

OKLAHOMA Water News

1st Quarter 2011

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OCWP Feedback Meetings Kick Off in Panhandle

State agency officials and policy and planning specialists were on hand April 19 at the County Fairgrounds Pavilion in Beaver for the first of thirteen regional Oklahoma Comprehensive Water Plan (OCWP) meetings across the state during April and May. The purpose of the meetings, open to the public, is to review OCWP draft findings, including regional reports, which detail current water use as well as future usage scenarios and options to address water issues, and statewide water policy recommendations collected and compiled during the last four years through a public input process that has engaged thousands of Oklahoma citizens.

The OWRB, as the state agency responsible for coordinating the 2012 OCWP Update, is hosting the meetings along with the Oklahoma Water Resources Research Institute, which was contracted to coordinate the OCWP's vital public participation component.

The interim OCWP draft and associated documents, officially released on the OWRB's website in early April for public review and comment, presents fifty-year projections of water use in the state's planning regions, options to meet forecasted deficits in supply or related problems, and water policy recommendations developed by Oklahoma citizens and stakeholders that will be submitted to the State Legislature upon the plan's conclusion in February 2012.

In addition to attending regional feedback meetings, citizens are also encouraged to submit comments through the OWRRI's website at <http://okwaterplan.info>, email at waterplan@okstate.edu, or by calling 405-744-9994. ♦



Participants at the April 19 OCWP feedback meeting in Beaver, the first of thirteen meetings held across the state during April and May. CDM engineer John Rehring explains some of the methodologies used to produce the detailed technical findings in the Panhandle regional report. Several area water managers were in attendance to verify provider information and comment on the contents of the report.

Following the technical portion of the day, evening meetings are being held in each region to review plan recommendations that have been developed through the public participation process.

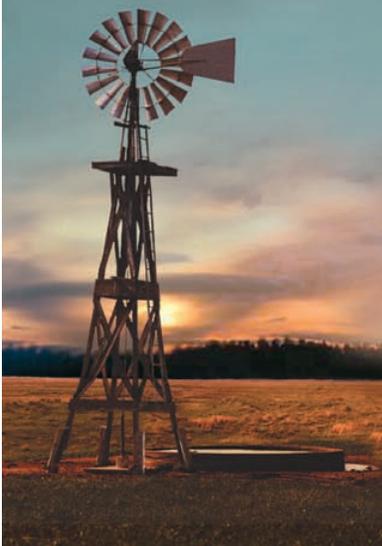
From the Director

The highly anticipated interim draft of the 2012 Oklahoma Comprehensive Water Plan Update is now available for review on the OWRB's website. Regional technical reports and other ancillary documents will be finalized over the coming months. I am extremely proud of this initial draft, which assesses our water supplies, offers solutions to anticipated problems, and presents dozens of sensible, well-vetted water policy recommendations. Already, the quality, complexity, and volume of OCWP reports distinguish this plan from any other, and more importantly, it lays a solid foundation for all future Oklahoma water planning endeavors. I believe most Oklahomans will agree that the considerable time and resources expended in development of the 2012 OCWP Update have been well worth it.



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

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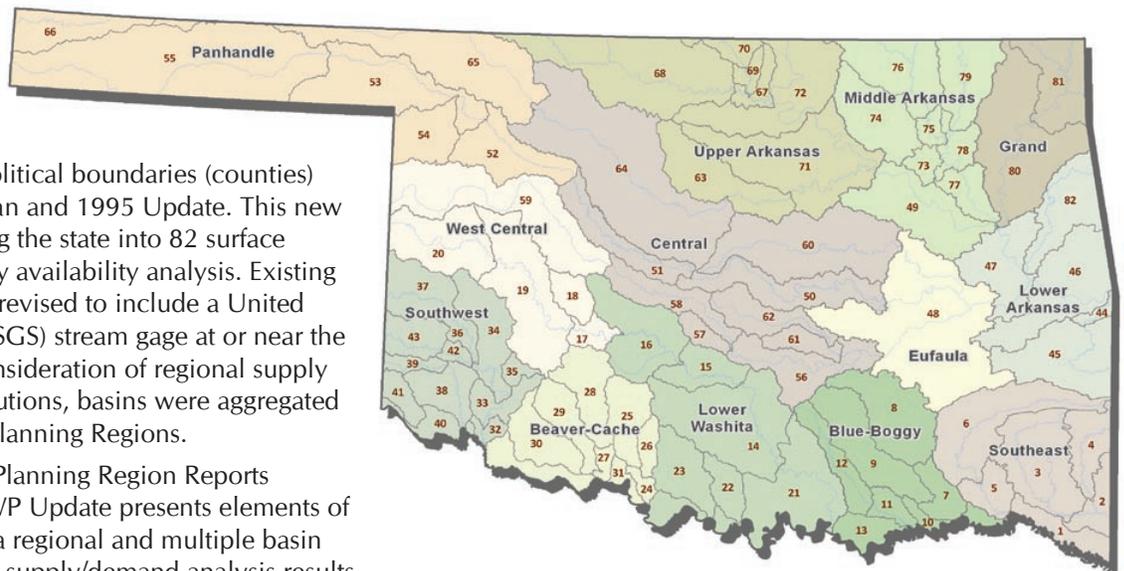
OCWP Regional Reports Focus on Local Water Issues

