Drought Update

Ninth Annual Water Day Draws Interest at Capitol

The ninth annual Water Appreciation Day was held on May 19 in the state capitol's 4th floor rotunda. Hosted by the OWRB, the event featured 31 exhibits by agencies and organizations with various water interests, including public water supply, agriculture, tourism and recreation, environmental protection, wildlife conservation, soil conservation, energy and industry, as well as occupations, such as well drilling, floodplain management, environmental engineering, and environmental law.

Water Appreciation Day represents a unique opportunity for groups to demonstrate the importance of Oklahoma's water resources and provide information on their programs for government officials and others interested in the management and protection of Oklahoma's water resources.

J.D. Strong, OWRB Executive Director, was interviewed during the event by NPR State Impact correspondent Logan Layden and by Telemundo Oklahoma City. "This exhibition on Oklahoma's diverse water resources is especially appropriate now as we wrestle with a fourth straight year of drought and continue implementation of Water for 2060, our major statewide water conservation campaign," commented Strong.

The Water for 2060 Advisory Council is currently studying innovative incentives and voluntary solutions to help meet this ambitious goal, while at the same time meeting increasing demands for water and avoiding forecasted water shortages. ♦



Water-related exhibits fill the 4th floor rotunda of the State Capitol on May 19 for the ninth annual Water Appreciation Day. At right: OWRB Executive Director J.D. Strong is interviewed by State Impact's Logan Layden.



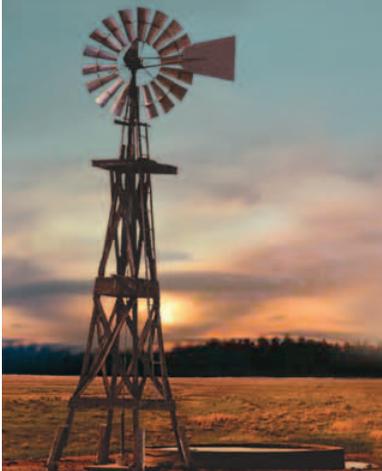
From the Director

Summer is officially in full swing, which means another session of the Oklahoma Legislature is behind us. With the exception of a 5.5% cut in state appropriations to the OWRB and most other agencies, the 2014 session was mostly positive. Importantly, the Legislature ultimately failed to act on the OWRB's proposed rules, including important well-spacing rules for sensitive sole-source aquifers like the Arbuckle-Simpson. After Board approval last March, agency rules were submitted to the State Legislature for consideration. Though the Legislature failed to act on the OWRB's proposed rule package, along with those of most other state agencies, recent law changes provide the Governor with final authority to certify them



(continued on page 2)

*J. D. Strong, Executive Director
Oklahoma Water Resources Board*



From the Director (continued)

as approved or not approved. I am pleased to report that Governor Fallin approved the OWRB's proposed rules on June 19, and they are expected to take effect later this fall.

In other water policy news, every legislator I met with this session remained focused on the affects of the state's on-going drought. This focus, reflected in a number of proposed bills, was most apparent in the Legislature's appropriation of an additional \$1.5 million for emergency drought grants despite the slight decrease in funds for agency appropriations. We look forward to working with community water systems in the most drought ravaged parts of Oklahoma to help them develop more reliable water supplies for our citizens. Additional help in this regard should come from SB 1187 by Senator Rob Standridge and Representative Scott Martin, which calls for a more expedited process for water reuse projects in Oklahoma. Several communities across the state have expressed increasing interest in water reuse projects as a means to combat water shortages and develop alternative supplies. Ultimately signed into law by Governor Fallin on May 28, SB 1187 aligns nicely with the mission of Oklahoma's Water for 2060 .

While on the subject, the Water for 2060 Advisory Council held its third meeting on May 20 to focus largely on compiling and prioritizing recommendations on water conservation best-practices and technology for both irrigators and public water systems. The next meeting will be held early this fall and will feature presentations on commercial and industrial water conservation. The council's final report is due to the State Legislature by the end of 2015, and I have no doubt we will meet that deadline. The Water for 2060 Advisory Council's work is even more significant as we witness the continued impacts that long-term drought is having on fresh water supplies in many Oklahoma communities.

