March-April 2005

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OKLAHOMA Water News

Bimonthly Newsletter of the Oklahoma Water Resources Board

Duane A. Smith
OWRB Executive Director

From the Director

Successful water projects depend upon good research, lots of support from key lawmakers and interest groups, and especially adequate funding. Although progress in the Oklahoma State Legislature is key to the execution of water resource studies and policy, we frequently depend upon the state's Congressional leaders to move these important objectives from the planning to implementation stage.

This year we look to Senator Inhofe's leadership, along with support from Congressman Coburn and Oklahoma's five House members, to assist in getting the projects before congress. In early March, I traveled to Washington, D.C. to meet with Oklahoma's Congressional delegation and visit with them about the OWRB's

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Mesonet Groundwater Monitoring Aim of Pilot Study

The OWRB has teamed with U.S. Department of Agriculture and state university researchers to examine the feasibility of using the Oklahoma Mesonet to monitor drought impacts on groundwater levels.

The specific aim of the pilot study, involving USDA's Agricultural Research Service (ARS) and the Oklahoma Climatological Survey (OCS), is to determine the usefulness of shallow real-time groundwater data via the internet to assess ongoing or impending drought conditions. In turn, this information could help water users and managers conserve or better utilize existing supplies to diminish the impacts of potential water shortages. The project is being funded by the U.S. Bureau of Reclamation.

Data products will be collected and disseminated through the Oklahoma Mesonet, a network of more than 110 automated environmental monitoring stations located throughout the state.

Two groundwater observation wells have been established for the study: one was drilled at the El Reno Mesonet site in Canadian County and the other at the Acme Mesonet site in the Little Washita River Experimental Watershed where the ARS has conducted research since the 1960s. El Reno's well taps the water table between 15 and 20 feet below the surface, while water at

El Reno Mesonet site, established about five miles west northwest of El Reno in 1995

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annual Congressional Briefing Document, which contained recommendations on a variety of water-related programs dependent upon or affected by federal action. Among critical issues discussed at several meetings with key members of the delegation and their staff were the proposed reduction in funding for the U.S. Geological Survey's streamgaging program, funding for a monitoring plan on Oklahoma's Scenic Rivers, studies of Wister and Grand Lakes, update of the State's comprehensive water plan, and increased funding for the Corps of Engineers to operate and maintain federal dams and reservoirs in Oklahoma.

The key vehicle for authorization and funding for many of these important water projects is the Water Resources Development Act (WRDA), last reauthorized in 2000. Current draft language in the bill, cosponsored by Sen. Inhofe, includes several important provisions, including:

- Funding for the Red River Chloride Control project, in southwest Oklahoma, at full federal expense. The provision includes a $3 million feasibility study to investigate technical and environmental issues related to the augmentation of southwest Oklahoma water supplies, including Lugert-Altus Reservoir, through the removal of salts (chlorides) from the North Fork, Elm Fork, and Salt Fork Rivers.
- A $20 million joint monitoring proposal, adopted by the Arkansas-Oklahoma Arkansas River Compact Commission, to monitor water quality and implement appropriate activities to reduce nonpoint source pollution in the Illinois River Basin.
- Federal funding to update the *Oklahoma Comprehensive Water Plan*, last updated in 1997. Governor Henry included $6.5 million for the Water Plan in his budget document.
- Rolling back language in the 1986 WRDA that is interpreted to mean that the Corps of Engineers must charge "updated" costs, rather than original costs, when reallocating water storage in federal reservoirs. This would result in much cheaper costs for the future water supply needs of Oklahoma communities.

None of these provisions would be included in the current WRDA bill if they weren't critically important to the water business of Oklahoma. Whatever the outcome, I want to extend my sincere thanks to Sen. Inhofe and the entire Congressional delegation for their efforts to improve and protect our state's water resources.