For the 2012 OCWP Update, studies were conducted according to specific geographic boundaries (watersheds) rather than the traditional political boundaries (counties) used in the original 1980 Plan and 1995 Update. This new strategy involved subdividing the state into 82 surface water basins for water supply availability analysis. Existing watershed boundaries were revised to include a United States Geological Survey (USGS) stream gage at or near the basin outlet. To facilitate consideration of regional supply challenges and potential solutions, basins were aggregated into 13 distinct Watershed Planning Regions.

Each of thirteen Watershed Planning Region Reports produced for the 2012 OCWP Update presents elements of technical studies from both a regional and multiple basin perspective, including water supply/demand analysis results, forecasted water supply shortages, potential supply solutions and alternatives, and supporting technical information.

(continued on page 3)

Statewide OCWP Watershed Planning Region and Basin Delineation



From the Director (continued)

Watershed Planning Region Reports will eventually benefit virtually every Oklahoman in establishing reliable and beneficial water supplies. Each report presents fifty-year projections of regional water use as well as options to meet forecasted deficits in supply or related problems. The reports have been carefully designed to allow the water system manager, farmer, irrigator, industrial operator, business owner, and casual citizen to make intelligent and informed decisions concerning water use and sustainability. Particular emphasis has been placed on twelve water supply “hot spots,” areas where future water deficits necessitate early and more aggressive water planning.

Thirteen regional meetings in April and May are allowing water users in every watershed across Oklahoma to learn about their particular usage patterns and what our projections say about the availability of future supplies to sustain and expand local growth. At each location, a separate evening session provides Oklahoma citizens with a unique forum to learn about and comment on dozens of recommended water policy actions developed over the past four years. Those in attendance are encouraged to suggest the most practical methods to accomplish those actions, which will be submitted to the State Legislature and Governor early next year.

While the OCWP presents invaluable information for use in guiding future state water management and policy decisions, its ultimate success will be judged by how well its initiatives are fulfilled. There are countless good ideas sitting on a shelf somewhere that simply lacked a good mechanism for implementation. That’s why we’re giving

special consideration to shaping policy recommendations in a manner that provides the best vehicle for their execution, whether through funding, regulatory changes, legislative action, or combinations thereof. On the technical side, we’re developing planning guidance to assist water providers in applying water supply and demand information to their particular systems. The plan also includes a highly configurable computer-based analysis tool, called Oklahoma H2O, which allows a water system or another user to test various scenarios of water use according to select needs and sources of supply. A separate hydrologic model can be used to perform or update sophisticated evaluations of yield, which is a critical aspect of reservoir and water supply management.

This is truly a momentous year for the Oklahoma Water Resources Board, its Board members and staff, not to mention all of our OCWP partners. I encourage all Oklahomans to join us by reviewing the Water Plan, getting more informed, attending a Water Plan meeting near you, calling your legislator to voice your opinion about water issues of particular importance to you, and, in general, playing an active role in our state’s bright water future. 💧

Regional Reports (continued)

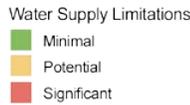
Regional reports open with a summary of regional characteristics—percent of statewide water demand comprised by the region, the largest demand sectors, major sources of water supply, percentage of demand satisfied by each source (surface water, alluvial groundwater, and bedrock groundwater), projected surface water gaps and groundwater depletions, and options to address future deficits or other supply/demand issues. Regional report summaries also feature two maps that provide a quick glimpse of

where problems may occur and what solutions are available with color coded overviews of water supply limitations and rankings of the potential effectiveness of water supply options.

