

OKLAHOMA Water News

1st Quarter 2012

Inside

House Speaker Announces
Water Policy Foundation

OWRB Launches Online
Temporary Permit
Application

New Web Page Presents
Water Lawsuit Information

Drake Appointed to OWRB

Board Approves Tentative
Yield for Arbuckle-Simpson

Maximum Annual Yield
Determination

2012 Water Appreciation
Day

OCWP Publications and
Resources

Drought Update

House Speaker Announces Water Policy Foundation

Citing the importance of Oklahoma's water resources as well as water's vital role in state growth, House Speaker Kris Steele announced sweeping water policy proposals this legislative session that will collectively serve as a foundation for Oklahoma's water future. The suite of House legislation aims to increase water monitoring, establish regional water planning groups, improve water infrastructure funding programs, and encourage water conservation and reuse.

"Providing water for all Oklahomans is among the greatest responsibilities we have today to the citizens of tomorrow," said Speaker Steele at a press conference held in conjunction with Water Appreciation Day on February 13 at the State Capitol. "While we won't be able to solve all our water issues in just one year, pursuing these policies this session will allow us to lay a foundation to build on."

"If Oklahoma wants to be pro-growth, water policy must be a priority," Steele added. "Without water, the state can't grow, so we must do everything we can to ensure we have the water we need."

Referring to the ongoing dispute between the State and Choctaw and Chickasaw Nations concerning water rights and the impact on policy development, Steele emphasized, "We will not be deterred by litigation and will work aggressively this session to lay a foundation for Oklahoma's water future. As the elected officials of all Oklahomans, it is our duty to ensure each and every Oklahoman has the water they need."

(continued on page 3)



House Speaker Kris Steele (right), joined by Rep. Phil Richardson, co-chairman of the Joint Water Committee, outlines his Water for 2060 Act and other proposed water legislation at the Water Appreciation Day press conference held at the State Capitol on February 13.

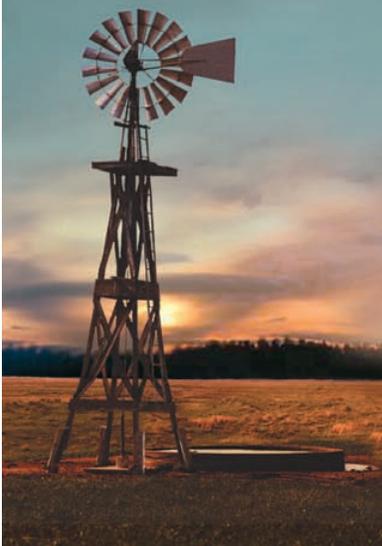
From the Director

The Choctaw and Chickasaw Nations sued the State of Oklahoma in August, claiming they deserved control over the water resources in 22 counties in southeastern Oklahoma. If successful, the tribes would assume responsibility for Oklahoma's most precious resource even though the state has provided more than 100 years of uninterrupted leadership experience in managing our waters and meeting our future water needs. Our laws and long legacy of water management ensure stability of water use and protection and avoid the potentially devastating economic consequences resulting from instability. The state has tried, and remains interested in, settling the dispute outside

(continued on page 2)



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



From the Director (continued)

of court, but the tribes refuse to drop their lawsuit, thus sacrificing the security and prosperity of all Oklahomans. The Oklahoma Water Resources Board has been serving Oklahomans as their water management authority since 1957. We take the job seriously. Our highest objective is to ensure *certainty and security* of water rights and associated uses. Consistent with this obligation, the OWRB and the state will defend our citizens against tribal claims with a general stream adjudication, which is well recognized among western states as the most effective, reliable way to resolve such disputes.

“Only the state possesses the authority and expertise to comprehensively manage and protect our citizens’ surface and groundwater resources...”

Through adjudication, which the tribes asked for more than a dozen times in their lawsuit, the Oklahoma Supreme Court will make a legal determination regarding the validity of all claims to the waters of the Kiamichi, Muddy Boggy, and Clear Boggy stream systems. The court will confirm the amount, priority, place, and purpose of each use. Despite rhetoric to the contrary, the process should be relatively uncomplicated and should not require a lawyer for those holding permits. The state already has

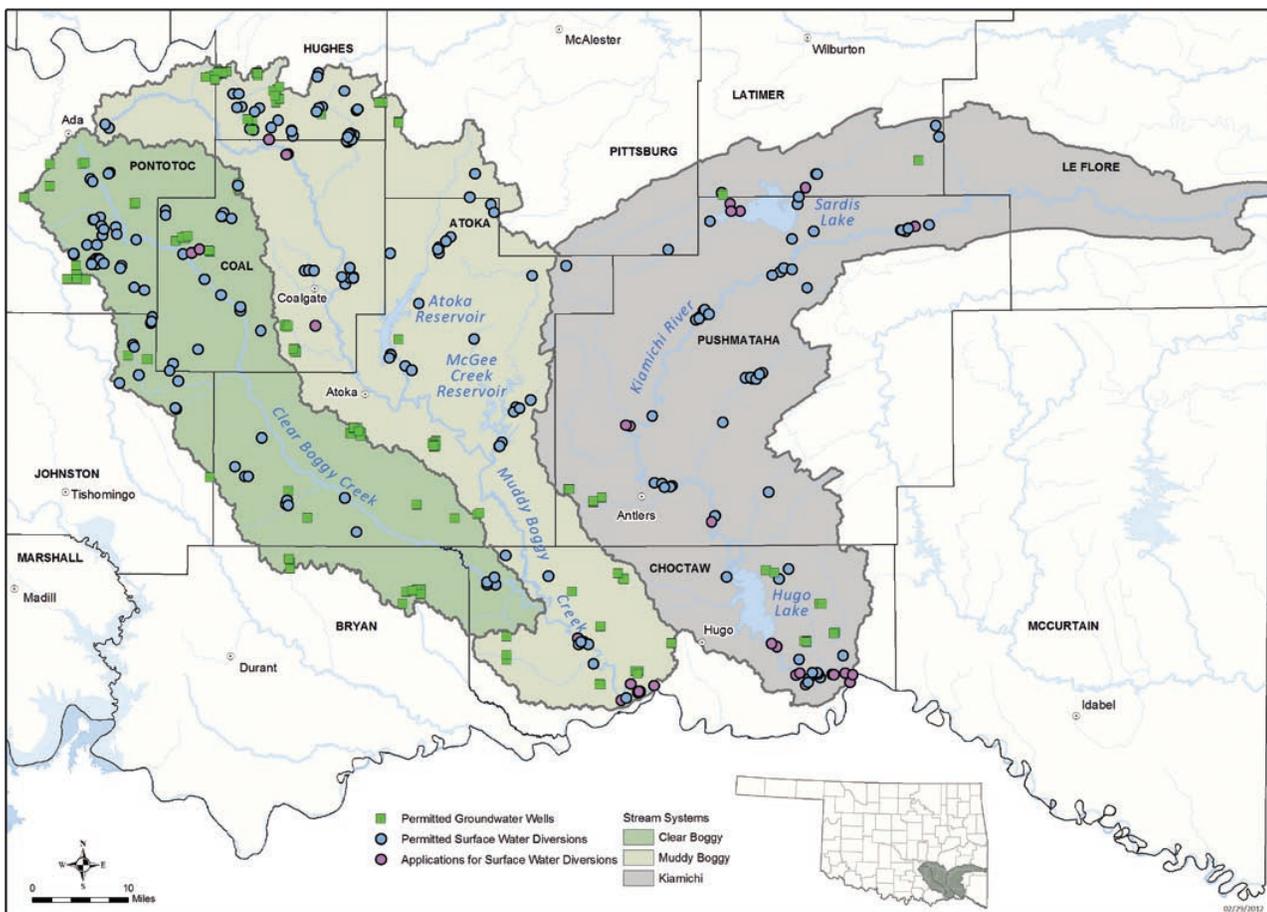
determined the amount, priority, place, and purpose of those permit holders’ uses.

While the process could be considerably more complicated for anyone claiming water rights without a permit (i.e., the tribes), there simply is no better way to afford every Oklahoman with water rights the equal and fair opportunity they deserve to protect those rights. All 18 western states have laws allowing for general stream adjudication, and 13 of those states have adjudications underway.

To confuse the matter and spread misleading information, the tribes have launched an unprecedented media campaign that questions state efforts to plan for and protect Oklahoma’s water resources. The tribes portray themselves as the true stewards of the water, but that does not square with the facts. *Only* the state possesses the authority and expertise to comprehensively manage and protect our citizens’ surface and groundwater resources, and *only* the state has laws dedicated to protecting and maintaining the water rights of *all* Oklahomans.

We remain committed to mediation as the most desired outcome of the tribal lawsuit against Oklahoma. However, until tribal leaders agree to drop their lawsuit, we will continue to vigorously defend and protect our state’s water, all of its uses, and our citizens’ rights through adjudication, litigation or any other means necessary. ♦

This column was published as an online blog on the Oklahoma City Journal Record’s “Water Wars” microsite.



Shown left are the Clear Boggy, Muddy Boggy, and Kiamichi stream systems, which are currently under general stream adjudication. Also specified are the locations of current OWRB water use permits and applications (indicated by stream water diversion points and groundwater wells) that are receiving notice of adjudication.

Water Policy Foundation (continued)

To improve Oklahoma's water planning capabilities, Rep. Phil Richardson has filed HB 2914, which would establish regional water planning groups throughout the state. Floor Leader Dale DeWitt and Reps. Ron Peters and Brian Renegar have filed similar legislation.

"Other states have these groups and have found them very valuable. With every region of Oklahoma having different water needs, regional planning groups will help policymakers take all needs into account when making water decisions," said Richardson, who is also co-chairman of the Joint Legislative Water Committee, formed last year to review the OCWP. "Several legislators are interested in these groups and I'm looking forward to working with them all to figure out the best model for Oklahoma."

Another foundational component of water planning is water monitoring, the practice of continuous data gathering to determine the quantity and quality of state surface and groundwaters. Currently, Oklahoma is not conducting as much water monitoring as experts recommend, resulting in insufficient data to inform water management decisions. DeWitt said House leaders will seek to allocate more funding for water monitoring and related activities through this year's appropriations process.

"Good water planning requires that you know what you have, but the fact is we aren't doing nearly enough water monitoring to know with certainty what we actually have," DeWitt said. On a related note, the OWRB is also seeking additional funds to supplement the agency's hydrologic and special study efforts, including much-needed updates of more than 50 groundwater basin studies.

The OCWP estimates that Oklahoma will have an estimated \$82 billion in drinking water and wastewater infrastructure needs in the next 50 years, mostly in rural areas and small- to medium-sized communities that lack local funding to pay for such projects. Financing programs offered by the OWRB, Oklahoma's leading financier of water and sewer projects, are only capable of handling about 10 percent of projected future needs.

In an effort to prepare the state to address those needs, Steele is working with OWRB officials to reform the agency's infrastructure financing programs. Since 1983, the OWRB's five infrastructure loan and grant programs have helped finance 65 percent of Oklahoma's water infrastructure projects through more than \$2.6 billion in loans and grants to local entities, saving those entities \$917 million in debt service costs.

"These programs have done a lot already and they'll need to do more in the future as our state continues to grow. We hope to unveil a plan soon to ensure these vital funding sources continue to meet the need for years to come," Steele said. "Under the reforms we're discussing, we hope these programs could meet up to 60 percent of our future needs rather than the 10 percent the programs could meet today." One such reform is embodied in HJR 1085, introduced to create a state question that would create a reserve fund for water resource and sewage treatment projects.



Rep. Dale DeWitt responds to media questions during Speaker Steele's Water Appreciation Day press conference.

Assuming current usage factors, OCWP technical analyses determined that consumptive water use in Oklahoma will increase 33 percent by 2060. However, if the state were to adopt prescribed conservation techniques, improve the use of existing water supplies, and expand the use of alternative water supplies, the OCWP projects that Oklahoma could maintain its current consumption levels through at least another 50 years. This is the goal of Steele's Water for 2060 Act, incorporated in House Bill 3055.

Through this legislation, an existing OWRB grant program would fund pilot projects to help residents and water districts improve water conservation practices. HB 3055 also creates the Water for 2060 Advisory Council, which by 2015 would make specific recommendations to the governor and legislature on how the state can ensure it will consume no more water in 2060 than it does in 2012.

"You can't go wrong conserving a resource as valuable as water," Steele said. "The goal is to have more than enough water for Oklahoma's recreational, industrial, and consumer needs for generations to come. To reach that goal, we must emphasize conservation."

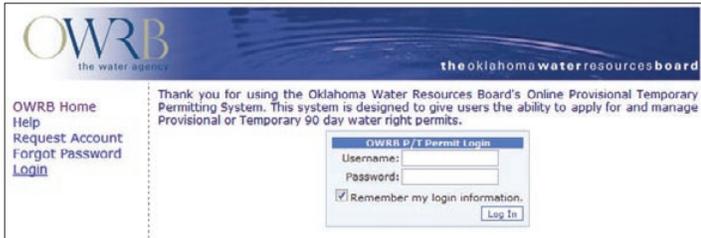
Among the other water conservation proposals this year is HB 2385, by Rep. Scott Martin, which gives homeowners more flexibility to reuse gray water, defined as water left over from domestic activities—such as laundry, dishwashing and bathing—that is safe for reuse outdoors for watering flowerbeds and lawns.

"The bill is by no means the panacea of water policy, but it's a good small step that can make a real difference one home at a time," said Martin, who is vice-chairman of the House Appropriations and Budget Committee. "A lot of folks in my district want to reuse gray water on their property, but current law can make it a hassle to do so. The bill makes some responsible reforms to existing gray water regulations so individual homeowners can reuse gray water if they choose to do so, which in turn helps the whole community."

All of the initiatives announced on Water Day are progressing steadily through the Legislature. On March 12, HB 3055, HB 2914, HJR 1085, and HB 2385 passed the House in advance of Senate consideration. 💧

OWRB Launches Online Temporary Permit Application

In April, the OWRB will release a new program that facilitates same-day online approval of provisional temporary permits, providing enhanced convenience to Oklahoma water users, promoting the state's energy industry, and saving considerable staff time in processing potentially thousands of permit applications each year.



Provisional temporary permits, effective for a period not exceeding 90 days, are nonrenewable and usually granted by and at the discretion of the OWRB Executive Director. Unlike regular water use permits, there are no hearings or required notice to local landowners.

Online permit applicants must register for a web-based account, facilitating the storage of common user-specific data

(including payment information for the required application) on the site. At that point, customers will be provided an opportunity to specify the desired source of water and area of use, submit landowner lease and/or permission to access property, and satisfy other permit requirements. If all criteria are met, permits become immediately effective.

While typically authorizing usage of a relatively minimal amount of water (less than 30 acre-feet per year on average), provisional temporary permits are the most common type of permit administered by the OWRB and provide the majority of oil and gas production water permits. In 2011, the OWRB approved 1,960 total provisional temporary permits from both surface and groundwater sources statewide. Through only two months this year, staff have already processed and approved more than 400 such permits, primarily due to oil and gas production using hydraulic fracturing technology, where water and other materials are injected under pressure to augment extraction. It has been estimated that more than 90 percent of all new oil and natural gas wells in the U.S. are hydraulically fractured.