On the State level, I remain optimistic that the Legislature will find an avenue through which to replenish Oklahoma's Statewide Water Development Revolving Fund that Governor Henry has supported in his budget. As I have mentioned many times before, this remains a priority for both the State and Water Board as we seek to keep pace with increasingly stringent federal water treatment requirements and Oklahoma's anticipated $4 billion water/wastewater infrastructure needs over the next two decades.

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the Acme site is found at 45 to 50 feet. Water level measurements are collected in conjunction with 20 other meteorological variables. These real-time measurements and hydrographs can be viewed on the Mesonet Web site.

Water Board Geologist Greg Gromadzki checks the automated data logger at the El Reno Mesonet site's observation well.

According to Noel Osborn, the Water Board geologist coordinating the study, data gathered at the two pilot study sites are expected to reveal both short-term variability and long-term trends that could be useful in distinguishing the effects of climatic variability on local groundwater resources. Individuals cooperating with Osborn are John Daniel, a geologist with the ARS Grazinglands Research Laboratory in El Reno, and Chris Fiebrich, an OCS meteorologist.

What is the Mesonet?

The Oklahoma Mesonet, a world-class network of environmental monitoring stations, was designed and implemented by scientists at the University of Oklahoma and Oklahoma State University. The Mesonet consists of over 110 automated stations across Oklahoma with at least one station in each county.

At each site, the environment is measured by a set of instruments located on or near a tower 10 meters tall. The measurements are packaged into "observations" every 5 minutes, and then transmitted to a central facility every 15 minutes, 24 hours per day, year-round. The Oklahoma Climatological Survey receives the observations, verifies the quality of the data, and provides the data to Mesonet customers.

It only takes 5 to 10 minutes from the time the measurements are acquired until they become available to the public. For more information, visit the Oklahoma Mesonet Web site at http://okmesonet.ocs.ou.edu.

Scientist Named New EPA Administrator

Steven Johnson, a scientist and expert on pesticides, has been named Administrator of the U.S. Environmental Protection Agency. He replaces Michael Leavitt, who left the EPA to become U.S. Secretary of Health and Human Services.

Johnson is a graduate of Taylor University in Indiana with a master's degree in pathology from George Washington University. A career government employee, he has been with the agency for 24 years, serving as acting EPA head since early this year. EPA employs 18,000 employees with an annual budget of over $8 billion.

Arbuckle Researchers Find "Old" Water

The U.S. Geological Survey is conducting a geochemical study to gain better understanding of the flow paths of Arbuckle-Simpson waters. In part, the investigation has employed a computer simulation to project path lines and travel times of water moving through the highly-fractured groundwater system.

In addition, utilizing measurements of naturally occurring helium as a tool to age-date groundwater in the aquifer, preliminary study data estimate that water from Vendome Well, an artesian well issuing from the Arbuckle-Simpson aquifer in Sulphur, is approximately 10,000 years old.

The area around Vendome Well, drilled in 1922 near Sulphur, at one time included a restaurant, dance pavilion, and skating rink. The well provided enough water for a swimming pool in the area as well as adequate flow for the watercourse that flows from the well through Flower Park to Travertine Creek. Vendome Well is a major attraction of the Chickasaw National Recreation Area, which is visited by more than 1.5 million people per year.

Secrest Reelected to ORWA Post

OWRB Member and Secretary Bill Secrest was reelected President of the Oklahoma Rural Water Association at the organization's 35th annual meeting and technical conference in Tulsa. The ORWA is a nonprofit organization providing training and technical assistance to aid in the development, management, and operation of public water supply and wastewater facilities and services in rural areas.

Private Water Well Maintenance

In recognition of National Ground Water Awareness Week (observed March 13-19), well and safety experts from the National Ground Water Association and Underwriters Laboratories have offered the following guidelines for maintenance and water testing of private wells:

Reasons to test your well water:

- It hasn't been tested in 12 months.
- There's been a change in taste, odor or appearance.
- Your well has been flooded.
- Your well has been serviced.
- There has been a chemical spill or contamination incident nearby.