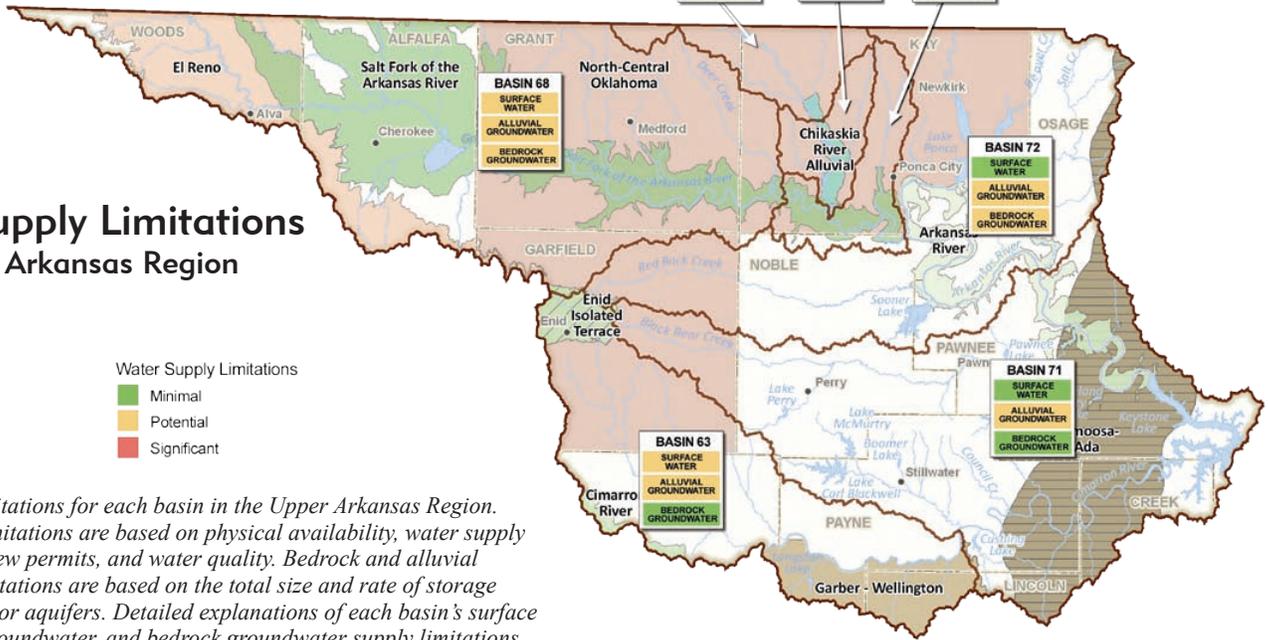
The remainder of the regional section focuses on the three primary determinants of water supply (physical availability, permit availability, and water quality), demand by water use