Speaking of the drought, some much-needed rain fell in May and June in areas of the state that had received relatively no precipitation for many months. According to the Oklahoma Climatological Survey, May 21 was an important turning point for much of the state's drought impacted areas. In fact, the period from May 21 to June 17 was the 24th wettest period since at least 1921 with an average of 5.49 inches of observed rainfall across the state. Even so, much of southern Oklahoma has seen lower rain totals during this short-term "wet" period, and the long-term drought remains firmly in place throughout a large portion of Oklahoma. The OWRB recently launched a drought related website—drought.ok.gov—to help bring together the most commonly used state and federal drought related tools and information. I encourage you to check it often and to send us any drought related information you'd like to see added.

On the Federal front, I had the honor of testifying to Congress in mid-June on behalf of the Western Governors' Association, Western States Water Council and the State of Oklahoma. The Water and Environment Subcommittee of the House Committee on Transportation and Infrastructure held a hearing focused on the EPA and Corps of Engineers' proposed

rule for defining "Waters of the U.S." (WOTUS) under the Clean Water Act (CWA). My testimony focused on the lack of meaningful consultation between the Federal agencies and the states. As co-regulators of the CWA, multiple programs that are administered by the OWRB and ODEQ could be significantly impacted by the proposed definition. Similarly, many water users, businesses, agriculture producers, and public water systems will be impacted by this new definition and its concomitant regulatory ramifications. While the Corps and EPA's stated goal for this rule is to bring greater clarification to the WOTUS definition, the lack of consultation with states and myriad ambiguous provisions in the current proposed rule leave me convinced we may be better off without it.

In conclusion, I'm excited to announce that we have finalized the dates and location for the 35th Annual Governor's Water Conference. This year's conference will be held October 22-23 at the Renaissance Hotel and Cox Convention Center in downtown Oklahoma City. Already, we are booking an exciting lineup of speakers and looking forward to another great conference with our fellow Oklahomans. ♦

35th Annual
**Oklahoma Governor's
 Water Conference &
 Research Symposium**

October 22-23, 2014
 Cox Convention Center
 Oklahoma City

**EVERY
 DROP
 COUNTS**

**EFFICIENCY • CONSERVATION
 RECYCLING • REUSE**

*Hosted by the Oklahoma Water Resources Board
 and Oklahoma Water Resources Center.*

Online registration begins September 1.

State-of-the-Art Water Treatment Plant Opens in Broken Arrow

The City of Broken Arrow celebrated the opening of the Verdigris Water Treatment Plant with a ribbon cutting ceremony on June 5. The new plant replaces the city’s existing facility, which was built in 1966.

The plant utilizes a state-of-the-art membrane filtration system that forces water through extremely fine, porous tubes and is capable of filtering out tiny particles and microorganisms, including giardia cysts and cryptosporidium oocysts, to meet new EPA requirements. It is the largest membrane water treatment facility in Oklahoma and one of the largest in the United States.

The footprint of the new pre-treatment basin has been reduced, which allows for lower land and material costs. The new plant also features a raw water pump station, two pre-sedimentation basins, a six-million-gallon finished water tank, a high service pump station, and three emergency generators that can support the entire plant in the event of a power failure.

Up to 20 million gallons of water per day (MGD) can be produced by the new plant, and this is readily expandable to 40 MGD if necessary. Broken Arrow currently averages 12 MGD, with a peak flow of 27 MGD during the summer months.

For more than thirty years the City of Broken Arrow has purchased water from the Oklahoma Ordnance Works Authority in Pryor. With the completion of the Verdigris Water Treatment Plant this July, Broken Arrow will be able to support its customer’s water needs independently, and will even be positioned to sell water to other nearby providers.

Financing for this state-of-the-art plant was made possible by Oklahoma’s Revenue Bond Loan Program and the Drinking



Above: Pretreatment units at Broken Arrow’s new Verdigris Water Treatment Plant. The plant is capable of treating up to 20 MGD and can be expanded to treat up to 40 MGD.



At Right: Advanced membrane filtration system, capable of filtering out extremely small particles and microorganisms, including giardia cysts and cryptosporidium oocysts, to meet new EPA requirements.