What you should do:

- Get an annual well maintenance checkup and water test by a qualified professional.
- Maintain proper separation between your well and buildings, septic systems, and hazardous substances. Check with your local environmental health office.
- Keep top of the well at least one foot above ground. Slope ground away from well for proper drainage.
- Take care in working or mowing around the well. A damaged casing could jeopardize the sanitary protection of your well.
- Keep well records in a safe place. (These include the construction report, annual water well system maintenance, water testing results, etc.)

What you should *not* do:

- Put the hose inside a tank or container when mixing pesticides, fertilizers, or other chemicals to avoid back-siphonage into the well.
- Neglect old, unused wells. They provide a contamination pathway into the aquifer and should be sealed properly by a qualified well contractor.
- Remove the well cap except when servicing the well. A locking cap is best to prevent tampering with the well.
- Pile snow, leaves or other materials around your well.
- Service your well without the help or guidance of a qualified professional. If you introduce contamination into the well, it also can get into the aquifer.

Training Opportunities Abound for Flood Officials

Mike Mathis
State Floodplain Coordinator, OWRB

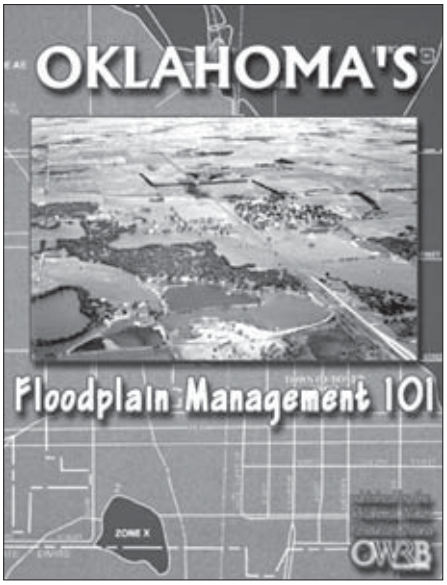
To assist in publicizing and promoting the benefits of flood insurance, Governor Brad Henry proclaimed March 2005 as Flood Insurance Month in Oklahoma, where only 12 percent of homes in the floodplain have a flood insurance policy. If flooded, these homes will not be covered by a standard homeowner's policy and thus will receive no insurance benefits. Most flood disasters in Oklahoma occur 11 days on either side of Mother's Day (the second Sunday in May). Since it requires 30 days before most flood insurance policies go into effect, now is the time to seek protection through purchase of a flood policy.

This year, Governor Henry has proclaimed May as Flood Awareness Month because it is Oklahoma's most frequent month for flooding disasters. As an integral part of the OWRB's flood awareness campaign, we are hosting 10 day-long workshops throughout the state to update city and county flood-plain administrators on NFIP compliance requirements as well as provide assistance in the development, administration, and enforcement of local floodplain management regulations that guide floodplain development.

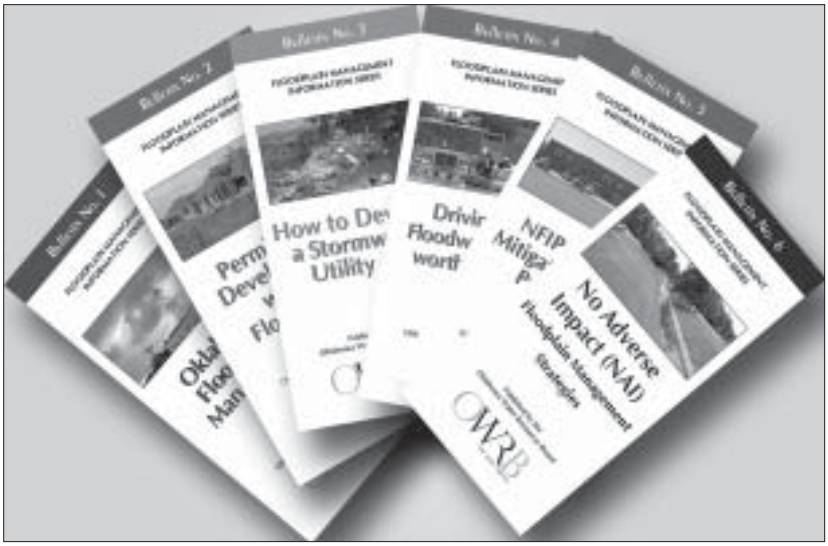
New training textbooks will be provided to workshop participants and the certified floodplain manager (CFM) exam will be offered to pre-approved candidates at the close of each training day. There is no registration fee for the workshops, which will feature speakers from the Federal Emergency Management Agency, Oklahoma Department of Emergency Management, U.S. Army Corps of Engineers, Oklahoma Department of Environmental Quality (DEQ), and R.D. Flanagan and Associates.