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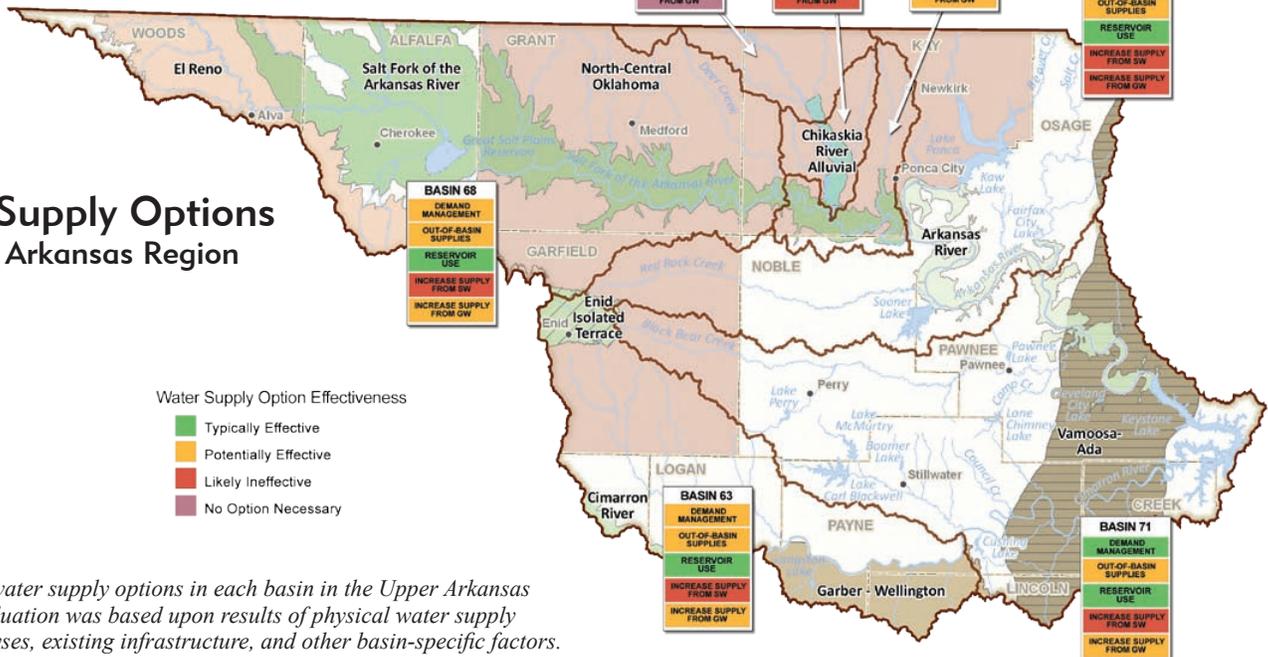
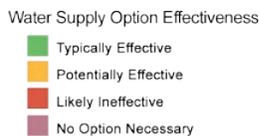
Water Supply Limitations Upper Arkansas Region



Water supply limitations for each basin in the Upper Arkansas Region. Surface water limitations are based on physical availability, water supply availability for new permits, and water quality. Bedrock and alluvial groundwater limitations are based on the total size and rate of storage depletions in major aquifers. Detailed explanations of each basin's surface water, alluvial groundwater, and bedrock groundwater supply limitations are provided in individual basin summaries and supporting data and analysis.



Water Supply Options Upper Arkansas Region



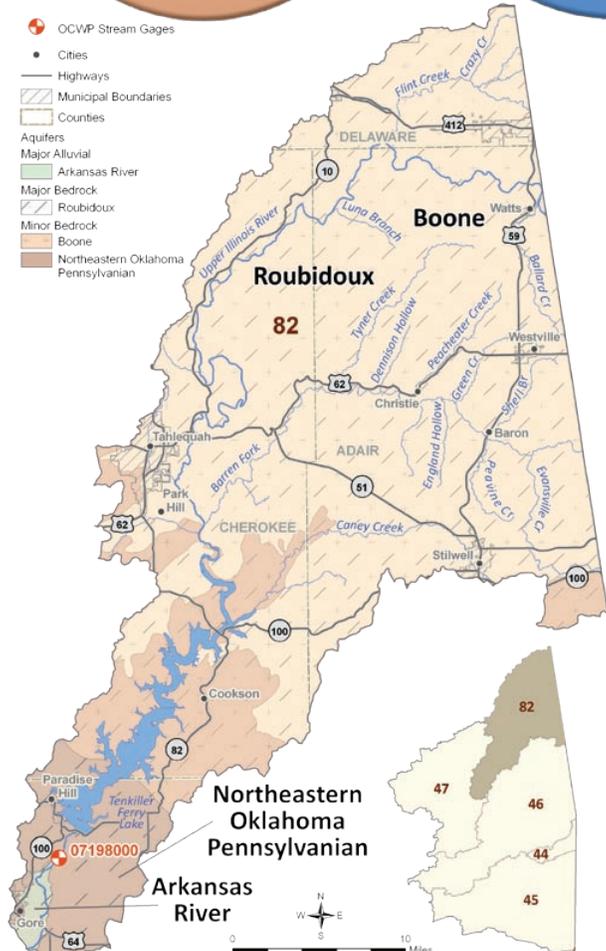
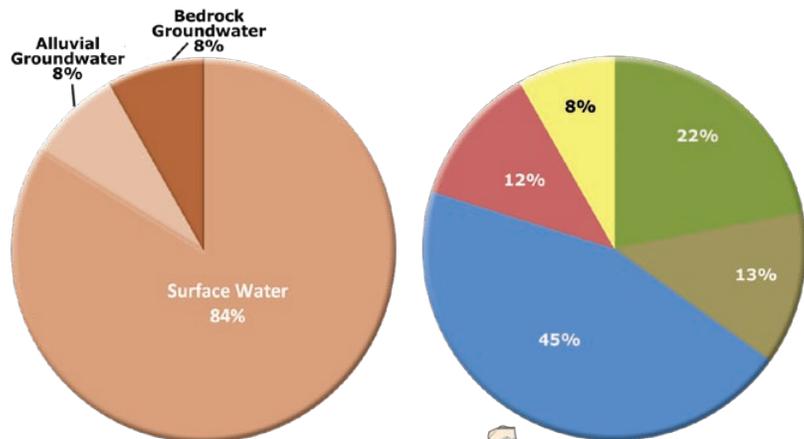
Effectiveness of water supply options in each basin in the Upper Arkansas Region. This evaluation was based upon results of physical water supply availability analyses, existing infrastructure, and other basin-specific factors.