Water State Revolving Fund (DWSRF) loan program, which provided \$29,755,000 and \$35,000,000, respectively.

When compared to traditional financing, OWRB’s Financial Assistance Division expects that Broken Arrow Municipal Authority’s customers will save an estimated \$1,618,073 in interest charges over the life of the 20-year DWSRF and 30-year Revenue Bond Program loans. ♦

OWRB Financial Assistance Program Team Wins Best Display at Capitol

On May 8, the OWRB’s Financial Assistance Program (FAP) was awarded “Best Booth” during *Quality Oklahoma Team Day* at the capitol. The booth highlighted savings of more than \$16 million through the 2013 bond refunding of Series 2003 SRF Bonds. OWRB staff were depicted as “Agents of Savings” in a comic strip featuring superheroes battling a giant (inflated) percentage rate villain and shrinking it down to size.

The Office of Management and Enterprise Services hosts the annual event, recognizing successful projects completed by agency work teams that demonstrate employee initiative, collaboration, and accomplishment, such as saving tax-payer dollars. ♦



The OWRB’s award-winning Quality Oklahoma Team Day display depicting OWRB staff as “Agents of Savings” highlighted savings of more than \$16 million through the 2013 bond refunding of Series 2003 SRF Bonds.

ISF Activity Summary Report Available Online

A summary of the activities of the Instream Flow (ISF) Advisory Group is now available on the OWRB website at www.owrb.ok.gov/isf.

The report contains a brief summary of the recommendations made during the development of the 2012 Update of the Oklahoma Comprehensive Water Plan (OCWP), and the resulting report titled *Instream Flow Issues and Recommendations (2011)* that outlines steps to be taken in evaluating an ISF program for Oklahoma. These steps were later refined into an OCWP "priority" recommendation.

The advisory group reconvened in 2013 and has since met four times to discuss the complex issues that surround the assessment of whether and how an ISF program could be implemented in Oklahoma. These issues include a lack of consensus on basic questions, such as the need for and benefits of an ISF program.

Although there was no clear consensus of the Advisory Group on many topics, the following themes became evident during the four meetings and through input received from the Advisory Group:

- Existing consumptive water rights should have priority over ISFs.
- A "one size fits all" approach will not work across Oklahoma. An adaptive process that reflects local hydrology and locally unique uses of water in the watershed is required.
- Science supports sound policy decisions.
- There is legal authority for ISF protection in designated Scenic Rivers in Oklahoma, but there is uncertainty regarding authority in other watersheds.
- Questions and concerns regarding ISFs cannot be answered in the abstract. They must be put in the context of an actual watershed, thus the proposed pilot study.

The Summary Report recognizes the ongoing role of the Advisory Group to provide guidance and feedback as the assessment moves into the pilot study phase. The Group has selected the upper Illinois River watershed for the pilot study, but the timing of the study will depend on available funding. The goal of the study will be to help define a conceptual framework and study process that could be used for development of ISF recommendations for planning purposes in other watersheds. Local stakeholders in the Upper Illinois Basin will be engaged as the study considers local needs, issues, and conditions, an inherent aspect of the Instream Flow Incremental Methodology (IFIM) process.

The Report also contains information about ISF programs in other states; responses to ISF Advisory Group questionnaires; a compilation of input received from the Group regarding legal and policy questions; and agendas, powerpoint presentations, and summaries of the four meetings.

For more information on the ISF Advisory Group, please visit www.owrb.ok.gov/isf.

Wasinger Selected for EPA Committee

In May, the Environmental Protection Agency (EPA) announced the selection of Jennifer Wasinger, Assistant Chief of the OWRB's Financial Assistance Division, to serve on its Environmental Financial Advisory Board (EFAB).



Jennifer Wasinger

The EFAB is a federal advisory committee that provides stakeholder input directly to EPA's Administrator and program offices regarding ways to lower costs and increase investments in environmental and public health protection. Wasinger joins 28 other members of EFAB from across the nation.

According to OWRB Executive Director J.D. Strong, Wasinger's appointment provides an excellent opportunity for Oklahoma to have direct input on improving the efficiency and effectiveness of its infrastructure financing programs. The board will also clearly benefit from her experience in managing and operating the OWRB's Financial Assistance Program, one of the nation's premier water financing programs.