In addition to our standard introductory *Floodplain Management 101* classes, which focus on administration and enforcement of the basic NFIP program, we will now offer the first *Floodplain Management 202* workshops to serve the professional development and continuing education credit (CEC) needs of Oklahoma's floodplain officials. These workshops, developed as a result of past years' class evaluations and requests for more advanced training, include training on No Adverse Impact, Map Modernization, Hazard Mitigation, Cooperating Technical Partners, Section 404 of the Clean Water Act, Stormwater Management, and Floodproofing. I want to thank Joe Remondini for agreeing to host these 202 Workshops. I also thank our guest instructors, consultant Ron Flanagan, the U.S. Army Corps of Engineers' Andy Commer, and DEQ staff.

I strongly encourage all floodplain officials in Oklahoma to attend at least one of these sessions. This is one important way in which we can work to improve floodplain management in Oklahoma.



Updated Floodplain Managment 101 textbook, available to workshop participants



In conjunction with Flood Awareness Month, the OWRB has updated its Floodplain Management bulletins, now available upon request.

Floodplain Management 101 and 202 Workshops

As an integral part of Oklahoma's spring flood awareness campaign, the OWRB is sponsoring 10 one-day workshops (five *101* workshops and five *202* workshops) throughout the state in May to update city, county, and tribal floodplain administrators on NFIP compliance requirements and provide assistance in the development, administration, and enforcement of local floodplain management regulations.

The 202 workshops are provided for the first time this year to assist the professional development of floodplain managers. The Certified Floodplain Manager (CFM) exam will be offered to pre-approved candidates at the close of each training day. There is no registration fee for the workshops, The Oklahoma Insurance Department has approved 6 hours of continuing education credits (CECs) for both property/casualty agents and insurance adjusters who attend.

The one-day workshops will begin at 8:30 a.m. and adjourn at 4:30 p.m. Workshop dates and locations are as follows:

- May 3, Bartlesville
- May 5, Woodward
- May 10, Lawton
- May 12, McAlester
- May 17, Midwest City

For registration information, call the OWRB at (405) 530-8800 or register online at ***www.owrb.state.ok.us/hazard/fp/fp_workshops.php***.

Modernizing Oklahoma's Flood Maps

Many of Oklahoma's floodplain maps, like those throughout several other states, no longer realistically depict the true flood risk to communities and rural areas. As part of the Federal Emergency Management Agency's (FEMA) Map Modernization Program, the OWRB is working closely with the federal government in preparing a plan to update the state's floodplain delineation maps. Critical to this activity will be forming and strengthening partnerships between the OWRB and the federal government, state agencies, and local communities. The Water Board has signed an agreement with FEMA to become a Cooperating Technical Partner, a designation through which the agency collaborates with FEMA to maintain up-to-date flood maps and other flood hazard information.