Provisional temporary permits are subject to cancellation at any time due to interference with downstream permit holders, revocation of landowner consent, or related factors. The application fee is double when obtained after water use has begun or it is discovered an application was not filed. ♦

New Web Page Presents Water Lawsuit Information

The OWRB has developed a new web page to educate citizens on the recently initiated stream adjudication process. The page, titled "Legal Matters: Defending Oklahoma Water & Water Rights," includes a fact sheet with frequently asked questions, filings, and various other legal documents on the ongoing Choctaw/Chickasaw lawsuit, which precipitated the adjudication process. Available soon will be forms required of impacted water rights holders (copies will also be mailed).

The new page, available at www.owrb.ok.gov/util/legal.php, also includes updated information and documents associated with other agency litigation. ♦



Drake Appointed to OWRB

Governor Mary Fallin has appointed Bob Drake (Davis), a south central Oklahoma rancher, as an At Large member of the Oklahoma Water Resources Board. He will represent rural residential water use. His term expires in May 2014.



Drake co-owned and operated his family's purebred and commercial Angus operation for almost 40 years. He has been a member of numerous state and national agricultural organizations, including the Oklahoma Cattlemen's Association since 1966, serving as President in 1995. Drake is a former officer on the Board of Directors of the Oklahoma Farm Bureau and was a founding member of the Oklahoma Agricultural/Rural Council. He has been a member of the Department of Environmental Quality Board since 1999 and has served as Chairman of the National Grazing Lands Conservation since 1997.

Drake replaces Dr. Joe Taron, who served almost three years on the Board. ♦

Board Approves Tentative Yield for Arbuckle-Simpson

At its March meeting, OWRB members approved the Proposed Tentative Determination of the Maximum Annual Yield (MAY) for the Arbuckle-Simpson Groundwater Basin.

Based directly upon results of the multi-year Arbuckle-Simpson study, the major provisions of the tentative MAY include a maximum annual yield of 78,404 acre-feet per year, an equal proportionate share of 0.2 acre-foot (or 2.4 inches) per acre per year, and a five-year implementation schedule.

In advance of a public hearing, scheduled for May 15 at the Murray County Exposition Center in Sulphur, the required public notice will be published in the aquifer region. The hearing, utilizing an independent hearing examiner, will provide an opportunity for landowners and concerned citizens to submit evidence opposing the proposed yield and equal proportionate share. The Board will then formally consider a proposed final order at a future monthly meeting. ♦

Summary of Public Notice

The OWRB has issued a tentative determination of the maximum annual yield of fresh groundwater that may be used from the Arbuckle-Simpson Groundwater Basin underlying portions of Murray, Pontotoc, Johnston, Garvin, Coal, and Carter Counties.

The OWRB will hold a prehearing conference on May 9, beginning at 9:00 a.m., at the Pontotoc Technology Center, Seminar Center Auditorium, 601 West 33rd, in Ada. The purpose of the prehearing conference is to identify the interested parties, organize and expedite presentations for the hearing, establish fact stipulations, and address other appropriate matters. No presentations on the merits of the case will be allowed during the prehearing conference.

The OWRB will hold the hearing on May 15, beginning at 9:00 a.m., at the Murray County Exposition Center, 4000 West Highway 7, in Sulphur. During the hearing, the OWRB will present evidence of the hydrologic survey, findings, and determinations upon which the Tentative MAY Order is based. Any interested party will have the right to present evidence in support or opposition.

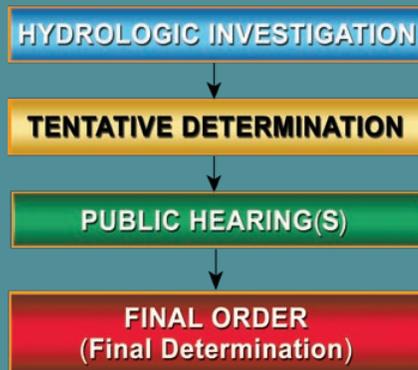
Determination of Maximum Annual Yield

Oklahoma water law states that certain factors be considered in the determination of the maximum annual yield of a major groundwater basin: total land area overlying the basin, the amount of water in storage in the basin, the rate of recharge to the basin and total discharge from the basin, transmissivity of the basin, and the possibility of pollution from natural sources. Furthermore, for a sensitive sole source groundwater basin, the maximum annual yield will ensure that the natural flow of water from springs or streams emanating from the basin will not be reduced. As of 2009, the Arbuckle-Simpson is the only sensitive sole source groundwater basin.

After a hydrologic investigation is complete, the OWRB makes a tentative determination of the maximum annual yield of the basin. Copies of the results of the investigation are made available for public review and one or more hearings are scheduled so that citizens can present evidence supporting or contradicting the evidence behind the tentative determination.

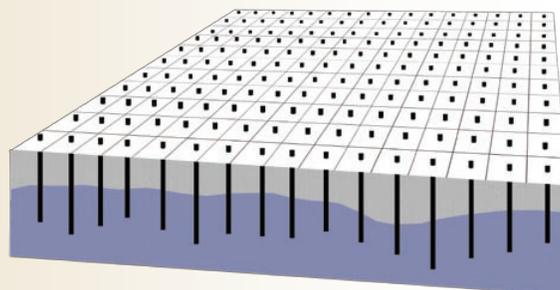
Following the hearings, the OWRB evaluates all the evidence and ascertains the factors stated by the law in the process of making the final maximum annual yield determination. The final determination is issued in a “final order” containing findings of fact and conclusions of law. Thereafter, based on the newly calculated equal proportionate share, regular permits are issued to holders of existing temporary permits and to applicants for new permits.

Maximum Annual Yield Determination Process



Equal Proportionate Share

When a maximum annual yield has been determined, the OWRB is required by law to distribute the maximum annual yield equally across the basin or subbasin. “Equal proportionate part or share” is defined as the maximum annual yield of water from a groundwater basin or subbasin that is allocated to each acre of land overlying the basin or subbasin. In other words, it is the portion of the maximum annual yield that is equal to the portion of the land overlying the fresh groundwater basin or subbasin that is owned or leased by an applicant for a regular permit.



Each groundwater user is entitled to withdraw an equal share of water proportional to the amount of land owned.

2012 Water Appreciation Day

The seventh annual Oklahoma Water Appreciation Day was held on February 13 at the State Capitol. The OWRB hosted the event, which featured 32 state and federal agency and water-related organization booths and displays, as well as an afternoon press conference by House Speaker Kris Steele on House water priorities for 2012.

Two OCWP exhibits were set up to provide information about the 13 Watershed Planning Region Reports and printed copies of the OCWP Executive Report, now available to the public at the OWRB main office, and demonstrations of the new OCWP web-based data viewer, which allows the public to access all pertinent OCWP data through a GIS-based mapping application. To access this application, go to www.owrb.ok.gov/ocwp and click on the "OCWP Map Viewer" button. ♦



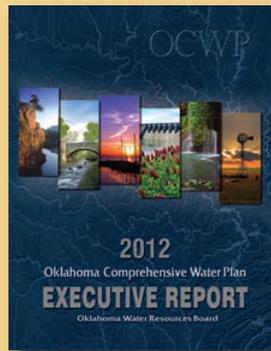
OWRB GIS Specialist Mike Sughru demonstrates features of the new OCWP web-based data viewer to (left to right) OWRB Chairman Linda Lambert, Executive Director J.D. Strong, and Board member Dr. Joe Taron.

OCWP Publications and Resources

www.owrb.ok.gov/ocwp

OCWP Executive Report

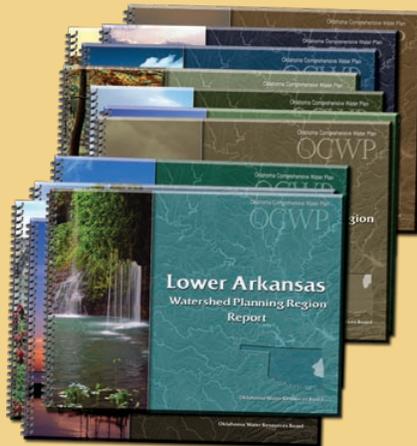
Report includes background information on water planning and management in Oklahoma, a statewide assessment of water supplies, future projections of demand, potential options to alleviate shortages, and policy recommendations. Printed copies are available at the OWRB Oklahoma City office.



Watershed Planning Region Reports

Each report is a detailed resource for local water planning that includes regional characteristics, water supply/demand analysis results, forecasted water supply shortages, potential supply solutions and alternatives, and supporting technical information.

Beaver-Cache
Blue-Boggy
Central
Eufaula
Grand
Lower Arkansas
Lower Washita
Middle Arkansas
Panhandle
Southeast
Southwest
Upper Arkansas
West Central



OCWP Communication Portal

Created by the Oklahoma Water Resources Research Institute (OWRRI) at <http://okwaterplan.info>, the portal contains information from public meetings held from 2007-2011 including all public comments and meeting reports.

OCWP Web-based Data Viewer

Data viewer allows the public to access all pertinent OCWP data through a GIS-based mapping application.

OCWP Study Workgroup & Supplemental Reports

Water Policy & Related Recommendations for OK
Climate Issues & Recommendations
Agricultural Water Issues & Recommendations
Water Quality Issues & Recommendations
Instream Flow Issues & Recommendations
Tribal Water Issues & Recommendations
Marginal Quality Water Issues & Recommendations
Artificial Aquifer Recharge Issues & Recommendations
Infrastructure Financing Needs & Opportunities
Water Conveyance Study

Technical Background Reports

Reservoir Viability Study
Drinking Water Infrastructure Needs Assessment
Water Supply Permit Availability Report
Physical Water Supply Availability Report
Provider Survey Summary Report
Conjunctive Water Management in OK and Other States
Water Demand Forecast Report
Climate [Change] Impacts to Streamflow
Conservation & Climate Change (Demand Addendum)
Oklahoma Statewide Water Quality Trends Analysis
Programmatic Workplan

Drought Update

Reservoir Storage

As of March 5, ten reservoirs (of thirty-one selected major federal reservoirs across Oklahoma, listed at right) are operating at less than full capacity, according to information from the U.S. Army Corps of Engineers (Tulsa District); twenty-two reservoirs have experienced lake level decreases since February 7.

Standardized Precipitation Index

The latest monthly Standardized Precipitation Index (see table below) indicates near long-term dryness in all but the North Central and Southeast climate divisions.

Palmer Drought Severity Index

According to the latest Palmer Drought Severity Index (see table below), only one (Southwest) of nine climate divisions in Oklahoma is currently experiencing drought conditions. However, the Northwest region is in the incipient drought category.



Storage in Selected Oklahoma Lakes & Reservoirs (March 5, 2012)

LAKE	Change in Elevation (feet) 2/7/12-3/5/12	Current Flood Control Storage (acre-feet)
North Central		
Fort Supply	0.57	778
Great Salt Plains	-1.05	3,329
Kaw	-7.14	457
Northeast		
Birch	-0.23	-7,892
Copan	0.01	5,797
Fort Gibson	-0.07	19,500
Grand	0.02	808
Hudson	-0.06	7,561
Hulah	-0.64	5,348
Keystone	-2.79	12,002
Oologah	0.50	10,726
Skiatook	-0.23	-118,518
West Central		
Canton	0.90	-60,612
Foss	-0.15	-41,851
Central		
Arcadia	-0.08	637
Heyburn	-0.38	20
Thunderbird	-0.16	-28,400
East Central		
Eufaula	-0.76	4,581
Tenkiller	-1.23	5,903
Southwest		
Fort Cobb	0.12	-11,595
Lugert-Altus	0.53	-108,670
Tom Steed	-0.24	-39,474
South Central		
Arbuckle	0.04	-7,583
McGee Creek	-0.92	1,091
Texoma	0.23	77,806
Waurika	-0.40	-56,880
Southeast		
Broken Bow	-6.16	0
Hugo	-6.73	4,658
Pine Creek	-4.83	2,428
Sardis	-0.80	3,413
Wister	-13.59	1,061

CLIMATE DIVISION	Standardized Precipitation Index (through February 2012)				Palmer Drought Severity Index
	3-month	6-month	9-month	12-month	March 3, 2012
Northwest (1)	Very Wet	Near Normal	Moderately Dry	Very Dry	Incipient Drought
North Central (2)	Very Wet	Moderately Wet	Near Normal	Near Normal	Unusual Moist Spell
Northeast (3)	Near Normal	Near Normal	Moderately Dry	Near Normal	Near Normal
West Central (4)	Near Normal	Near Normal	Near Normal	Very Dry	Near Normal
Central (5)	Near Normal	Near Normal	Near Normal	Moderately Dry	Near Normal
East Central (6)	Near Normal	Near Normal	Moderately Dry	Moderately Dry	Incipient Moist Spell
Southwest (7)	Near Normal	Near Normal	Moderately Dry	Very Dry	Mild Drought
South Central (8)	Moderately Wet	Moderately Wet	Near Normal	Moderately Dry	Incipient Moist Spell
Southeast (9)	Moderately Wet	Moderately Wet	Near Normal	Near Normal	Moist Spell

For more drought information, and to obtain updated information on Oklahoma's drought and moisture conditions, go to www.owrb.ok.gov/supply/drought/drought_index.php.

www.owrb.ok.gov

*Linda Lambert, Chairman • Ford Drummond, Vice Chairman • Tom Buchanan, Secretary
Bob Drake • Ed Fite • Marilyn Feaver • Rudy Herrmann • Kenneth K. Knowles • Richard Sevenoaks*

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



1st Quarter 2012

Darla Whitley, Editor

Staff Writers:

Brian Vance & Darla Whitley

Photography:

Barry Fogerty

*E-mail comments, questions,
or article submissions to
pubinfo@owrb.ok.gov
or call us at (405) 530-8800.*

The Oklahoma Water News is published by the Oklahoma Water Resources Board as authorized by J.D. Strong, Executive Director. Eighty-eight hundred copies have been printed by University Printing Services at an approximate cost of 32 cents each. Copies have been deposited at the Publications Clearinghouse of the Oklahoma Department of Libraries.