Regional Reports (continued)

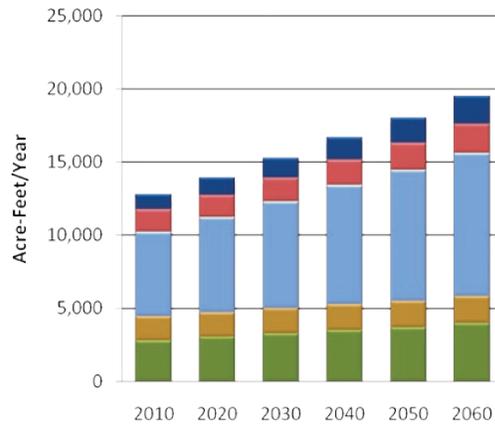
sector, regional provider information, and potential reservoir site viability. Numerous maps, charts, and graphs accompany this information.

Each report concludes with a ten-page summary of that region's planning basins. In all, 82 basins are analyzed in terms of current supply and demand, potential future surface water gaps and groundwater depletions, and evaluations of long-range water supply options. ♦

Current Demand by Source and Sector
Lower Arkansas Region, Basin 82



Total Water Demand Distribution by Sector
Lower Arkansas Region, Basin 82

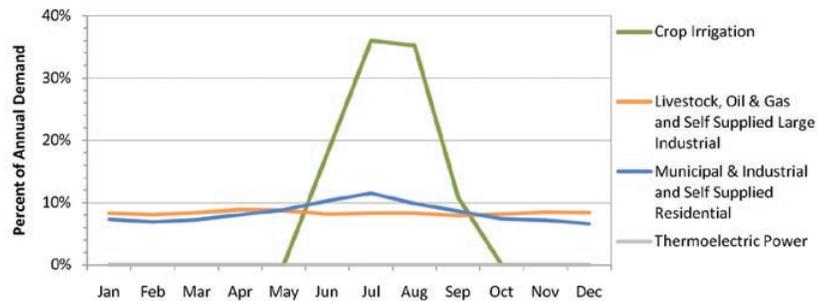


- Thermolectric Power
- Municipal & Industrial
- Livestock
- Crop Irrigation
- Self Supplied Residential
- Self Supplied Industrial
- Oil & Gas

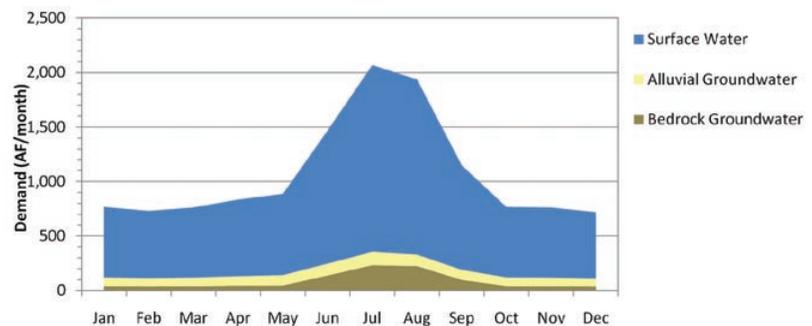
TOTAL DEMAND
12,840 AFY

These charts show demand from Basin 82 in the Lower Arkansas Region and exemplify the many illustrations used to summarize data in reports for each of Oklahoma's 82 planning basins (found in their respective regional reports). Basin 82 accounts for only 6% of the water demand in the region (12,840 AFY), and most of the demand is in the municipal and industrial demand sector. Crop irrigation use, while significant, is primarily seasonal.