While serving on EFAB, Wasinger will provide EPA with advice and recommendations on lowering the cost of environmental regulations, removing financial and programmatic barriers that raise costs, increasing public and private contributions to environmental facilities and services, and building state and local financial capacity to meet environmental laws.

Brian Vance Retires

Brian Vance, OWRB Director of Communications, retired at the end of May following a 29-year career at the agency. Vance was hired in 1985 and spent several years in the agency's planning division, playing a lead role in the development of the 1995 *Oklahoma Comprehensive Water Plan (OCWP) Update* and the state's Drought Management Plan. He later developed the *Oklahoma Water Resources*



Brian Vance

Bulletin. As head of the agency's public information section, Vance authored and developed numerous agency strategic plans, established and developed the agency website, served as the agency's lead media contact, edited and contributed to hundreds of issues of the *Oklahoma Water News*, served as planning coordinator for the annual Governor's Water conference and Water Appreciation Day at the capitol, developed the award-winning *Lakes of Oklahoma* atlas, and was a major contributor to the completion and implementation of the 2012 OCWP Update.

The OWRB's new media contact is Cole Perryman, who joined the agency in January. Kylee Wilson joined the public information section in May and will assist with publications development and management of the agency's website.

Water Reuse

According to the Oklahoma Comprehensive Water Plan (OCWP), recapturing highly treated wastewater from municipal water reclamation facilities for beneficial use, often referred to as “water reuse” or “water recycling,” is a potentially viable source of supply for many communities. Already, many communities in Oklahoma are putting recycled water to beneficial use for non-potable uses, and several communities are considering augmenting their potable water supply sources with recycled water to increase reliability and efficient use of supplies.

In fact, the OCWP found that the greatest near-term opportunity to increase the beneficial use of marginal quality water (MQW) is the use of recycled water in urban settings for certain non-potable applications.

Public water suppliers and users are encouraged to consider treated effluent reuse where it is both cost-effective and supported by the public. The OCWP recommends continued support for the development of more detailed reuse regulations to provide a framework for utilizing this MQW source while recognizing downstream uses of that water.

In 2012, the Oklahoma Department of Environmental Quality (ODEQ) issued regulations for non-potable uses of recycled water to ensure continued protection of human health and the environment. Today, the ODEQ and OWRB are actively working on regulations for potable water reuse.

There are several water reuse systems in Oklahoma. A few examples are included below:

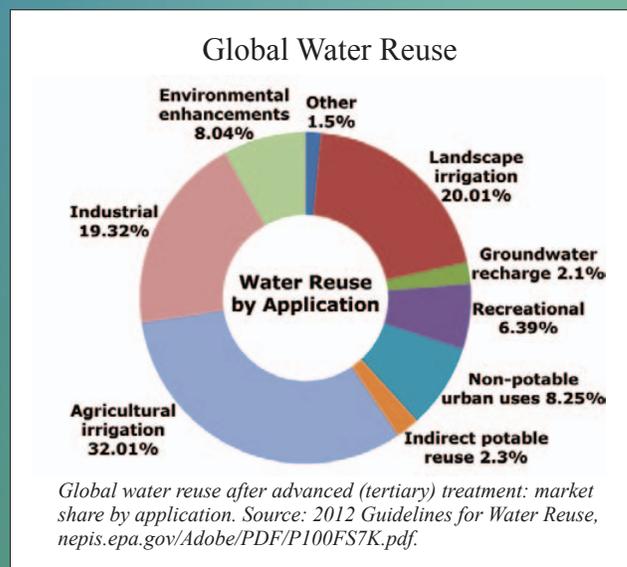
Industrial Use

The City of Oklahoma City, in partnership with wastewater treatment company Veolia Water, has been offering recycled water to large industrial water users since 1996. Three out of the city’s four wastewater treatment facilities have been retrofitted to deliver recycled water, producing about 15 million gallons of recycled water per day (mgd). This saves more than 1 billion gallons of drinking water each year.

Golf Course Irrigation

The Gaillardia Country Club began receiving recycled wastewater from Oklahoma City’s Deer Creek wastewater treatment facility in 1996. To transport the water, a 5-mile pipeline was built. Today, up to 3 mgd of treated effluent can travel through this pipeline from the Deer Creek facility to the golf course, where it is used to irrigate more than 600 acres of greens and landscaped property.