FINANCIAL ASSISTANCE PROGRAM UPDATE

Loans & Grants Approved as of March 13, 2012

FAP Loans—341 for \$772,265,000

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—251 for \$1,053,511,629

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—138 for \$748,514,642

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—571 for \$50,746,519

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—564 for \$33,666,177

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—2 totaling \$200,000

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: 1,867 for \$2,658,903,967 Estimated Savings: \$927,048,065

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.**

OKLAHOMA Water News

2nd Quarter 2012

Inside

53rd Legislature Advances
Water Plan Implementation

Development of Statewide
Groundwater Monitoring
Program Initiated

Arbuckle-Simpson Hearing
Attracts Large Crowd

Drummond Elected Board
Chairman

Governor Fallin Appoints
Jason Hitch to OWRB

Landscape Irrigation
Controllers Earn
"WaterSense" Label

Governor and Tribes
Create Water Task Force

The Role of Conservation
in Water Management

Utilizing "Marginal
Quality" Waters

Drought Update

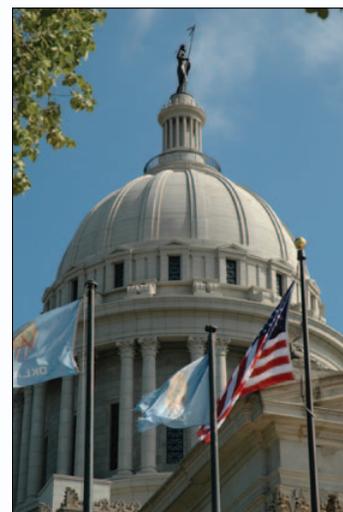
53rd Legislature Advances Water Plan Implementation

The 2012 legislative session resulted in landmark water policy improvements for the State of Oklahoma, accelerating implementation of at least half of the priority recommendations offered by the *2012 Update of the Oklahoma Comprehensive Water Plan*.

SB 1975: General Appropriations Bill—Provides \$6,999,671 to the OWRB, a 27 percent increase over FY-2012. An additional \$1.5 million, coupled with the extension of existing Gross Production Tax proceeds, will allow the OWRB to begin implementation of OCWP recommendations, resulting in establishment of Oklahoma's first comprehensive statewide groundwater monitoring program, restoration of the state's comprehensive statewide stream and lake monitoring program to the level realized in the late 1990s, and a reduction of the growing backlog of statutorily mandated groundwater and stream water allocation studies.

HB 3055: Water for 2060 Act—Establishes a statewide goal to use no more fresh water in 2060 than what is used today. The Act creates a 15-member advisory council—chaired by the OWRB Executive Director with members appointed by the Governor, House Speaker, and Senate President Pro Tempore—to make recommendations on water conservation practices and incentives necessary to achieve this goal. The advisory council is required to submit a final report of its findings and recommendations to the Governor, Speaker of the House of Representatives, and President Pro Tempore of the Senate within three years.

HJR 1085: Water Infrastructure Credit Enhancement Reserve Fund—Sends State Question 764 to a vote of the people in November's general election. Approval of SQ 764 would create the Credit Enhancement Reserve Fund, which would allow the OWRB to increase the leveraging
(continued on page 3)



From the Director

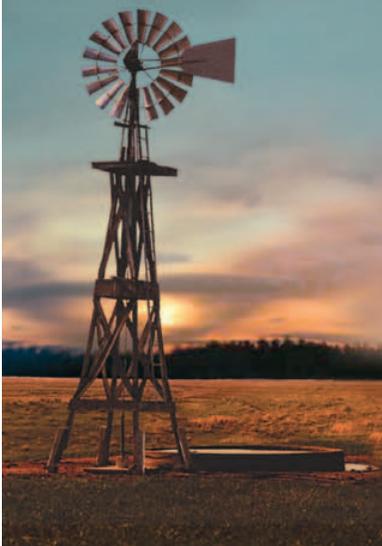
Thanks to an unprecedented level of support from Governor Fallin, the State Legislature, citizens, and many in the water user community during the recently concluded legislative session, implementation of the *2012 Update of the Oklahoma Comprehensive Water Plan* is off to a magnificent start.

On the heels of the most scientifically defensible and extensively vetted Water Plan ever developed by the state, our leaders responded with perhaps the most meaningful collection of water policy legislation and funding in Oklahoma history. As a result, we now have both the directive and tools necessary to meet head-on Oklahoma's water

(continued on page 2)



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



From the Director (continued)

challenges through revitalized and innovative water management and protection programs. Through passage of Speaker Kris Steele's Water for 2060 Act, water conservation took a giant leap forward as Oklahoma becomes the first state in the nation to establish a comprehensive, statewide goal of consuming no more fresh water in 2060 than is consumed today. Through House Bill 3055, a 15-member advisory council will be created to recommend appropriate water conservation practices, incentives, and educational programs to accomplish this bold strategy, while at the same time ensuring that Oklahoma's population and economy continue to grow and prosper. In addition, HB 2835, by Rep. Scott Martin, will result in fresh water conservation through incentives to encourage the recycling of gray water. The resulting new law exempts from regulatory requirements the use of up to 250 gallons per day of private, residential gray water for household gardening, composting, or landscape irrigation.

"...Oklahoma becomes the first state in the nation to establish a comprehensive, statewide goal of consuming no more fresh water in 2060 than is consumed today."

Equally important was the required first step taken by legislators in addressing Oklahoma's projected \$82 billion water and wastewater infrastructure financing needs through HJR 1085 by Rep. Phil Richardson and Sen. Brian Crain. The resolution authorizes State Question 764 on the November general election ballot, which seeks voter approval of a new Water Infrastructure Credit Enhancement Reserve Fund. This crucial new fund would enable the OWRB, the primary source of water and sewer infrastructure financing in Oklahoma, to increase its leveraging capacity. Over the next several months, you'll be hearing much more about SQ 764 and its importance to our ability to provide safe, dependable, and affordable water supplies to Oklahomans into the foreseeable future.

Last but certainly not least, the FY-2013 budget agreement includes specific funding to expand and integrate the state's water quality and quantity monitoring programs, another key grass-roots provision of the OCWP. Sediment, pathogenic bacteria, toxic algae, and a host of other pollutants and contaminants threaten both Oklahoma's water resources and our public's health. The decisions we make each day to ensure safe, reliable water for our citizens and communities require constant monitoring of water quality and quantity, an abundance of data, and advanced modeling techniques. Such capabilities will be enabled through an additional \$2 million



Executive Director J.D. Strong looks on as OWRB Director of Planning Kyle Arthur presents details of OCWP analyses to members of the Joint Legislative Water Committee in August 2011. The Committee's work was instrumental to development of water-related legislation passed during the 2012 session.

in appropriations to the OWRB and Conservation Commission. Most notably, the OWRB will use a portion of the funding to establish the state's first comprehensive groundwater monitoring program. The Legislature also extended utilization of Gross Production Tax proceeds for OCWP implementation, including support of planning partnership opportunities, updates of hydrologic studies, and enhancement of water management and modeling tools.

In all, accomplishments from the 2012 legislative session will accelerate implementation of at least half of the eight priority recommendations included in the 2012 OCWP Update (Water Quality and Quantity Monitoring; Water Supply Reliability; Water Conservation, Efficiency, Recycling and Reuse; and Water Project and Infrastructure Funding). Additional legislation providing for improved enforcement of water well drilling regulations and enhanced floodplain management rules address at least two OCWP supporting recommendations.

While we are off to a tremendous start on Water Plan implementation, much work remains to truly ensure the sound water future envisioned by the OCWP. Regional planning, for example, was the most popular Water Plan recommendation among citizen participants because it allows them to engage more formally in how water resources are planned at the local level and managed by the state. Unfortunately, enabling legislation was narrowly defeated due to the negative lobbying efforts of certain special interest groups. Additionally, we must redouble our efforts to work with Oklahoma's tribal governments to resolve conflicting water issues and we still need to ensure adequate protection of instream flows that are so critical to state and local tourism economies. We look forward to working with our multitude of partners and leaders at the State Capitol to advance these critical issues as well. 💧

53rd Legislature (continued)

capacity of the State Financial Assistance Program sufficient to address the identified \$82 billion water and wastewater infrastructure financing need in Oklahoma over the next 50 years.

HB 1910: Water Well Drilling

Inspection and Compliance—Grants the OWRB authority to inspect specific water wells upon consent of the landowner or as allowed by district court order and disapprove use of any well found to be noncompliant with state laws and regulations. The bill also authorizes the OWRB to prepare exams and other licensing requirements for water well drillers and pump installers.

HB 2835: Gray Water Reuse—Allows for the use of up to 250 gallons per day of private, residential gray water for household gardening, composting, or landscape irrigation without a permit from the Oklahoma Department of Environmental Quality (ODEQ). (Gray water is wastewater generated from domestic activities—laundry, dishwashing, bathing, etc.—that can be recycled on-site for landscape irrigation and related uses. Gray water does not contain human waste.) The bill also establishes requirements of approved gray water systems.

Oklahoma's Water and Wastewater Project Need

Drinking Water Infrastructure Need (in 2007 Dollars)			
Present to 2020	2021-2040	2041-2060	Total Period
\$9,680,000,000	\$10,610,000,000	\$17,530,000,000	\$37,790,000,000

Wastewater Infrastructure Need (in 2010 Dollars)			
Present to 2020	2021-2040	2041-2060	Total Period
\$12,590,000,000	\$22,830,000,000	\$8,470,000,000	\$43,890,000,000

See page 9 of the OCWP Executive Report for more details about Oklahoma's future water project and infrastructure financing needs.

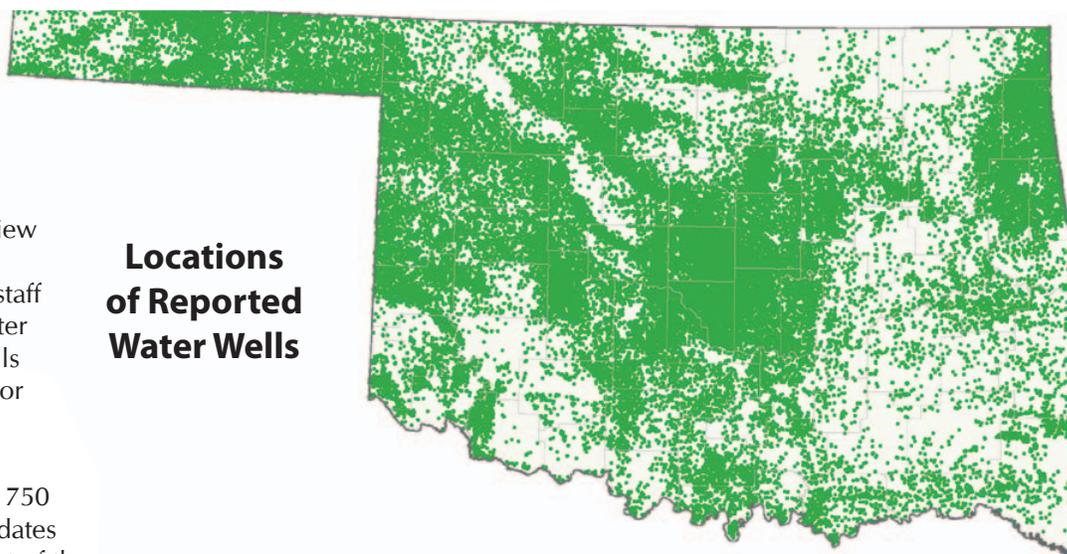
SB 1043: Water Reuse—Requires the ODEQ to promulgate rules no later than July 1, 2013, for the indirect potable reuse of treated wastewater. By August 31 of this year, the ODEQ is also required to convene a workgroup of municipalities, consulting engineers, technical experts, and the general public to explore opportunities for water reuse and to review and make recommendations on rules defining indirect potable reuse.

SJR91: Municipal Water Reuse Rules—A Joint Resolution approving permanent ODEQ rules relating to municipal water reuse. ♦

Development of Statewide Groundwater Monitoring Program Initiated

Enabled through a recent \$1.5 million legislative appropriation, a new statewide groundwater monitoring and assessment program is being developed by the OWRB. Following stakeholder input and peer review of Oklahoma's first holistic groundwater network, agency staff will collect baseline groundwater level and quality data from wells in Oklahoma's twenty-one major aquifers.

Initial planning has led to the identification of approximately 750 wells that could be ideal candidates for the water quality component of the strategy, while about 1,200 potential wells could make up an expanded groundwater level network in Oklahoma. Among many benefits, data will be used to track trends and identify both limitations and opportunities related to site-specific groundwater usage throughout the state. ♦



**Locations
of Reported
Water Wells**

More than 140,000 domestic, permitted and other water wells dot the state. Approximately 2,000 of these wells—and perhaps future wells that penetrate Oklahoma's major aquifers—could comprise the OWRB's new comprehensive groundwater monitoring network, including for the first time both quality and quantity components. The new program will provide increased confidence in the usability of Oklahoma's vital groundwater supplies.

Arbuckle-Simpson Hearing Attracts Large Crowd

More than 150 citizens and individuals representing landowners, municipalities, mining interests, water interest groups, and government agencies attended the OWRB's hearing on the tentative determination of the Arbuckle-Simpson Groundwater Basin maximum annual yield (MAY) held May 15-16 in Sulphur. A similar crowd attended an organizational prehearing conference on May 9 in Ada.

Numerous individuals, both in support of and opposed to the tentative determination, presented evidence to Hearing Examiner Emily Hammond Mezell, University of Oklahoma law professor. Those presenting evidence included OWRB staff, local landowners, and representatives of numerous agencies and organizations, including the National Park Service, U.S. Fish and Wildlife Service, Oklahoma Farm Bureau, Oklahoma Independent Petroleum Association, Environmental Federation of Oklahoma, Oklahoma Cattlemen's Association, Oklahoma Aggregates Association, and Citizens for the Protection of the Arbuckle-Simpson Aquifer. Written comments were also submitted at the hearing and accepted by the OWRB through May 31. Legal response briefs were accepted through June 18.

The OWRB's tentative determination—proposing a yield of 78,404 acre-feet per year, equal proportionate share of 0.2 acre-foot (or 2.4 inches) per acre per year, and five-year implementation schedule—was approved in March at the Board's monthly meeting.

The Hearing Examiner is expected to complete her evaluation of the evidence and legal arguments and prepare a Proposed Order with a recommendation for a final determination by the end of summer. ♦

Drummond Elected Board Chairman

At its monthly meeting in June, the OWRB elected Ford Drummond as the new Chairman. Former Chairman Linda Lambert will assume the Vice Chairman position while Tom Buchanan remains Secretary.