Monthly Demand Distribution by Sector (2010)
Lower Arkansas Region, Basin 82



Monthly Demand Distribution by Source (2010)
Lower Arkansas Region, Basin 82



OCWP Draft and Reports Now Available Online

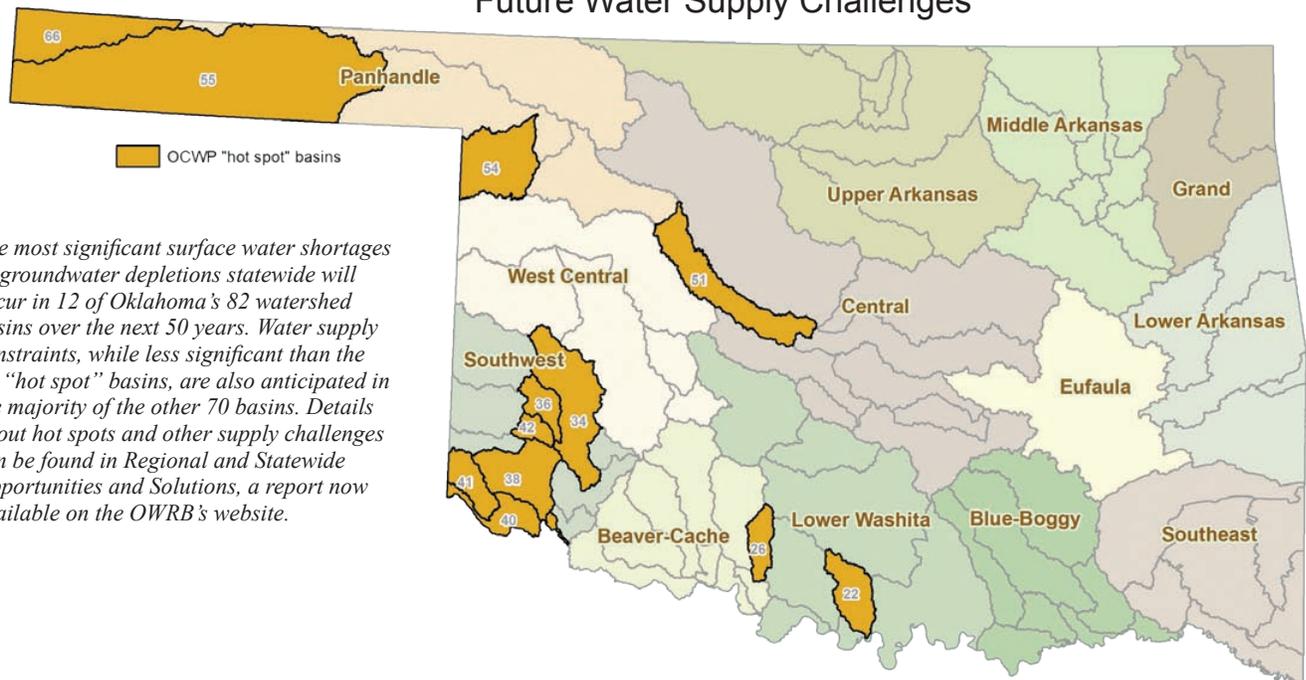
Several OCWP documents are now available on the OWRB's website (www.owrb.ok.gov) for review, including the Statewide Water Assessment, Regional and Statewide Opportunities and Solutions, and Water Policy and Related Recommendations for Oklahoma reports, all part of the 2012 OCWP Executive Report. The Executive Report will serve as a concise compilation of technical and policy information produced over the five-year planning period. In addition to background information on water planning and management in Oklahoma, the Executive Report will include a statewide assessment of water supplies, future projections of demand, and potential options to alleviate anticipated deficits of particular concern. The report's Water Policy Recommendations section will present, for formal legislative consideration, dozens of suggested measures to address Oklahoma's key water problems and issues.

Thirteen Watershed Planning Region reports are also available. These reports provide the major technical component of the 2012 OCWP Update. Each Watershed Planning Region Report presents information from both a regional and local perspective, including water supply/demand analysis results, forecasted water supply shortages, potential supply solutions and alternatives, and supporting technical information.