The Map Modernization Program consists of a multi-year effort to update flood maps and present them in a more reliable digital format that is easily accessible to local and state floodplain officials. Not only will the new maps help manage development and emergency response, but they will assist lenders and insurance agents in offering the proper protection to their clients. FEMA's five year plan, called the Multi-Year Flood Hazard Identification Plan (MHIP), provides the sequence in which communities will be studied. By the end of the five year period, an estimated 20,000 communities will have new flood hazard maps. Through a premier data collection and delivery system, a National Service Provider, hired by FEMA, will manage Map Modernization and provide continual, national updates on each community's progress.

Feds Urge Citizens to be "Flood Smart"

Department of Homeland Security Under Secretary Michael D. Brown reminds Americans to be "FloodSmart" as the spring flooding season begins.

The Department's Federal Emergency Management Agency (FEMA) recently teamed with its partners at the National Weather Service for the first-ever Flood Safety Awareness Week (March 21-25) to raise public attention to the dangers of flooding and ways to protect life and property.

According to Brown, flooding is America's number one natural hazard, and all states are at risk for flooding. In an average year, floods kill more than 100 people and are responsible for $4.6 billion in damage in the United States. More than half of those deaths occur in vehicles overtaken by floodwaters.

Being "FloodSmart" means knowing about the risks and ways to protect yourself, your family, and your home. Since homeowner's insurance doesn't cover flood damage, flood insurance is the only cost-effective way for citizens to protect themselves from the financial loss posed by flooding. It only takes an inch of water to do costly damage to your property.

Learn more about flood precautions at www.fema.gov/hazards/floods/. For information about risk and flood insurance , visit www.floodsmart.gov or call (800) 427-4219.

Bombing Anniversary Recognized

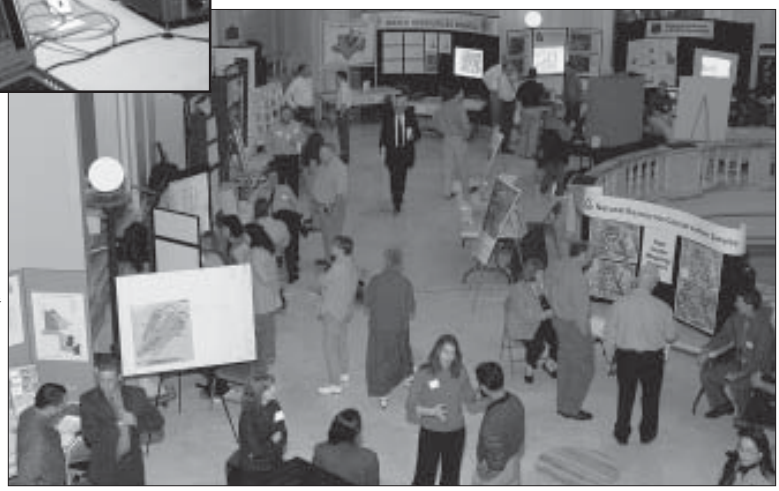
To commemorate the 10th anniversary of lives lost as a result of the bombing of Oklahoma City's Murrah Federal Building, OWRB employees held a brief ceremony on April 19. The recognition took place at a site just north of the agency's office where two Ash trees were planted nine years ago in honor of Trudy Rigney and Bob Chipman, agency employees who tragically lost their lives as a result of the domestic terrorist act. The morning ceremony included a moment of silence and meditation and a short reading. Ribbons were tied on the trees, followed by a closing prayer.

Left: Carla Jennings ties a ribbon on one of two Ash trees planted in memory of OWRB employees Bob Chipman and Trudy Rigney.

State GIS Day Held

Above, the OWRB's Mike Sughru networks with a fellow GIS specialist. At right, visitors at the capitol examine GIS displays.

On March 8, the OWRB once again participated in Oklahoma's annual Geographic Information System (GIS) Day at the State Capitol in Oklahoma City. More than 25 federal, state, county, and municipal agencies from across the state educated Oklahoma legislators and the public about current GIS activities and projects in Oklahoma. The 2005 event, the eleventh GIS Day, was sponsored by the State Geographic Information Council. The theme was GIS Compatibility: Coordination Through Cooperation.