Drummond, who joined the Board in 2006, is an At Large member representing agricultural water use interests. He currently resides in Bartlesville and is the owner and operator of a large family ranch in Osage County. ♦

Governor Fallin Appoints Jason Hitch to OWRB

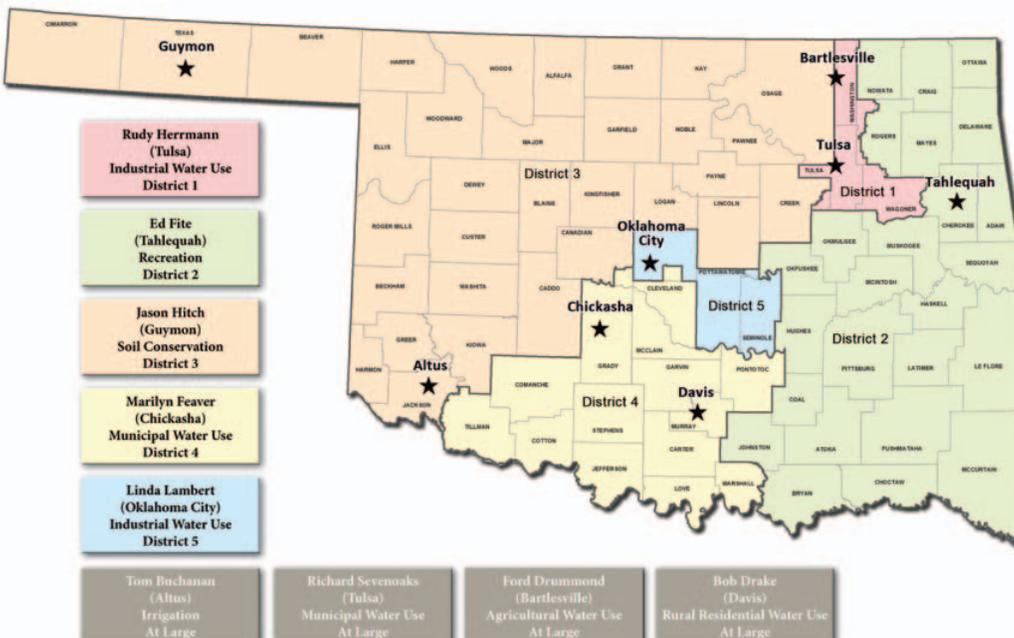
On April 19, Guymon rancher Jason W. Hitch was appointed by Governor Fallin to succeed Kenny Knowles on the Oklahoma Water Resources Board.

Hitch will represent soil conservation interests and Congressional District 3 as one of nine members of the OWRB. He will serve a seven-year term expiring in May 2019.



Hitch is the co-owner of a large family agricultural operation in Texas County. He serves on the Board of Directors of Bank of the Panhandle, as Chairman and Executive Board member of the National Cattlemen's Beef Association Committee, and as Vice-Chairman of the Texas Cattle Feeder's Association. ♦

Current OWRB Membership and Representation



NOTICE
Beginning in July, all OWRB meetings will be held on the third (rather than the second) Tuesday of each month.

OKLAHOMA Governor's Water Conference

November 13-14, 2012

Southern Hills Marriott

TULSA

For more information visit www.owrb.ok.gov.

Landscape Irrigation Controllers Earn "WaterSense" Label

WaterSense, an EPA-sponsored partnership program that utilizes consumer labeling to signify water-efficient products, has been extended to manufacturers, retailers, and distributors of weather-based irrigation controllers.

WaterSense labeled controllers, which use local weather and landscape conditions to tailor irrigation schedules to actual conditions, signify technology that saves water and performs as well or better than comparable standard models in facilitating a healthy and attractive landscape for homes and businesses. Instead of irrigating on a preset schedule set by a clock timer controller, these systems control water application to more closely match plants' water requirements. They also prevent waste and over-watering and reduce annual water bills, all while facilitating a healthier landscape.



All WaterSense labeled products must be independently certified to meet the EPA's water efficiency and performance criteria. The EPA worked with a variety of stakeholders to develop criteria and performance measures for WaterSense labeled controllers, based on the industry's Smart Water Application Technologies™ protocol for climate-based controllers.

The weather-based irrigation controller specification also requires supplementary capabilities, such as multiple programming features, ensuring flexibility and adaptability to local weather conditions.

WaterSense-labeled controllers operate like a thermostat for your sprinkler system, telling it when to turn on and off based on local weather data. They have the potential to provide home and building owners across the country 110 billion gallons of water savings and roughly \$410 million in savings per year on utility bills.

Residential outdoor water use in the United States accounts for more than 7 billion gallons of water each day, mainly for landscape irrigation. Experts estimate that as much as half of this water is wasted due to over watering caused by inefficiencies in irrigation methods and systems. ♦

Governor and Tribes Create Water Task Force

In May, Oklahoma Governor Mary Fallin, Chickasaw Nation Governor Bill Anoatubby, and Choctaw Nation Chief Gregory Pyle announced creation of a 19-member task force charged with resolving the ongoing lawsuit over Oklahoma water rights. The divergent membership includes numerous state, city, and tribal government officials as well as leaders from Oklahoma's business and energy sectors.

"Water rights and water security are linked to both economic and quality of life issues," said Fallin, Anoatubby, and Pyle in a joint statement. "Our hope is that this new task force will help to pave the way toward an agreement that is fair and beneficial to all relevant parties."

Court-appointed mediator Francis E. McGovern will meet regularly with task force members to ferret out a potential resolution to a lawsuit filed last August by the Choctaw and Chickasaw Nations that lays claim to the water rights in 22 southeast Oklahoma counties. Proceedings will remain confidential. ♦

State Question #764

LEGISLATION:	HJR 1085
SUBJECT:	Creates the Water Infrastructure Credit Enhancement Reserve Fund
ELECTION DATE:	Next General Election, November 6, 2012
BALLOT TITLE:	This measure amends the Oklahoma Constitution. It adds a new Section 39A to Article 10 creating a new reserve fund for the Oklahoma Water Resources Board. The fund would enable the Board to finance water resource and sewage treatment projects sufficient to meet the state's projected \$82 billion water/sewer infrastructure project need through 2060.



Bartlesville water tower
(photo courtesy HUB Engineering)

OCWP Conservation Techniques

Summarized below are suggested water conservation techniques—combining ideas from both “Moderately” and “Substantially Expanded” conservation scenarios—offered by the *2012 OCWP Update*.

MUNICIPAL & INDUSTRIAL CONSERVATION:

- Passive conservation through government plumbing codes as part of the federal Energy Policy Act
- Expand metering of customer water usage
- Reduce system leakage and water losses
- Conservation pricing
- Educational programs
- High efficiency plumbing codes utilizing fixtures with lower maximum flow rates than those required under the Energy Policy Act.

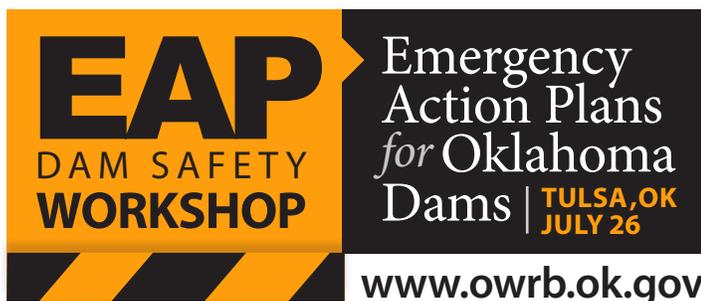
CROP IRRIGATION CONSERVATION:

- Increase field application efficiency of surface irrigation systems
- Shift to micro-irrigation
- Widespread implementation of low energy precision application (LEPA) sprinkler systems
- Shift to less water-intensive crops

Utilizing “Marginal Quality” Waters

According to the *2012 OCWP Update*, expanded use of marginal quality waters (MQW) could also have significant utility in reducing future demand placed on fresh water. The OCWP Marginal Quality Water Workgroup studied the potential utilization of several categories of water sources—such as brackish groundwater, treated wastewater effluent, production water from oil and gas operations, and stormwater runoff—demonstrating marginal quality. The Workgroup concluded that certain MQW sources have excellent potential to augment supply in many areas of Oklahoma.

The reuse of wastewater, especially treated municipal and industrial discharges, for non-potable irrigation and industrial applications showed particular promise in reducing demand upon water supply systems. ♦



EAP
DAM SAFETY
WORKSHOP

Emergency
Action Plans
for Oklahoma
Dams | TULSA, OK
JULY 26

www.owrb.ok.gov

The Role of Conservation in Water Management

Conservation and related measures that maximize efficiency can play an essential role in water management through reducing the demand for water. Conservation increases water availability for both consumptive and nonconsumptive needs (such as recreation and fishing), reduces energy and infrastructure operation costs, proactively mitigates drought episodes, and reduces the need for inter-basin transfers of water.

Conservation strategies can be implemented on both the demand and supply/distribution sides of water management. Municipal and Industrial (M&I) demand side conservation techniques reduce water demand by changing consumer behavior through implementing education programs, promoting the use of water efficient appliances, and employing conservation pricing. Supply or distribution conservation involves effective management of system water losses through analysis of water use and leak detection. Reduced water demand from conservation prolongs the lifespan of current supplies, which allows utilities to defer, downsize, or even eliminate costly investments in new facilities and water supplies. Customers benefit through reduced water and energy utility bills.

Crop Irrigation (or agricultural) supply side conservation reduces water demand through activities such as implementation of irrigation systems with increased efficiencies and production of crops with decreased water requirements.

For the *2012 OCWP Update*, various water conservation scenarios were analyzed to reduce demand and thus mitigate the degree of projected water deficits in Oklahoma. The analysis targeted the state’s two largest water use sectors, Municipal and Industrial (M&I) and Crop Irrigation, which together account for about 72 percent of the overall current (2010) statewide water demand. The study contemplated both “moderate” (Scenario I) and “substantially expanded” (Scenario II) levels of conservation.

OCWP analysis indicates that full implementation of Scenario I would reduce 2060 water demands to levels approaching those forecasted for 2020. Additionally, full implementation of Scenario II, or at least some of its components, would result in achievement of the new statewide goal, established through recent passage of the Water for 2060 Act, of consuming no more fresh water in 2060 than is consumed today.

In most OCWP planning basins, managing water demand through conservation activities was shown to be equally effective in reducing or eliminating gaps or storage depletions, particularly in alluvial aquifers. Scenario I could reduce surface water gaps statewide by 25% and reduce the number of watershed basins with projected surface water gaps from 55 to 42; reduce alluvial groundwater depletions by 32% (from 63 basins to 51); and reduce bedrock groundwater depletions by 15% (from 34 basins to 26). ♦

Drought Update

Reservoir Storage

As of June 5, eighteen reservoirs (of thirty-one selected major federal reservoirs across Oklahoma, listed at right) are operating at less than full capacity, according to information from the U.S. Army Corps of Engineers (Tulsa District); twenty-seven reservoirs have experienced lake level decreases since May 8.

Standardized Precipitation Index

The latest monthly Standardized Precipitation Index (see table below) indicates near long-term dryness in the East Central, South Central and Southeast climate divisions.

Palmer Drought Severity Index

According to the latest Palmer Drought Severity Index (see table below), four of nine climate divisions in Oklahoma are currently experiencing drought conditions.



Storage in Selected Oklahoma Lakes & Reservoirs (June 5, 2012)

LAKE	Change in Elevation (feet) 5/8/12-6/5/12	Current Flood Control Storage (acre-feet)
North Central		
Fort Supply	-0.11	-215
Great Salt Plains	-0.66	1,144
Kaw	-1.49	10,504
Northeast		
Birch	1.32	2,570
Copan	-12.23	2,460
Fort Gibson	-0.69	7,334
Grand	-1.15	-2,454
Hudson	-0.92	5,115
Hulah	-12.65	7,862
Keystone	-2.19	23,868
Oologah	-9.68	8,406
Skiatook	1.28	-39,037
West Central		
Canton	-0.06	-42,763
Foss	-0.28	-44,098
Central		
Arcadia	1.33	2,431
Heyburn	-0.49	-259
Thunderbird	-0.45	-13,890
East Central		
Eufaula	-1.26	-51,926
Tenkiller	-1.27	-8,057
Southwest		
Fort Cobb	-0.12	-7,947
Lugert-Altus	0.29	-102,062
Tom Steed	-0.48	-38,316
South Central		
Arbuckle	-0.30	785
McGee Creek	-0.14	1,604
Texoma	-0.23	-198,423
Waurika	-0.62	-58,134
Southeast		
Broken Bow	-1.87	-61,219
Hugo	-1.15	-24,953
Pine Creek	-1.18	-3,959
Sardis	-0.26	-532
Wister	-0.29	1,220

CLIMATE DIVISION	Standardized Precipitation Index (through May 2012)				Palmer Drought Severity Index
	3-month	6-month	9-month	12-month	June 2, 2012
Northwest (1)	Near Normal	Moderately Wet	Moderately Wet	Near Normal	Moderate Drought
North Central (2)	Moderately Wet	Very Wet	Very Wet	Near Normal	Moist Spell
Northeast (3)	Moderately Wet	Near Normal	Near Normal	Near Normal	Mild Drought
West Central (4)	Near Normal	Near Normal	Near Normal	Near Normal	Near Normal
Central (5)	Near Normal	Near Normal	Near Normal	Near Normal	Near Normal
East Central (6)	Near Normal	Near Normal	Near Normal	Moderately Dry	Moderate Drought
Southwest (7)	Moderately Wet	Near Normal	Near Normal	Near Normal	Incipient Drought
South Central (8)	Near Normal	Near Normal	Near Normal	Moderately Dry	Incipient Drought
Southeast (9)	Very Dry	Near Normal	Near Normal	Very Dry	Moderate Drought

For more drought information, and to obtain updated information on Oklahoma's drought and moisture conditions, go to www.owrb.ok.gov/supply/drought/drought_index.php.

www.owrb.ok.gov

*Ford Drummond, Chairman • Linda Lambert, Vice Chairman • Tom Buchanan, Secretary
Bob Drake • Ed Fite • Marilyn Feaver • Rudy Herrmann • Jason Hitch • Richard Sevenoaks*

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



2nd Quarter 2012

Darla Whitley, Editor

Staff Writers:

Brian Vance & Darla Whitley

Photography:

Barry Fogerty

*E-mail comments, questions,
or article submissions to
pubinfo@owrb.ok.gov
or call us at (405) 530-8800.*

The Oklahoma Water News is published by the Oklahoma Water Resources Board as authorized by J.D. Strong, Executive Director. Eighty-eight hundred copies have been printed by University Printing Services at an approximate cost of 32 cents each. Copies have been deposited at the Publications Clearinghouse of the Oklahoma Department of Libraries.

FINANCIAL ASSISTANCE PROGRAM UPDATE

Loans & Grants Approved as of June 12, 2012

FAP Loans—343 for \$778,120,000

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—253 for \$1,059,158,629

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—141 for \$761,119,642

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—574 for \$50,969,444

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—565 for \$33,725,677

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—2 totaling \$200,000

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: 1,878 for \$2,683,293,392

Estimated Savings: \$936,866,931

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.**

OKLAHOMA Water News

3rd Quarter 2012

Inside

**OWRB Awards Grants,
Takes Action to Mitigate
Worsening Drought**

**33rd Annual Governor's
Water Conference Agenda**

**Facts About State Question
764 and the Status of
Oklahoma's Water Future**

**OWRB Offers Public Water
Supply Planning Guide and
Map Viewer**

**Hydrologic Drought of
2011 Fact Sheet Now
Available**

**Automated Meter Systems
Gaining Popularity**

Drought Update

OWRB Awards Grants, Takes Action to Mitigate Worsening Drought

At its September meeting the OWRB approved emergency funding to alleviate the ongoing drought-related problems of five Oklahoma communities and water systems.

In accordance with an OWRB rule, a limited amount of funding for drought grant assistance to rural and municipal water facilities may be enabled whenever Oklahoma is suffering from drought conditions and a formal state drought emergency has been declared. Governor Fallin proclaimed a "State of Emergency Due to Drought" on July 30.