Additional information gained during the development of the 2012 OCWP Update is provided in various technical reports providing more detailed assessments of water availability and demand, including study methodologies, conducted by the OWRB's lead engineering partners. State and federal agencies, organizations, special interest groups, and citizens lent their expertise in investigating and providing recommendations for numerous policy and technical issues of special importance. ♦

- ### OCWP Recommendation Topics
- Agricultural Use
 - Climate Variability
 - Conservation
 - Cooperative Stream Gaging Network
 - Dispute Resolution
 - Drinking Water Infrastructure
 - Education
 - Emergency/Drought Planning
 - Green Projects
 - Hydrologic Studies
 - Infrastructure Development
 - Instream/Environmental Flows
 - Interagency Coordination
 - Interstate Water Issues
 - Interstate Water Sales
 - Local & Statewide Water Planning
 - Nonpoint Source Pollution
 - Quality/Quantity Monitoring
 - Regionalization of Water Supply Systems
 - Reservoir Maintenance & Development
 - Riparian Rights
 - Sales & Transfers
 - Source Water Protection
 - State-Tribal Water Issues
 - Supply Augmentation
 - Surface/Groundwater Interaction
 - Water Use Administration
 - Water Use Permitting

Top Twelve Basins with Most Significant Future Water Supply Challenges



The most significant surface water shortages or groundwater depletions statewide will occur in 12 of Oklahoma's 82 watershed basins over the next 50 years. Water supply constraints, while less significant than the 12 "hot spot" basins, are also anticipated in the majority of the other 70 basins. Details about hot spots and other supply challenges can be found in Regional and Statewide Opportunities and Solutions, a report now available on the OWRB's website.

6th Annual Water Appreciation Day Draws Large Crowd

The sixth annual Oklahoma Water Appreciation Day was held on March 9 at the State Capitol. The OWRB hosted the event, which featured 32 state and federal agency and water-related organization booths and displays. Participants



Water Appreciation Day featured 32 state and federal agency and water-related organization booths and displays as well as hundreds of interested citizens and officials.

included the following: The U.S. Army Corps of Engineers; U.S. Geological Survey; U.S. Bureau of Reclamation; OK Water Resources Board; OK Climatological Survey; OK Geological Survey; OK Department of Environmental Quality; OK Department of Commerce; OK Department of Agriculture, Food and Forestry; OK Scenic Rivers Commission; OK Department of Wildlife Conservation; OK Department of Mines; OK Conservation Commission; OK Water Resources Research Institute; OK Floodplain Managers Association; OK Groundwater Association; OK Rural Water Association; Blue Thumb; OK Clean Lakes and Watersheds Association; OK Municipal League; OK Aggregates Association; Choctaw & Chickasaw Nations; American Farmers and Ranchers; Citizens for the Protection of the Arbuckle-Simpson Aquifer; Richard Wheatly Company, Inc; Guernsey; CDM; Land Legacy; Oklahomans for Responsible Water Policy; and Inside Native America (radio).

Each year, Water Appreciation Day presents a unique opportunity to demonstrate the importance of Oklahoma's water resources, as well as provide information on their water management, conservation, and educational programs for state legislators and other government officials.



OWRB Executive Director J.D. Strong discusses the Water Plan during a live broadcast by Inside Native America.



OWRB Director of Planning Kyle Arthur presents an update on the final year of development of the Oklahoma Comprehensive Water Plan to several newly elected Representatives.

At noon, during a meeting organized by Representative Skye McNeil, OWRB Executive Director J.D. Strong and Director of Planning Kyle Arthur presented an update on the final year of development of the Oklahoma Comprehensive Water Plan to several newly elected Representatives and members of the public. ♦

Governor Proclaims May Flood Awareness Month

Because spring marks the unofficial beginning of the state's flood season and to make citizens aware of flooding problems and solutions, Governor Mary Fallin has designated May 2011 as "Flood Awareness Month" in Oklahoma.

Earlier, Governor Fallin proclaimed March as "Flood Insurance Month," part of a state campaign to spread the word about the availability of affordable flood insurance through the Federal Emergency Management Agency's National Flood Insurance Program (NFIP). Oklahoma currently has almost 400 NFIP member communities, which consist of municipalities, counties, and tribes.

"Severe flooding episodes occur in Oklahoma virtually every year, most frequently in the spring and fall," says Gavin Brady, State Floodplain Manager. "Implementation of sound floodplain management and building strategies, particularly through the NFIP, is the most effective way for communities to avert potential flood damages." However, he encourages communities to go "above and beyond" minimum NFIP standards. Brady points out that 89% of homes in Oklahoma's designated floodplains have no flood insurance.