The City of Norman also utilizes treated wastewater to irrigate a golf course on the campus of the University of Oklahoma. The university pays for electricity and pumping costs, and utilizes this water instead of potable



water, helping reduce Norman’s peak day potable water demands.

Cooling Towers

In 2003, the Redbud Electrical Company outside Luther, OK, built a 10-mile pipeline from Oklahoma City’s North Canadian wastewater treatment facility to their operations to transport treated effluent for cooling tower use. In 2004, OG&E began utilizing treated effluent from Oklahoma City’s South Canadian plant through a two-mile pipeline to its facilities. The pipelines ensure that the recycled water stays separate from municipal drinking water and wastewater collection. Together, these two customers use up to 13 mgd of recycled water for cooling towers.

Crop Irrigation

In the City of Guymon, water reuse has been ongoing since 1985. Guymon is located in Texas County in the Panhandle region, the state’s largest agricultural producer with accompanying high demands for water. The city reuses treated wastewater by pumping it onto crops such as alfalfa and wheat, and is exploring additional opportunities for beneficial reuse.

For more information on water reuse, see the EPA’s “2012 Guidelines for Water Reuse” report at nepis.epa.gov/Adobe/PDF/P100FS7K.pdf.

The WateReuse Association also offers a wealth of information on water reuse at <http://www.athirstyplanet.com>.



OWRB Publishes Report on Oklahoma Monitoring Activities

The *Status of Water Quality Monitoring in Oklahoma: Surface Water Monitoring Strategy Document (2013-14)*, developed by OWRB Water Quality staff, is now available online at www.owrb.ok.gov/quality.

In addition to providing a synopsis of current statewide water monitoring, including summaries of activities performed by each state and federal agency involved in monitoring activities, the report serves as a tool for the coordination of future monitoring activities.

Monitoring activities are conducted across the state for numerous reasons, including identifying pollution sources, monitoring regulatory compliance, and determining beneficial use support status, water quality trends, and the effectiveness of Best Management Practices (BMPs).

The report emphasizes that further improvements to statewide monitoring efforts should be pursued to ensure that the best available data is collected to assist decision makers in managing, protecting, and improving Oklahoma's water resources. The following recommendations for enhancing the state's monitoring efforts were highlighted:

- Additional monitoring should be implemented on Oklahoma's rivers and streams. Biological monitoring on lakes should be expanded to enhance use support determinations.
- Further work should be pursued in the development of Use Support Assessment Protocols (USAP). New protocols need to be developed for all beneficial uses and current protocols need to be refined.

- Diurnal dissolved oxygen monitoring should be conducted on a widespread basis.
- Ambient sampling for metals and organics should be expanded. In particular, toxics monitoring related to fish consumption by humans is critical if the Fish Consumption Beneficial Use is to be assessed in a holistic manner.
- More resources need to be spent on monitoring Oklahoma lakes, many of which are of enormous value to the state both as water supply sources and for recreation.
- The OWRB/U.S. Geological Survey (USGS) Cooperative Program for stream flow monitoring should continue to be a priority for Oklahoma. It is critical to know if stream flow is at seasonal base flow to make numerous beneficial use support determinations. More exact measurements are also necessary for such activities as calculating a Total Maximum Daily Load (TMDL) and other technical studies.
- Monitoring activities in Oklahoma should continue to be closely coordinated with implementation of the Oklahoma Comprehensive Water Plan (OCWP), which is vital to mapping the state's water future.
- Partnerships between state and federal agencies should be further enhanced and initiated to help meet the needs of all parties and allow for effective utilization of available resources.

The report emphasizes the importance of statewide monitoring activities for a better understanding of water quality conditions and to allow resources to be focused in areas where adverse water quality impacts are greatest or where our most outstanding water resources are threatened. 💧

New BUMP Report Features Groundwater Component

The annual Beneficial Use Monitoring Program (BUMP) report is now available online. In addition to lakes and streams monitoring components, this year's report includes a groundwater monitoring component.