Funding for the five projects amounts to almost \$291,000—just short of the total maximum amount available (\$300,000) through the Drought Grant Program—and is allocated as follows:

- \$43,498 to Chattanooga Public Works Authority to complete a new well;
- \$88,293 to the Sayre Public Works Authority to develop new wells;
- \$26,870 to Cherokee County Rural Water District #3 to provide relief to eight families whose natural springs dried up;
- \$71,942 to the City of Tonkawa to rehabilitate its wells in order to boost production; and
- \$60,186 to the Perkins Public Works Authority to develop a new well.

Oklahoma is currently experiencing its third major drought episode in the last six years, one of the driest periods since 1936, the Dust Bowl days. According to the U.S. Drought Monitor, 95 percent of the state is now suffering from extreme drought conditions while only three percent of Oklahoma was in that category three months ago. In fact, much of the nation continues to suffer from drought's many and varied impacts.

Once again, statewide drought has drastically reduced river flows and lake and aquifer levels, causing severe impacts to household, agricultural, municipal, industrial, and recreational water users. Apart from the abnormally hot temperatures, the difference this year is that Oklahoma entered 2012 with an existing water deficit due to last year's drought.

"Oklahomans depend upon spring rains to fill reservoirs and livestock ponds, recharge aquifers, and provide a healthy boost to the year's first round of crops. Unfortunately, we started the year dry, then precipitation was woefully inadequate in advance of the growing season and peak

(continued on page 4)

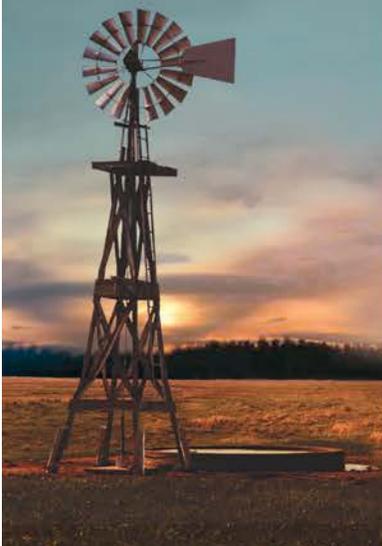
From the Director

In July, I had the honor of testifying before the U.S. House Committee on Science, Space, and Technology to provide one state's viewpoint on the value of drought monitoring and forecasting specific to implementation of the National Integrated Drought Information System (NIDIS). With virtually the entire nation suffering from an extended drought episode and our weather prediction capabilities more refined than ever, establishment of an effective drought early warning system has never been more important, or more within our grasp. This is one of the primary federal directives of NIDIS, created in 2006 to improve the coordination of meaningful drought research and prediction.

(continued on page 2)



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



From the Director (continued)

Oklahoma, like the nation in general, remains largely vulnerable to the vagaries of drought and its considerable economic and social impacts. Drought is now largely accepted as a normal aspect of our climate. Reducing its impacts requires improved insight—targeted research, long-term monitoring, and development of tools that enhance our ability to predict the probability of drought, or at least detect its early onset, so that states can effectively prepare for these disasters. Through improved weather technology—bolstered in large part through our research community at the National Weather Center in Norman—and support from both the states and Congress, I am confident we can achieve this worthy goal.

“Typically, we ignore drought until the situation is dire, lament the impacts, and justifiably call for help. But invariably it rains, at which point we forget there was ever a problem and go back to business as usual.”

Prediction aside, to truly address drought’s devastating impacts we must first change our attitudes. Typically, we ignore drought until the situation is dire, lament the impacts, and justifiably call for help. But invariably it rains, at which point we forget there was ever a problem and go back to business as usual. We must break this “hydro-illogical” cycle.

As recurring drought episodes become more disastrous, we must consider water conservation not as a short-term fix but a long-term necessity. The first step, enabled through a priority recommendation of the 2012 Update of the Oklahoma Comprehensive Water Plan (OCWP) and subsequent passage of the Water for 2060 Act, will be development of feasible strategies to maintain statewide consumption of fresh water at current levels through 2060. I am confident that we can reach this lofty goal, not just through additional conservation measures but also by implementing incentives to promote more widespread reuse and recycling of wastewater and desalination of brackish water. Such actions could delay or even alleviate localized water shortages projected by the OCWP.

It should be no surprise to anyone that conservation will also be a focus of this year’s Governor’s Water Conference, which will be held November 13-14 at the Southern Hills Marriott in Tulsa. In addition to sessions highlighting the latest developments related to water management and quality, infrastructure financing, and other essential water matters, we have invited speakers from all over the country and from many disciplines to detail innovative examples of water conservation, efficiency and reuse.

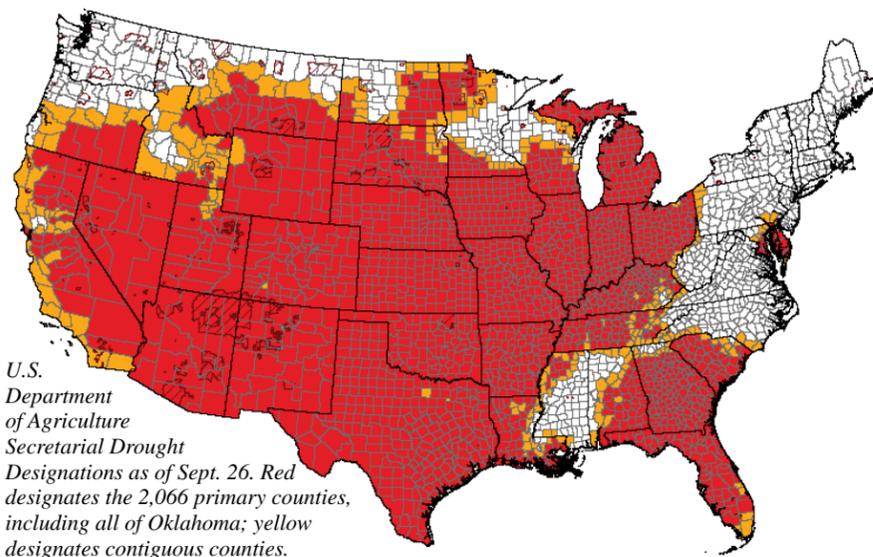


Strong (third from right at the witness table) appeared before the congressional Committee on Science, Space, and Technology on July 25 to share information on Oklahoma’s ongoing drought impacts and examine recent federal efforts to improve drought monitoring and forecasting, especially implementation of the National Integrated Drought Information System and development of a drought early warning system.

Reflecting last session’s legislation, the Conference theme (as well as the state’s new conservation awareness initiative) is “Water for 2060.”

I am tremendously excited to announce that this year’s keynote address will be delivered by Dayton Duncan, an award-winning writer and documentary filmmaker. Duncan’s latest film project, on which he served as principal writer, is entitled “The Dust Bowl,” a two-part series airing November 18 and 19 on PBS and premiering, in part, at the Governor’s Water Conference. Collaborating with renowned documentarian Ken Burns, Duncan’s latest project provides a stark reminder of what previous generations of Oklahomans learned the hard way—conservation and wise use of our water and other natural resources is a basic necessity in preparing for the inevitable, devastating droughts to come.

With an agenda featuring something for everyone, I urge all Oklahomans to join us for two days of riveting water discussion. Registration is available via our website at www.owrb.ok.gov. See you in Tulsa! ♦



U.S. Department of Agriculture Secretarial Drought Designations as of Sept. 26. Red designates the 2,066 primary counties, including all of Oklahoma; yellow designates contiguous counties.

WATER FOR 2060

EFFICIENCY • CONSERVATION • RECYCLING • REUSE

33RD ANNUAL GOVERNOR’S WATER CONFERENCE
10TH ANNUAL OWRRI WATER RESEARCH SYMPOSIUM
NOVEMBER 13-14, 2012
TULSA MARRIOTT SOUTHERN HILLS

Register online at www.owrb.ok.gov.

FEATURING
THE DUST BOWL

Keynote speaker Dayton Duncan is an award-winning writer and documentary filmmaker. His latest film, for which he served as principal writer, is “The Dust Bowl,” a two-part series airing November 18-19 on PBS. Duncan will present a preview of the film during the conference and be on hand to sign his companion book for the series, coauthored with Ken Burns.

Tuesday, Nov. 13			
8:30 AM SALON A-E PLENARY SESSION	Welcome: Ford Drummond, OWRB Chairman & Dewey Bartlett, Tulsa Mayor Keynote Address: Dayton Duncan, Author/Filmmaker, <i>The Dust Bowl</i> Water for 2060 & Beyond: J.D. Strong, OWRB Executive Director		
10:00 Break			
10:20	SALON B-D Innovations in Water Conservation, Efficiency, and Reuse	SILVER OAK ROOM Water Research Symposium Session 1	Sycamore Room Oklahoma Bar Association CLE
Noon SEQUOIA ROOM LUNCHEON	Oklahoma Water Pioneer Awards Water Outlook from Washington DC		
1:30	SALON B-D Innovations in Water Conservation, Efficiency, and Reuse	SILVER OAK ROOM Water Research Symposium Session 2	Sycamore Room Oklahoma Bar Association CLE
3:00 Break			
3:20	SALON B-D ROUNDTABLE DISCUSSION: Regional Water Planning	SILVER OAK ROOM Water Research Symposium Session 3	Sycamore Room Oklahoma Bar Association CLE
5:00 Adjourn to Reception			
Wednesday, Nov. 14			
8:30 AM SALON A-E PLENARY SESSION	Welcome: Ford Drummond, OWRB Chairman & Gary Sherrer, Oklahoma Secretary of Environment Partnerships in Sustainability		
10:00 Break			
10:20	SALON B-D Implementing OCWP Priorities: Monitoring and Infrastructure Financing	SILVER OAK ROOM Water Research Symposium Session 4	
Noon SEQUOIA ROOM LUNCHEON	The Blue Revolution: Cynthia Barnett, Author Poster Contest Winners 4-H Speech Contest Winners		
1:30	SALON B-D ROUNDTABLE DISCUSSION: Instream/Environmental Flows	SILVER OAK ROOM Water Research Symposium Session 5	
3:00 Break			
3:30	SALON A OWRB Monthly Meeting	SILVER OAK ROOM Water Research Symposium Session 6	
5:00 Adjourn			

**invited*

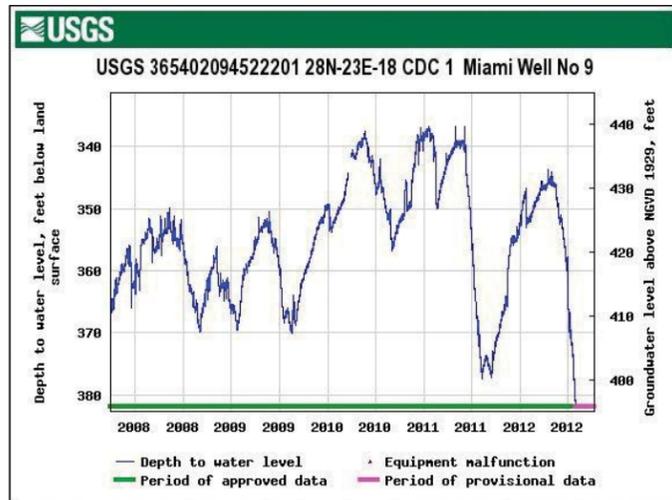
Worsening Drought (continued)



Dock on Southwest side of Lake Hefner in Oklahoma City. Recent September rains did little to restore lake levels in central Oklahoma.

demand summer months,” says J.D. Strong, OWRB Executive Director. “By July, around the peak time of Oklahoma’s drought impacts, we were receiving dozens of inquiries every day either reporting drought-related water problems or requesting some type of technical or financial assistance.”

Strong adds that OWRB staff continue to work closely with the water user community to locate alternative water supply sources, modify and strengthen water rights claims and permits, recommend water well drillers, provide long-range planning assistance to water systems, and resolve conflicts between users.



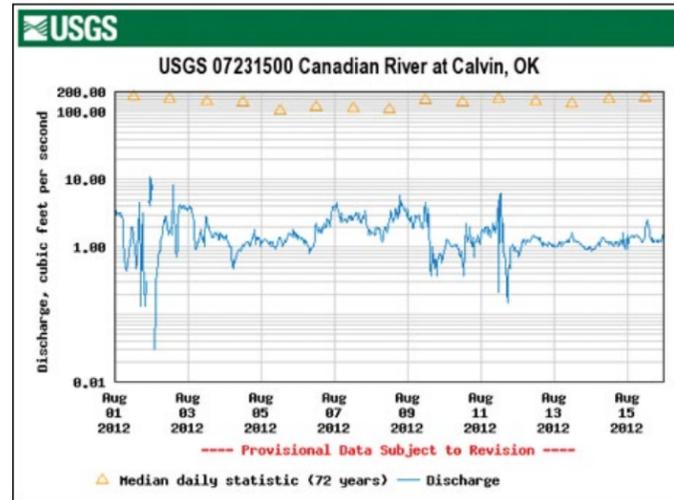
Groundwater levels at this site in Ottawa County have plummeted below low levels in 2011.

On a more optimistic note, the OWRB’s enormously successful loan and grant programs have helped improve dramatically the drought resistance of treatment and distribution systems, according to Ford Drummond, Chairman of the OWRB.

“Where during the early 1980s we saw hundreds of communities and rural districts rationing water or experiencing system failure due to unprecedented demand on aging infrastructure, this summer only a handful of water systems statewide were forced to institute mandatory water rationing. That is largely attributable to the fortification



This recent photograph at a site on the Canadian River near Konawa (southeast of Oklahoma City) shows no discernible flow. A USGS streamflow hydrograph for this site (below) demonstrates the degree of low streamflow compared to the median average over the site’s 72-year period of record.



of Oklahoma’s water and sewer systems through OWRB financial assistance,” Drummond says.

According to Bob Drake, who serves as Chairman of the OWRB’s Drought Committee, Oklahomans must become more vigilant in preparing for inevitable droughts. “Conservation—along with wise development and infrastructure upgrades—is imperative, as recognized in the 2012 Oklahoma Comprehensive Water Plan Update and by the newly enacted Water for 2060 initiative. All water users must be fully committed to pursuing innovative strategies and to curbing wasteful practices and old habits that leave us more vulnerable to drought.”