Brady adds that Oklahoma consumers should be aware that their basic homeowner's insurance policy does not provide coverage to protect against damages created by flooding. He encourages citizens to consult their community's latest floodplain maps or visit with a local insurance agent to assess their need for flood insurance. ♦

Drought Update

Reservoir Storage

As of May 9, 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); eleven reservoirs have experienced lake level decreases since April 11.

Palmer Drought Severity Index

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

Standardized Precipitation Index

The latest monthly Standardized Precipitation Index (see table below) indicates near long-term dryness in all of Oklahoma's nine climate divisions.



Storage in Selected Oklahoma Lakes & Reservoirs (May 9, 2011)

LAKE	Change in Elevation (feet) 4/11-5/9/11	Current Flood Control Storage (acre-feet)
North Central (2)		
Fort Supply	-0.04	544
Great Salt Plains	-0.15	2,014
Kaw	6.46	124,162
Northeast (3)		
Birch	1.28	-298
Copan	-0.23	501
Fort Gibson	2.95	66,249
Grand	2.67	94,514
Hudson	2.60	39,038
Hulah	0.15	916
Keystone	2.05	4,224
Oologah	1.19	43,791
Skiatook	-0.22	-51,876
West Central (4)		
Canton	0.04	555
Foss	-0.43	-10,827
Central (5)		
Arcadia	0.14	149
Heyburn	0.25	322
Thunderbird	-0.03	-18,070
East Central (6)		
Eufaula	6.15	273,716
Tenkiller	26.76	372,888
Southwest (7)		
Fort Cobb	-0.34	-1,637
Lugert-Altus	-0.10	-69,369
Tom Steed	-0.64	-20,658
South Central (8)		
Arbuckle	-0.30	-3,095
McGee Creek	1.16	7,347
Texoma	0.76	-111,311
Waurika	-0.20	-13,752
Southeast (9)		
Broken Bow	19.51	148,154
Hugo	5.63	61,957
Pine Creek	13.10	53,326
Sardis	4.03	34,956
Wister	21.25	297,414

CLIMATE DIVISION	Standardized Precipitation Index (through April 2011)				Palmer Drought Severity Index
	3-month	6-month	9-month	12-month	May 9, 2011
Northwest (1)	Very Dry	Moderately Dry	Near Normal	Near Normal	Mild Drought
North Central (2)	Moderately Dry	Moderately Dry	Moderately Dry	Near Normal	Mild Drought
Northeast (3)	Moderately Wet	Near Normal	Near Normal	Near Normal	Incipient Moist Spell
West Central (4)	Extremely Dry	Very Dry	Very Dry	Moderately Dry	Moderate Drought
Central (5)	Moderately Dry	Very Dry	Very Dry	Moderately Dry	Moderate Drought
East Central (6)	Near Normal	Near Normal	Moderately Dry	Near Normal	Moist Spell
Southwest (7)	Extremely Dry	Extremely Dry	Very Dry	Moderately Dry	Severe Drought
South Central (8)	Extremely Dry	Extremely Dry	Very Dry	Moderately Dry	Moderate Drought
Southeast (9)	Near Normal	Very Dry	Very Dry	Very Dry	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.

*Rudy Herrmann, Chairman • Mark Nichols, Vice Chairman • Linda Lambert, Secretary
Ford Drummond • Ed Fite • Marilyn Feaver • Kenneth K. Knowles • Richard Sevenoaks • Joe Taron*

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.



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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.*

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FINANCIAL ASSISTANCE PROGRAM UPDATE

Loans & Grants Approved as of April 22, 2011

FAP Loans—327 for \$706,125,000

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—243 for \$1,007,891,004

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—128 for \$692,364,642

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—554 for \$48,961,486

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—562 for \$33,482,977

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.

American Recovery & Reinvestment Act Funding—\$60,617,376

Through the OWRB's conventional CWSRF and DWSRF loan programs, ARRA funds are utilized to provide additional subsidization to Oklahoma communities for water and wastewater infrastructure improvements as well as to provide benefits to the state's environment and create jobs for Oklahoma workers.

Total Loans/Grants: 1,804 for \$2,437,305,123

Estimated Savings: \$869,659,021

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.**