The OWRB's Groundwater Monitoring and Assessment Program (GMAP) was established in 2013 as the state's first comprehensive groundwater quality and quantity monitoring program. A network of approximately 750 wells in Oklahoma's 21 major aquifers will be phased in by 2016 and sampled on a four-year rotation. This year's report contains data from phase one of GMAP sampling, including an assessment of concentrations of nutrients, metals and major ion species as well as groundwater level data. A total of 203 wells were sampled for water quality and 299 for water level in 6 major aquifers—the Canadian River, Elk City, Garber-Wellington, Gerty Sand, Ogallala-Northwest, and Rush Springs.

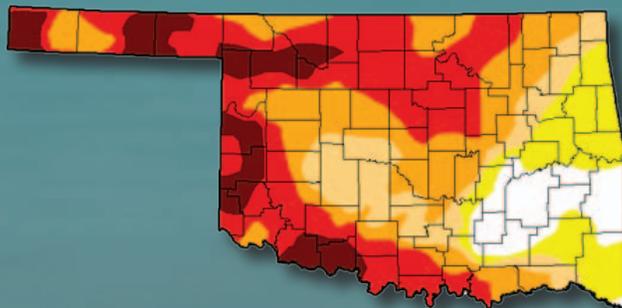
Physical, chemical, and biological data for approximately 130 lakes and 100 river and stream sites is available in the report, along with an assessment of beneficial use impairments or threats for each site.

Each of BUMP's three components has a separate report available for download at www.owrb.ok.gov/bump. The BUMP web page also includes an interactive water quality data viewer, a clickable map with all BUMP surface water monitoring sites. Sites for all three BUMP components are also listed on the web page; clicking on a site opens a pdf summary sheet that contains general site information, maps, sample parameters, and data links for that site. 💧



Drought Update

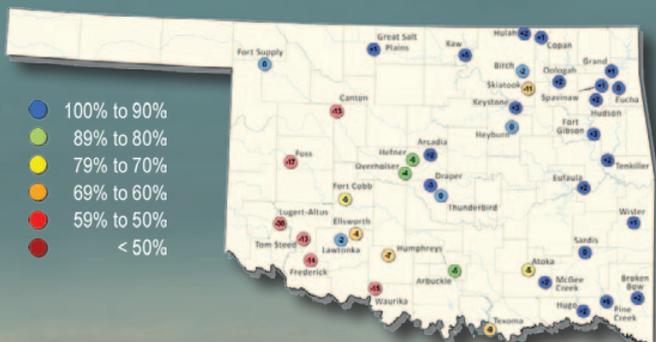
U.S. Drought Monitor June 24, 2014



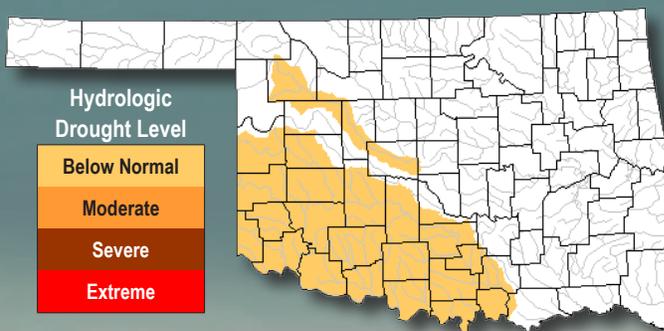
Drought Intensity & Percent of State in Drought Category

Abnormally Dry	95.95
Moderate Drought	77.48
Severe Drought	50.67
Extreme Drought	24.03
Exceptional Drought	8.61