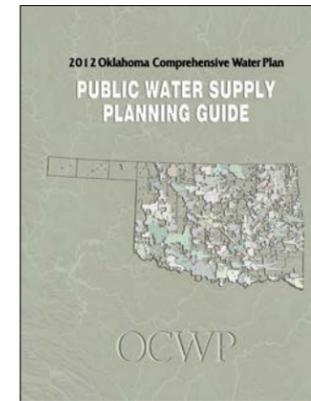
Concerning Oklahoma’s infrastructure, the 2012 OCWP Update identified more than \$82 billion in drinking water and sewer infrastructure needs through 2060. State Question 764, which will appear on the November general election ballot, seeks voter approval to amend the Oklahoma Constitution to establish a new Water Infrastructure Credit Enhancement Reserve Fund that would increase agency financing capacity to keep pace with this future demand, thus keeping rates more affordable for all Oklahomans. ♦

Facts About State Question 764 and the Status of Oklahoma’s Water Future

- The 2012 Update of the Oklahoma Comprehensive Water Plan identified an \$82 billion need for Oklahoma’s water and wastewater infrastructure over the next 50 years. Without adequate infrastructure, water will only be available at a much higher cost to taxpayers through increased water and sewer bills.
- The OWRB’s five successful grant and loan programs are reaching full capacity. It is estimated that these programs will be able to satisfy only 4% to 9% of the projected demand for financing through 2060.
- Small, medium, and large communities ALL need access to low-cost financing. The greatest need is in small- and medium-sized communities; more than 75% of the OWRB’s infrastructure funds are utilized by these systems.
- OWRB programs allow communities access to interest rates that are cheaper than those available in the open market, resulting in savings to both systems and their customers.
- The State Legislature and Governor Fallin authorized SQ 764 in order to ensure clean water for future generations of Oklahomans. SQ 764 is not a bond issue or a tax increase. It’s a pledge of credit.
- If SQ 764 is passed, the OWRB will be able to leverage funds in the bond market as projects are ready to begin construction. In turn, this will enable the OWRB to fund approximately \$3 billion in infrastructure projects (the largest estimated need over the next several decades) and thus ensure the availability of clean and drinkable water for future generations.

OWRB Offers Public Water Supply Planning Guide & Map Viewer

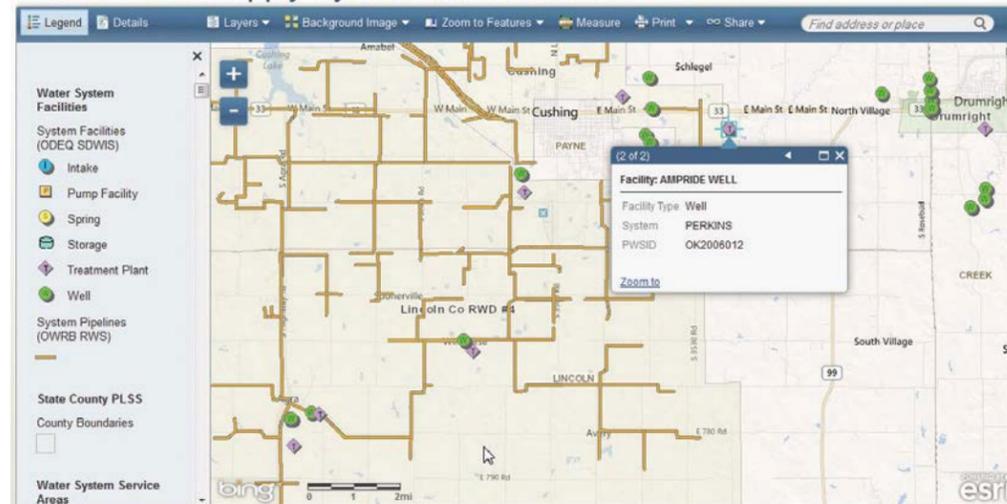
The OCWP Public Water Supply Planning Guide, a resource for developing long-range water system planning, is now available on the OWRB’s website. The guide presents basic concepts of strategic planning that will prepare water systems to respond to changing circumstances while maintaining organizational and financial stability.



Primary components of system-level planning include (1) water system data collection, including information about basic system components, current and potential water sources, and current and future demands of the service area; (2) identification of system capacity gaps, both current and potential; and (3) development and assessment of strategies to close gaps. Each section of the guide focuses on these areas utilizing worksheets that are also available in both Microsoft Excel and PDF format on the OWRB’s website.

Suggested ways to utilize technical information provided by the 13 OCWP Watershed Planning Region reports is an important aspect of the planning guide. The Regional Reports present elements of OCWP technical studies pertinent to each of the state’s 82 surface water basins as well as a wealth of system-level information. Each report includes water supply/demand analysis, forecasted supply shortages, potential supply solutions and alternatives, and supporting technical information. The Planning Guide identifies the region and basin for each of 775 of the states major public water systems.

Public Water Supply Systems in Oklahoma

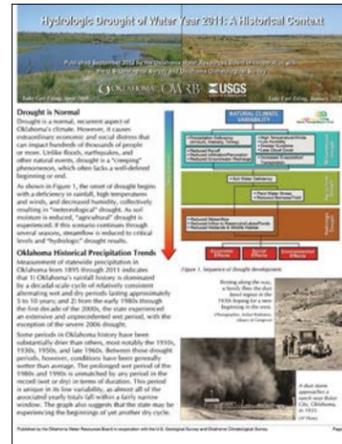


OWRB interactive map viewer: www.owrb.ok.gov/systems. Data layers assist with service area mapping.

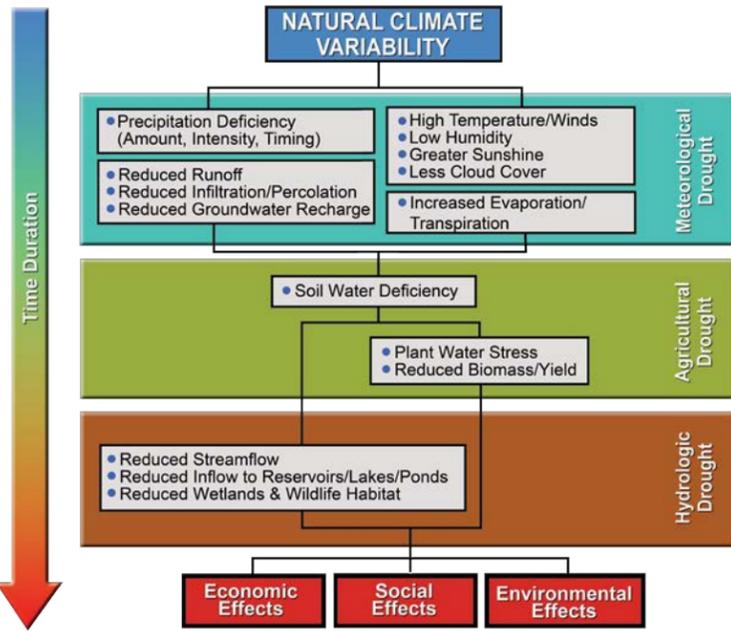
To supplement the Planning Guide, the OWRB has developed an interactive map viewer containing many data layers to assist with service area mapping. The intent of this tool is to provide a general overview of these public water supply systems and their facilities. Users can zoom in to view system boundaries, along with locations of system facilities, such as pipelines, wells, and treatment plants. ♦

Hydrologic Drought of 2011 Fact Sheet Now Available

The OWRB, in cooperation with the U.S. Geological Survey and Oklahoma Climatological Survey, has published "Hydrologic Drought of Water Year 2011: A Historical Context," detailing the 2011 statewide drought. This fact sheet, a follow-up to the "Hydrologic Drought of Water Year 2006" fact sheet, provides information on Oklahoma's short- and long-term precipitation, streamflow, and groundwater level trends, making comparisons across the state between 2011 and historical data. Statewide, based on long-term median annual runoff, Water Year 2011 ranks as the 16th driest year in 87 years of



The Hydrologic Drought of 2011: A Historical Context fact sheet is available on the OWRB's website: www.owrb.ok.gov



streamflow records (since 1925). In particular, many streams in central, southern and western Oklahoma were affected. A groundwater level graph for a well near Fittstown shows October of 2011 at about 10 feet below average (1981-2011).

Automated Meter Systems Gaining Popularity

Implementation of automated meter reading (AMR) systems—through which water supply systems can accurately monitor customer water usage—is becoming an exceedingly popular strategy to achieve efficiency and save money.

Including the City of Wagoner, which received a \$1 million Drinking Water State Revolving Fund loan from the OWRB at its September meeting, the Board has approved eight such loans specifically for AMR systems within the last three years. The other recipients who have or are currently implementing this new metering technology include Bartlesville Municipal Authority, Stroud Utilities Authority, Okmulgee Municipal Authority, Tahlequah Public Works Authority, Logan County RWS & SWMD #1, Enid Municipal Authority, and Sand Springs Municipal Authority.

The Wagoner Public Works Authority (PWA) is contributing \$19,590 in local funds to underwrite the project, which will replace old-style mechanical water meters with a state-of-the-art system utilizing transmitters that send customer usage data electronically to the city. Rather than sending out personnel to collect data manually each month from its 3,437 customers, AMR technology will automatically collect consumption, diagnostic, and status data from meters and transmit that data to a central location for analysis, billing and troubleshooting. The anticipated lowered cost of operations is expected to save Wagoner approximately \$170,000 per year

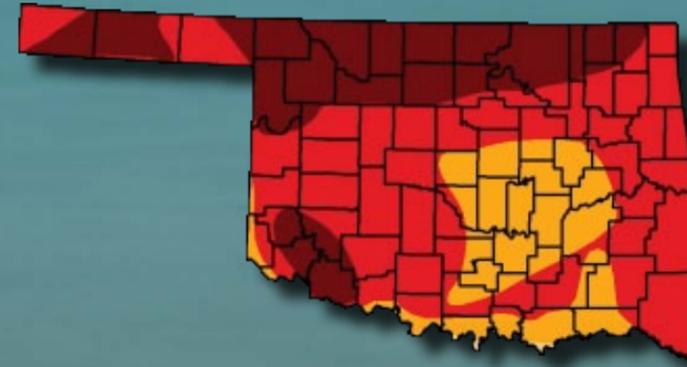
in labor and paperwork. The meters will be installed by a private contractor over a period of six months. AMR systems can also help track and detect water leaks and other system losses as well as provide direct information to water customers about their individual water usage, which often leads to improved household efficiency. According to Wagoner officials, system water losses have been as high as 35 percent. Wagoner utility customers consumed 340 million gallons of water last year from its primary water supply source, Fort Gibson Lake.

Benefits of Automated Water Meter Reading Systems:

- Reduced personnel/operation costs.
- Improved customer service.
- Pinpoint system water leaks.
- More accurate and reliable data.
- Increased customer access to individual household water consumption data, resulting in heightened conservation awareness.

Drought Update

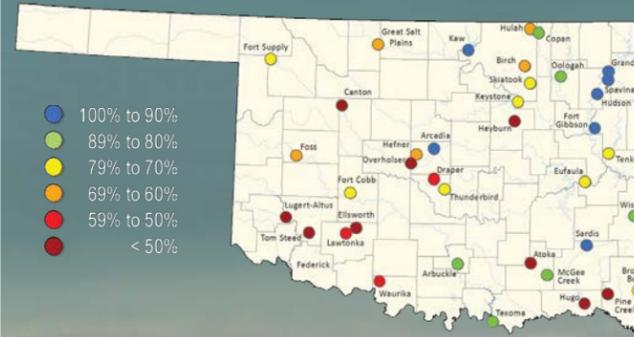
U.S. Drought Monitor
October 2, 2012



Drought Intensity & Percent of State in Drought Category

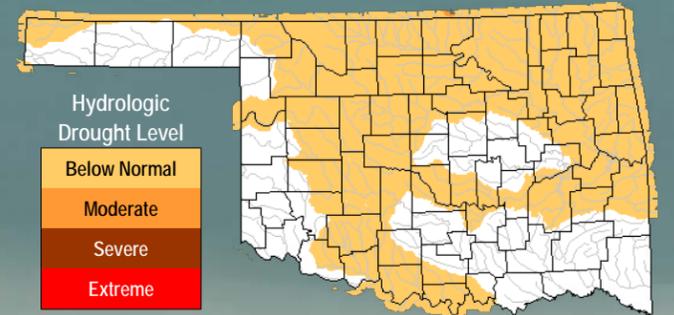
Abnormally Dry	100.00
Moderate Drought	100.00
Severe Drought	99.71
Extreme Drought	80.12
Exceptional Drought	28.21

Reservoir Storage October 8, 2012



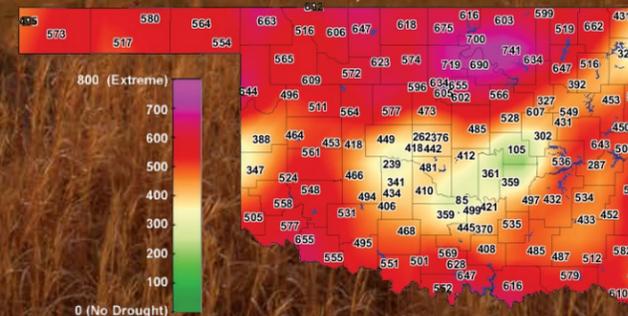
- 100% to 90%
- 89% to 80%
- 79% to 70%
- 69% to 60%
- 59% to 50%
- < 50%

Streamflow (7-Day Average) October 8, 2012

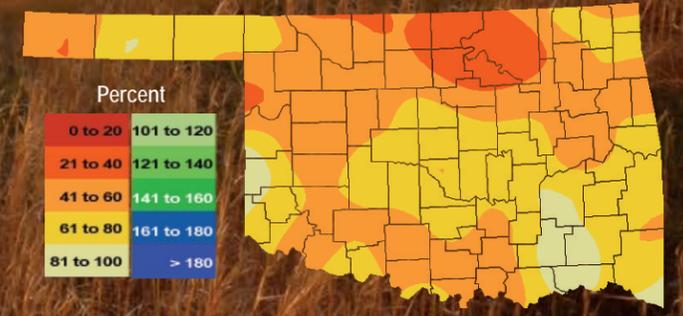


- Hydrologic Drought Level
- Below Normal
 - Moderate
 - Severe
 - Extreme

Keetch-Byram Drought Index October 8, 2012



Percent of Normal Precipitation Last 120 Days (June 11 to October 8, 2012)



- Percent
- 0 to 20
 - 21 to 40
 - 41 to 60
 - 61 to 80
 - 81 to 100
 - 101 to 120
 - 121 to 140
 - 141 to 160
 - 161 to 180
 - > 180

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

*Ford Drummond, Chairman • Linda Lambert, Vice Chairman • Tom Buchanan, Secretary
Bob Drake • Ed Fite • Marilyn Feaver • Rudy Herrmann • 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.



3rd Quarter 2012

Darla Whitley, Editor

Staff Writers:

Brian Vance & Darla Whitley

Photography:

Barry Fogerty

*E-mail comments, questions,
or article submissions to
pubinfo@owrb.ok.gov
or call us at (405) 530-8800.*

The Oklahoma Water News is published by the Oklahoma Water Resources Board as authorized by J.D. Strong, Executive Director. Eighty-eight hundred copies have been printed by University Printing Services at an approximate cost of 32 cents each. Copies have been deposited at the Publications Clearinghouse of the Oklahoma Department of Libraries.

FINANCIAL ASSISTANCE PROGRAM UPDATE

Loans & Grants Approved as of September 18, 2012

FAP Loans—343 for \$787,930,000

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—253 for \$1,059,033,629

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—143 for \$768,074,642

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—578 for \$51,284,406

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—566 for \$33,776,351

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—7 totaling \$491,000

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: 1,890 for \$2,700,590,028

Estimated Savings: \$943,137,156

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.**

OKLAHOMA Water News

4th Quarter 2012

Inside

Annual Report of OWRB Activities for 2012

Initial OCWP Implementation
Water for 2060 Advisory Council
Passage of State Question 764
Water Monitoring and Analysis
Instream Flow Workgroup
OCWP Planning Guide
Water Use Permitting
Hydrologic Studies
Floodplain Management
Well Driller Program
Dam Safety
Water Quality Standards
Lake Rehabilitation
2012 Governor's Water Conference
Financial Assistance Programs
Legal Developments
FY 12 Expenditures/FY 13 Budget

Drought Update

Annual Report of OWRB Activities for 2012

Initial Implementation of the *Oklahoma Comprehensive Water Plan*

State Legislative leaders responded positively to the *2012 Update of the Oklahoma Comprehensive Water Plan*, providing both substantive water policy legislation and funding for implementation. As a result, the OWRB and related agencies now possess both the directive and tools necessary to meet Oklahoma's water challenges through revitalized and innovative water management and protection programs. In all, accomplishments from the 2012 legislative session will accelerate implementation of at least half of the eight priority recommendations included in the *2012 OCWP Update* (Water Quality and Quantity Monitoring; Water Supply Reliability; Water Conservation, Efficiency, Recycling and Reuse; and Water Project and Infrastructure Funding). Additional legislation providing for improved enforcement of water well drilling regulations and enhanced floodplain management rules address at least two OCWP supporting recommendations.

Water for 2060 Advisory Council

With passage of the Water for 2060 Act (HB 3055), 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. The OWRB has partnered with the U.S. Army Corps of Engineers and its contractors, through the Corps' Planning Assistance to State Program, to begin preliminary work required to support the new Water for 2060 Advisory Council, chaired by the OWRB Executive Director. The Council's fifteen members—to be appointed by the Governor, Speaker of the House, and President Pro-Tempore of the Senate—are charged with studying and recommending appropriate water conservation practices, incentives, and educational programs to moderate statewide water usage while preserving Oklahoma's population growth and economic development goals. Council meetings will commence once appointments are completed.

Passage of State Question 764

Passage of State Question 764 in November allows the OWRB's Financial Assistance Program to meet much of the state's projected \$82 billion water and wastewater financing need. The new Water Infrastructure Credit Enhancement Reserve Fund, created through a constitutional amendment approved by voters, essentially establishes a \$300 million pledge of credit that enables the OWRB to leverage funds in the bond market as water and sewer projects become ready for construction.

(continued on page 2)

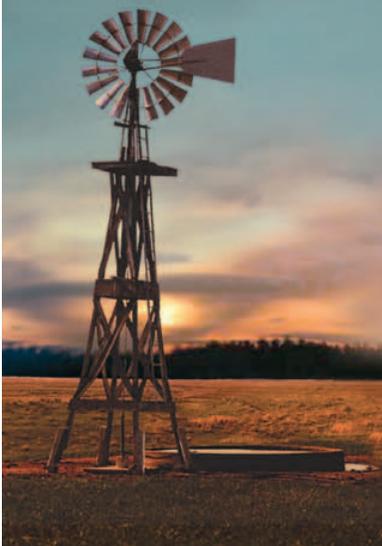
From the Director

It was great to return to Tulsa for the Governor's Water Conference in November. Once again, we had an extraordinary turnout and stimulating discourse on Oklahoma's water issues. Tulsa Mayor Dewey Bartlett, Jr., and Dayton Duncan, principle writer and co-producer of the newly released *Dust Bowl* documentary, got the conference off to a wonderful start, and our unique "roundtable" sessions highlighted a particularly diverse agenda. It has been an eventful year since unanimous OWRB approval of the *2012 Update of the Oklahoma Comprehensive Water Plan* (OCWP). Many OCWP recommendations that originated from the public input process are now being implemented due to tremendous support from Governor Fallin

(continued on page 2)



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



*2012 Annual Report (continued)***Water Monitoring and Analysis**

The FY-2013 budget included an additional \$2 million in appropriations to the OWRB and Conservation Commission to expand and integrate the state's water quality and quantity monitoring programs, another key grass-roots provision of the OCWP. This funding will ensure continued improvement in managing Oklahoma's water resources for future needs.

In 2012, the OWRB initiated the state's first comprehensive groundwater monitoring program. The agency's existing network of water wells was refined and expanded in close cooperation with various stakeholders, peer agencies, and landowners. With a specific component to assess groundwater quality, initial groundwater sampling will begin in the spring of 2013. Long-term monitoring will provide

essential data to assess trends over time and assist in water supply management decisions.

The Legislature also extended utilization of Gross Production Tax proceeds for OCWP implementation, particularly updates of hydrologic studies and enhancement of water management and modeling tools. Through this approximately \$1.3 million, the OWRB and its many partners will address the OCWP's specific recommendation calling for completion or update of all surface and groundwater basin studies across the state within 10 years (by 2022). Advanced tools and resources applied to this effort will provide fundamental information to ensure accurate allocation of waters by enhancing the forecasting of potential water shortages in a stream basin or aquifer and enabling a more accurate evaluation of various water use scenarios.

(continued on page 3)

From the Director (continued)

and the State Legislature. New legislation has provided the impetus and tools that will help ensure reliable supplies of water for all Oklahomans through 2060 and beyond, while also making Oklahoma a leader among western states in the water management arena.

"While the technical aspects of our planning strategy were sound, it was clear to us from the outset that OCWP success would rest entirely upon involving Oklahomans in the process, listening to their concerns, and obtaining grassroots support."

Seven years ago, as OWRB staff developed the early blueprint for the 2012 OCWP Update, we deliberated several different paths. Clearly, we would need to conduct a comprehensive inventory of Oklahoma's water supplies and project future demands for all water use sectors. This necessitated an analysis at the local or system level using hydrologic, rather than political, boundaries. At that time, we were aware that the state's public water supply infrastructure was ill-equipped to address its rapidly growing population. We would need to assess the projected needs of the state's water and wastewater facilities and identify funding mechanisms sufficient to meet these needs. All of this information would then be used to identify options—including development of new sources, augmentation of existing supplies, or improved management schemes—that could prevent projected water deficits or "gaps" wherever they were likely to occur.

While the technical aspects of our planning strategy were sound, it was clear to us from the outset that OCWP success would rest entirely upon involving Oklahomans in the process, listening to their concerns, and obtaining grassroots support. To meet this challenge, we teamed with the Oklahoma Water Resources Research Institute and fanned

out across the state to document constructive opinions of Oklahoma citizens regarding the most pressing water-related issues. The resulting product, refined and submitted to intense scrutiny at more than a hundred public meetings, became the basis for OCWP recommendations, including eight priority initiatives that are now well on their way to implementation.

With this most recent OCWP update in place, the issue of water—as with the economy, energy, education, or roads—is here to stay in the public's consciousness and discourse. On behalf of the Board, OWRB colleagues and planning partners, we are enormously encouraged to see how much importance Oklahomans now place on both the utilization and protection of their water resources.

We will certainly need continued support of OCWP initiatives, especially as we close the books on the warmest and driest year that most Oklahomans have ever experienced. Drought in Oklahoma should no longer be considered a "phenomenon" or unusual occurrence. We must expect it, prepare for it, and adjust to it through strengthened water policies and programs.

Through the *Executive Report*, 13 Watershed Planning Region Reports, and other OCWP products resulting from the detailed analysis of water resources, limitations, and options statewide, the *2012 OCWP Update* provides an invaluable source of information for dealing with drought and related water supply issues. Water managers and decision-makers at every level can benefit from this extensive groundwork as they develop plans for meeting their long-term water needs well into the future.

In conclusion, I'd like to remind everyone that our annual Water Appreciation Day will be held March 19 at the State Capitol. I encourage everyone to join us as water agencies and organizations gather to demonstrate the infinite importance of Oklahoma's water resources. 💧

2012 Annual Report (continued)

Instream Flow Workgroup

The OWRB initiated work with the U.S. Army Corps of Engineers and its contractors to implement the OCWP instream flow recommendation. In early 2013, the OCWP Instream Flow Workgroup—originally commissioned during the update process to conduct an independent technical, legal, and policy analysis of a potential instream flow program in Oklahoma—will begin meeting to craft recommendations for the most efficient, feasible method for balancing the water needs of consumptive users with those that rely upon water flowing in streams and lakes for economic development and recreation.

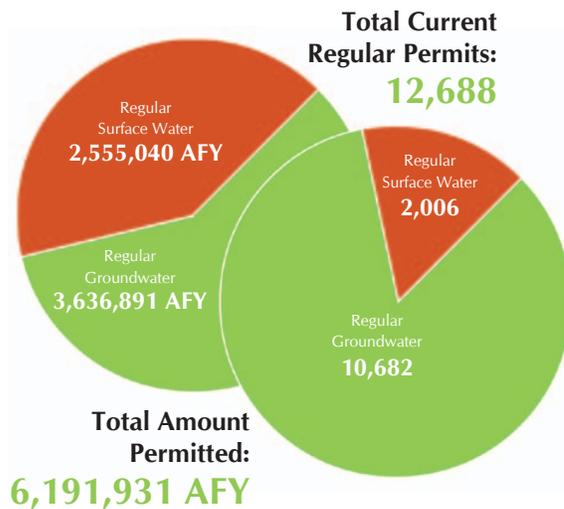
OCWP Public Water Supply Planning Guide

Throughout the five-year 2012 OCWP Update process, considerable attention was given to creating both sensible and functional planning documents to serve as indispensable technical resources for water providers, policy makers, and water users in making informed decisions concerning future local and regional water use and management. In addition to 13 Watershed Planning Region Reports and various other supporting materials and modeling tools, in late 2012 the OWRB also published the *OCWP Public Water Supply Planning Guide*, which provides more than 770 water systems with a primer for data collection, identifying gaps between existing infrastructure and supply and future needs, and strategies to close identified gaps. In November, OWRB staff mailed copies of the *OCWP Executive Report, Planning Guide*, and appropriate *Regional Reports* to all identified water systems in the state.

Water Use Permitting

In 2012, the OWRB experienced another considerable increase in water use permit applications. New applications for stream and groundwater permits have more than doubled in the last five years, while the number of requests for amendments to existing permits has more than tripled. Staff processed 2,442 Provisional Temporary (90 day) permits, more than 800 permits above the five-year average (1,616).

Total Permits Approved in 2012:
2,806



Increases in water use during the year were primarily due to oil and gas production and farming. Applicants were most interested in groundwater, especially in west and northwest Oklahoma where stream flows were greatly reduced due to continued drought conditions.

Staff also responded to numerous calls from water users concerned about shortages—even more than during the 2006 drought. A number of investigations were conducted in response to complaints about dry or depleted creeks, declining water levels in wells, and interference between junior and senior water right holders.

In April, the OWRB introduced same-day online approval of provisional temporary permits. This new web-based program provides enhanced convenience to Oklahoma water users, promotes the state’s energy industry, and saves considerable staff time. Provisional temporary permits, typically authorizing a relatively small amount of water, are the most common type of permit administered by the OWRB, and are primarily utilized for oil and gas production.

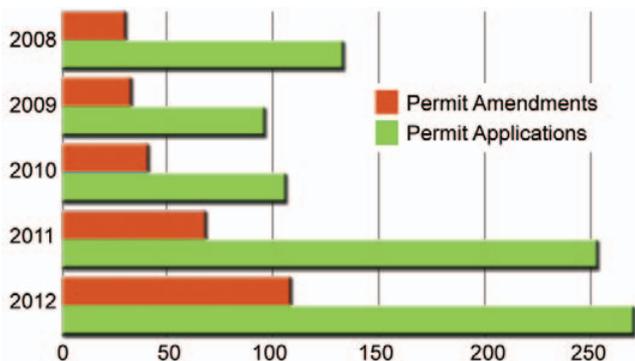
Hydrologic Studies

The OWRB began the Rush Springs Aquifer Study in 2011-2012 in conjunction with a hydrologic investigation and stream water allocation model of the Upper Washita River. The Rush Springs aquifer is an important source of irrigation and municipal water supply in the west-central portion of the state. The OWRB will be working cooperatively on the project with the Bureau of Reclamation and the Ft. Cobb and Foss Reservoir Master Conservancy Districts.

The Garber-Wellington Water Management Study, focusing on the physical properties and future management of central Oklahoma’s primary groundwater source, was completed in 2011 and the final report and groundwater flow model are under review. The OWRB expects to publish the report by September 2013.

The OWRB is initiating 20-year updates on hydrologic studies for the Enid Isolated Terrace and Elk City Sandstone aquifers; anticipated completion of this work is late 2014. Under contract with the U.S. Geological Survey, the OWRB will conduct a 20-year update of the groundwater study for the North Canadian River Alluvium and Terrace Groundwater

Permit Applications and Amendments for the Past Five Years (2008-2012)



Note: Chart does not include Provisional Temporary Permits.

(continued on page 4)

2012 Annual Report (continued)

Basin from the Beaver-Harper County line to Lake Overholser at the Canadian-Oklahoma County line. The investigation will determine if there has been any significant depletion in the basin and develop a new groundwater flow model. Work is anticipated to be completed by late 2013. The USGS has also been contracted to begin a basin study of the Canadian River Alluvium and Terrace aquifer and a 20-year update of the North Fork of the Red River Alluvium and Terrace aquifer.

In March 2012, the Board issued a tentative determination of the Maximum Annual Yield for the Arbuckle-Simpson Groundwater Basin. A public hearing on the tentative yield was held in May. At the conclusion of 2012, the matter remained under advisement of the hearing examiner.



OWRB hydrologist, Jessica Magers, looks for wells in the Rush Springs Aquifer that are suitable for groundwater level recorders.

Floodplain Management

In coordination with the Federal Emergency Management Agency (FEMA), the OWRB completed the six-year Map Modernization (Map Mod) program in 2012. Map Mod provided 41 counties and more than 200 municipalities with updated, digitized Flood Insurance Rate Maps (FIRMs).

With assistance from the Oklahoma Floodplain Managers Association (OFMA), the OWRB provided 16 training opportunities in 2012 and also monitored the week-long "Managing Floodplain Development through the NFIP" class, required of managers to achieve Certified Floodplain Management (CFM) status.

Well Driller and Pump Contractor Program

During 2012, OWRB staff licensed 21 new Well Drilling and Pump Installer firms and 56 new operators, and they maintained licenses for 361 licensed firms and 645 licensed operators. The OWRB also received reports for 3,192 water wells, 1,916 monitoring wells/geotechnical borings, and 927 heat exchange wells completed in 2012. Staff maintains a well log database of more than 147,000 well completion, boring, geothermal, and plugging records that are accessible to the public.

Dam Safety

OWRB staff completed more than 300 site visits to verify structure type and measure dimensions of bridges, culverts, and other drainages associated with dams. With this information, more than 67 simplified breach inundation maps were completed. As part of an effort to update the OWRB dam inventory database, dozens of dams currently meeting jurisdictional size, though not in inventory, have been identified through utilization of the new dam inventory online viewer created by OWRB GIS staff.