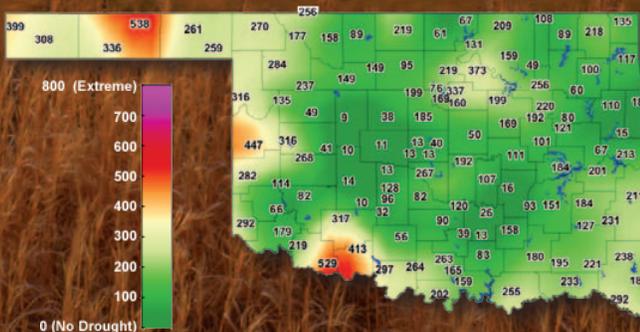
Reservoir Storage June 24, 2014



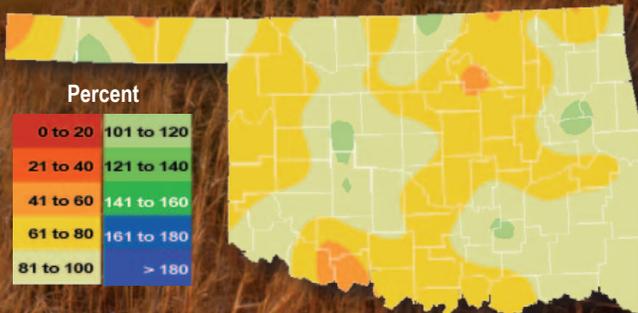
Streamflow (7-Day Average) June 24, 2014



Keetch-Byram Drought Index June 25, 2014



Percent of Normal Precipitation Last 90 Days (March 27 to June 24, 2014)



Data obtained from the National Drought Mitigation Center, U.S. Geological Survey, U.S. Army Corps of Engineers and Oklahoma Climatological Survey. For more drought information, and to obtain updated information on Oklahoma's drought and moisture conditions, go to www.owrb.ok.gov/drought.

www.owrb.ok.gov

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Bob Drake • Ford Drummond • Marilyn Feaver • Ed Fite • Jason Hitch • Richard Sevenoaks*

Protecting and enhancing the quality of life for Oklahomans by managing and improving the state's water resources to ensure clean and reliable water supplies, a strong economy, and a safe and healthy environment.



2nd Quarter 2014

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FINANCIAL ASSISTANCE PROGRAM UPDATE

Loans & Grants Approved as of June 17, 2014

FAP Loans—362 for \$901,650,000

The OWRB's Financial Assistance Program (FAP), created by the State Legislature in 1979, provides loans for water and wastewater system improvements in Oklahoma. The tremendous popularity of the bond loan program is due, in part, to extended payoff periods of up to 30 years at very competitive interest rates, averaging approximately 4.762 percent since 1986.

CWSRF Loans—278 for \$1,280,038,416

The Clean Water State Revolving Fund (CWSRF) loan program was created in 1988 to provide a renewable financing source for communities to use for their wastewater infrastructure needs. The CWSRF program is Oklahoma's largest self-supporting wastewater financing effort, providing low-interest loans to communities in need.

DWSRF Loans—166 for \$870,165,300

The Drinking Water State Revolving Fund (DWSRF) loan program is an initiative of the OWRB and Oklahoma Department of Environmental Quality to assist municipalities and rural water districts in the construction and improvement of drinking water systems. These projects are often mandated for communities to obtain compliance with increasingly stringent federal standards related to the treatment of drinking water.

REAP Grants—609 for \$54,051,197

The Rural Economic Action Plan (REAP) Program was created by the State Legislature in 1996. REAP grants, used for water/wastewater system improvements, target primarily rural communities with populations of 7,000 or less, but priority is afforded to those with fewer than 1,750 inhabitants.

Emergency Grants—568 for \$33,822,821

Emergency grants, limited to \$100,000, are awarded to correct situations constituting a threat to life, health, or property and are an indispensable component of the agency's financial assistance strategy.

Drought Response Program Grants—10 totaling \$1,543,848

Through the OWRB's Drought Response Program, funding is available for communities in most dire need during state drought emergencies declared by the Governor. A maximum of \$300,000 is diverted from existing OWRB Emergency Grant funds to establish the Program.

**Total Loans/Grants Approved: 1,993 for \$3,141,271,581
Estimated Savings: \$1,076,508,273**

Applicants eligible for water/wastewater project financial assistance vary according to the specific program's purpose and requirements, but include towns and other municipalities with proper legal authority, various districts established under Title 82 of Oklahoma Statutes (rural water, master/water conservancy, rural sewage, and irrigation districts), counties, public works authorities, and/or school districts. Applications for agency financial assistance programs are evaluated individually by agency staff. Those meeting specific program requirements are recommended by staff for approval at monthly meetings of the nine-member Water Board.

**For more information, call 405-530-8800
or go to www.owrb.ok.gov/financing.**