In conjunction with a private engineering firm, OWRB staff produced 10 breach inundation maps for selected high hazard potential dam owners to include in their Emergency Action Plans (EAPs). In Norman, the OWRB cooperated with city engineers and residents to rehabilitate and develop an emergency action plan for a high hazard dam.

Water Quality Standards

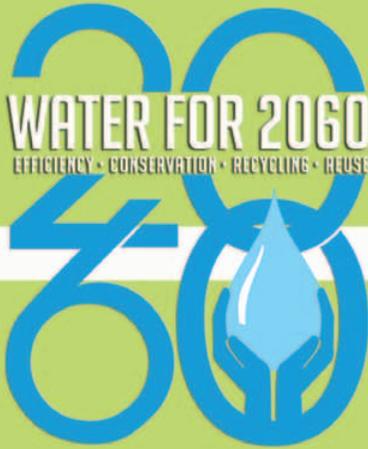
During 2012, several important revisions to Oklahoma's Water Quality standards were proposed, including 1) new human health criteria for four new pollutants to be added and criteria for 21 existing priority pollutants recalculated for carcinogens and noncarcinogens; 2) amendments to Appendix H, Beneficial Use Designations for Certain Limited Areas of Groundwater limiting future uses of groundwater at several sites and providing information necessary to protect public health; and 3) designation of the Arbuckle-Simpson aquifer as Class I Special Source Groundwater, a designation currently applicable to only small portions of the aquifer.

OWRB staff completed the ten-year review of Oklahoma's .037 milligram/liter phosphorus standard for Oklahoma's six Scenic Rivers. A technical advisory group—consisting of state, federal, and tribal officials and point and nonpoint source dischargers from both Oklahoma and Arkansas—was formed to evaluate the current appropriateness of the numerical standard based on the latest, best scientific information available. Though no consensus was reached between Oklahoma and Arkansas members, the majority of the working group concluded that current information supports the existing criterion and no change is necessary. It further recommended that an additional study documenting chemical, physical and biological integrity should occur to guide future water quality management of these waters. In addition to the primary workgroup report, Arkansas members prepared and formally submitted a separate report entitled "Arkansas TAG Members' Minority Report to OWRB."

Lake Rehabilitation

Lake revegetation projects were completed in 2012 at Eucha and Fort Cobb: more than 8,000 wetland plants were established at Eucha on 6,400 square feet of floating islands consisting of recycled plastic; 2,000 aquatic plants were placed in enclosed pens and cages at Fort Cobb. Work also continued at Stanley Draper, Grand, and Hudson Lakes to establish and spread the growth of native plants. OWRB staff continued to work cooperatively with the Central Oklahoma Master Conservancy District (COMCD) to monitor and improve water quality in Lake Thunderbird where a new

(continued on page 6)



33RD ANNUAL GOVERNOR'S WATER CONFERENCE 10TH ANNUAL OWRRI WATER RESEARCH SYMPOSIUM

The 33rd Annual Oklahoma Governor's Water Conference was held in Tulsa on November 13-14. As with previous years, the Conference attracted more than 400 water officials and citizens interested in Oklahoma's water resources and the latest developments concerning water management and quality, infrastructure financing, and other vital water issues.

Attendees had the opportunity to hear prominent state and national figures highlight key developments impacting Oklahoma's water resources, with an in-depth focus on priority recommendations of the 2012 Update of the Oklahoma Comprehensive Water Plan, including water conservation and efficiency, water and wastewater infrastructure financing, and improved water quality and quantity monitoring programs. Each day's program ended with a roundtable discussion—day one on regional water planning and day two on instream/environmental flows. Many attendees commented that they enjoyed the opportunity to hear roundtable participants engage each other in frank discussion of the issues.

Delivering this year's keynote address was Dayton Duncan, an award-winning writer and documentary filmmaker. Duncan previewed his latest film project with renowned documentarian Ken Burns, "The Dust Bowl", a two-part series that aired November 18 and 19 on PBS.

Receiving the 2012 Oklahoma Water Pioneer award—given each year to those individuals who have made lifetime contributions to the planning, development, management, and conservation of Oklahoma's water resources—were Rep. Phil Richardson, Ed Brocksmith, and Ronn Cupp. OWRB Executive Director J.D. Strong presented the awards at the luncheon on November 13.



Dayton Duncan shares his "Dust Bowl" experiences with a captive audience, followed by book signing and visiting with conferees.



OWRB Chairman and Conference emcee Ford Drummond welcomes Day 2 speakers: Curt Brown, Bureau of Reclamation; Gary Sherrer, Oklahoma Secretary of Environment; and Brian Richter, The Nature Conservancy.



J.D. Strong hosts a roundtable discussion of instream flows with Mike Fuhr, The Nature Conservancy; OU law professor Drew Kershen; Marla Peek, Oklahoma Farm Bureau; and Charlette Hearn, Oklahomans for Responsible Water Policy.



Strong presents water pioneer awards to (left to right) Ed Brocksmith, Ronn Cupp, and Rep. Phil Richardson.

2012 Annual Report (continued)

system was implemented to oxygenate lake water. Monitoring results are positive and it is probable that COMCD will continue to operate the system to improve the quality of raw water supplied to Norman, Del City, and Midwest City.

Financial Assistance Programs

In 2012, the OWRB'S Financial Assistance Program (FAP) approved 56 grants and loans totaling almost \$142 million to address the water and wastewater infrastructure needs of Oklahoma communities and rural water/sewer districts. Five of these grants addressed water needs resulting from the Drought Emergency declared by Governor Fallin in July. Additionally, the Program closed six bond issues last year, two for the State Revolving Fund in the amounts of \$86.5 million for Clean Water and \$49.3 million for Drinking Water, and four for the State Loan Program totaling \$81.1 million. OWRB financing in 2012 saved communities and water systems more than \$44 million over traditional financing avenues. In 2012, the OWRB reached the \$1 billion milestone in total FAP savings.

Total Loans and Grants
Approved in 2012:
2,806

Total Funding in 2012:
\$141,601,531



Construction of the new aeration basin at the Eufaula wastewater treatment plant. The \$4,035,000 CWSRF project is expected to be completed by April of 2013.

Legal Developments

In January 2012, the Tarrant Regional Water District filed a petition with the U.S. Supreme Court asking the Court to review the July 2011 opinion of the federal 10th Circuit Court of Appeals that upheld Oklahoma's laws relating to permit applications to use stream water out of state. Soon thereafter, the Supreme Court ordered the Solicitor General to file a brief stating his views on whether the Court should take the case. In November 2012, the Solicitor General recommended that the Supreme Court should indeed hear the case. The Supreme Court's decision on whether to review the lower court decision is expected in January 2013.

In response to a federal lawsuit filed by the Chickasaw and Choctaw Nations in August 2011 against Governor Fallin and OWRB members, in February 2012 the Office of Attorney General asked the Oklahoma Supreme Court to take jurisdiction of a stream adjudication for the Kiamichi, Muddy Boggy, and Clear Boggy stream systems. The Tribes had asked the federal court for an order to prevent Oklahoma City and others from taking water from anywhere in roughly the southeast quarter of the state (within the Nations' territorial boundaries) unless adjudication is completed. The Oklahoma Supreme Court accepted the OWRB's case. However, the U.S. government, on behalf of the Tribes, removed the state case to the federal court. Subsequently, the federal court judge ordered the Indian Tribes, Governor Fallin and OWRB members to mediate the dispute over Indian water rights. Mediation settlement efforts are ongoing.

A case involving a disputed permit to use groundwater remains active in Tillman County District Court. A case involving the hazard classification of a dam in Sequoyah County remains active; a hearing in that case is scheduled for March 2013.

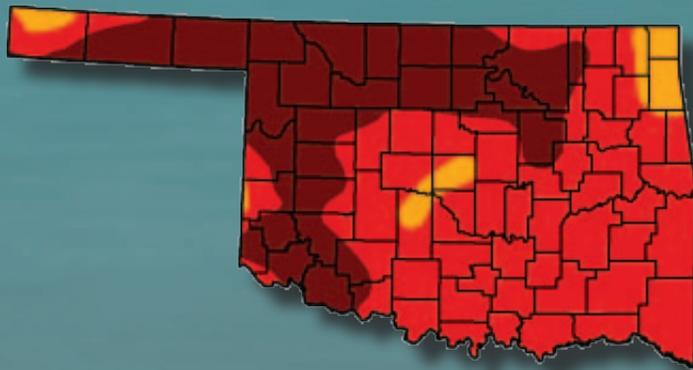
In May 2012, a public hearing on the Tentative Order for the Arbuckle-Simpson Groundwater Basin Maximum Annual Yield was conducted in Sulphur. Administrative proceedings on that matter are ongoing. ♦

FY 12 Expenditures and FY 13 Budget

	FY 12 Expended	FY 13 Budgeted
Administration	\$2,694,047.87	\$2,447,895.00
Water Quality	3,181,976.75	3,792,925.00
Financial Assistance	2,397,490.13	3,416,315.00
Planning & Management	3,369,325.63	5,067,707.00
Secretary of Environment	7,236,106.81	13,564,342.00
Information Technology	—	1,390,693.00
Totals	\$18,878,947.19	\$29,679,877.00
Fund Name		
General Appropriations	\$3,959,425.45	\$5,371,606.00
Drillers & Installers Indemnity Fund	4,300.00	50,000.00
OWRB Revolving Fund	2,004,982.20	1,060,971.00
Water Resources Revolving Fund	763,088.90	1,048,392.00
Drillers & Installers Regulation Fund	12,500.00	25,474.00
Water Infrastructure Development Fund	848,042.67	1,682,779.00
Federal Funds - OWRB	1,696,060.65	3,541,212.00
Federal Funds - OSE	7,071,414.44	9,442,732.00
Environmental Remediation Fund	0.00	3,961,308.00
USGS Cooperative Agreement	399,552.00	291,752.00
American Recovery & Reinvestment Act Fund	10,067.00	0.00
DW Loan Administration Fund	465,291.23	1,182,129.00
CW Loan Administration Fund	1,644,222.65	1,321,522.00
CW Loan Fund	0.00	700,000.00
Totals	\$18,878,947.19	\$29,679,877.00

Drought Update

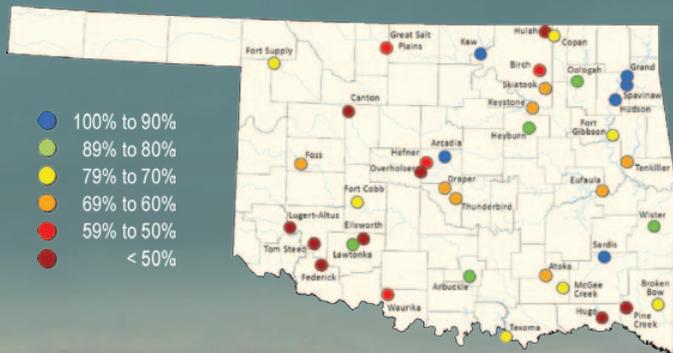
U.S. Drought Monitor January 1, 2013



Drought Intensity & Percent of State in Drought Category

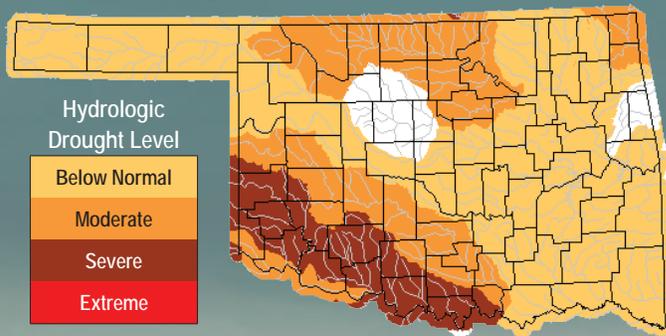
Abnormally Dry	100.00
Moderate Drought	100.00
Severe Drought	100.00
Extreme Drought	94.89
Exceptional Drought	37.06

Reservoir Storage January 3, 2013



- 100% to 90%
- 89% to 80%
- 79% to 70%
- 69% to 60%
- 59% to 50%
- < 50%

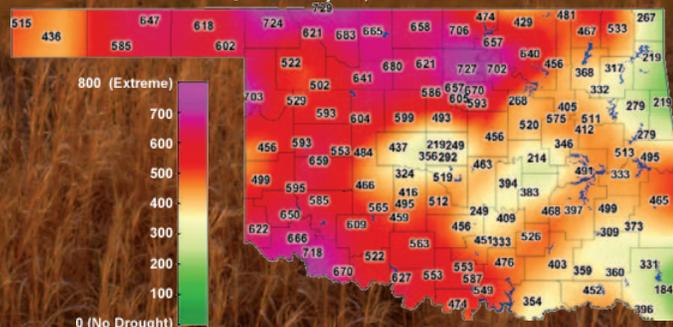
Streamflow (7-Day Average) January 6, 2013



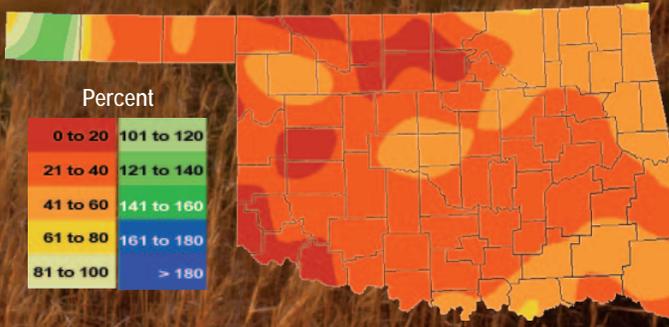
Hydrologic Drought Level

Below Normal
Moderate
Severe
Extreme

Keetch-Byram Drought Index January 7, 2013



Percent of Normal Precipitation Last 90 Days (October 9 to January 6)



0 to 20	101 to 120
21 to 40	121 to 140
41 to 60	141 to 160
61 to 80	161 to 180
81 to 100	> 180

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

*Ford Drummond, Chairman • Linda Lambert, Vice Chairman • Tom Buchanan, Secretary
Bob Drake • Ed Fite • Marilyn Feaver • Rudy Herrmann • 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.



4th Quarter 2012

Darla Whitley, Editor

Staff Writers:

Brian Vance & Darla Whitley

Photography:

Barry Fogerty

*E-mail comments, questions,
or article submissions to
pubinfo@owrb.ok.gov
or call us at (405) 530-8800.*

The Oklahoma Water News is published by the Oklahoma Water Resources Board as authorized by J.D. Strong, Executive Director. Eighty-eight hundred copies have been printed by University Printing Services at an approximate cost of 32 cents each. Copies have been deposited at the Publications Clearinghouse of the Oklahoma Department of Libraries.

FINANCIAL ASSISTANCE PROGRAM UPDATE

Loans & Grants Approved as of December 18, 2012

FAP Loans—351 for \$823,795,000

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—264 for \$1,160,391,860

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—156 for \$836,198,451

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—578 for \$51,284,406

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—566 for \$33,776,351

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—7 totaling \$490,791

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: 1,922 for \$2,905,936,859

Estimated Savings: \$1,000,108,379

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.**