2004 BUMP Report Available

The 2004 Oklahoma Beneficial Use Monitoring (BUMP) Report is now available online at www. owrb.state.ok.us/studies/reports/bump/2004/bump2004.php For more information or to obtain a copy on compact disk, please call 405-530-8800.

Water Quality Lesson Provided at Standards Academy

On March 10 and 11, staff of the OWRB's Water Quality Standards section held the first-ever "Water Quality Standards Academy" at the agency's Oklahoma City office.

The initial day of the educational informal workshop consisted of a general overview of Standards topics specifically geared to Water Board employees, including beneficial uses, anti-degradation, Standards implementation, and relationships with the agency's water quality monitoring activities. Day two covered more specific, in-depth subjects related to use attainability assessment, biocriteria, and site-specific criteria.

Katera Whitaker, OWRB water quality specialist, addresses participants at the March 10 Water Quality Standards Academy.

Oklahoma Drought Monitor

Reservoir Storage

Lake storage in Oklahoma remains generally good, although lakes in the southwest continue to experience low levels. As of April 11, the combined normal conservation pools of 31 selected major federal reservoirs across Oklahoma (see below) are approximately 96.2 percent full, a 0.9 percent decrease from that recorded on March 14, according to information from the U.S. Army Corps of Engineers (Tulsa District). Ten reservoirs have experienced lake level decreases since that time; only seven reservoirs are currently operating at less than full capacity (compared to five last month). Two reservoirs—Lugert-Altus, only 63.8 percent full; and Tom Steed, 75.7 percent—remain below 80 percent capacity.

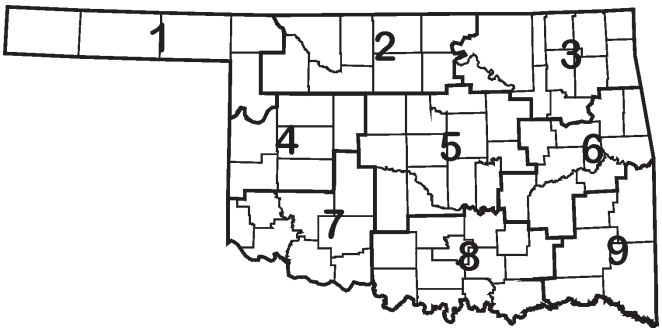
Storage in Selected Oklahoma Lakes & Reservoirs

As of April 11, 2005

Climate Division	Conservation Storage (acre-feet)	Present Storage (acre-feet)	Percent of Conservation Storage
North Central	445,584	445,584	100.0
Northeast	3,710,194	3,594,121	96.9
West Central	276,790	268,295	96.9
Central	154,225	154,225	100.0
East Central	3,022,323	3,022,323	100.0
Southwest	**301,810**	**73,685**	**24.4**
South Central	2,795,156	2,690,598	96.3
Southeast	1,526,192	1,523,788	99.8
State Totals	**12,232,274**	**11,772,619**	**96.2**

Drought Indices

According to the latest Palmer Drought Severity Index (April 9, below), no regions in Oklahoma are currently experiencing drought conditions. However, eight of Oklahoma's nine climate divisions have undergone PDSI moisture decreases since March 12. The greatest decrease occurred in the Southwest climate division.



Although most areas are drier, the latest monthly Standardized Precipitation Index (through March, below) indicates no long-term dryness in Oklahoma; wet conditions continue to dominate. Among the *selected* time periods (3-, 6-, 9- and 12-month SPIs), no climate divisions indicate dryness. And considering longer periods (through six years), no regions indicate dry conditions.

Palmer Drought Severity Index

Climate Division (#)	Current Status 4/9/2005	Value 4/9	Value 3/12	Change In Value
NORTHWEST (1)	VERY MOIST SPELL	3.14	2.97	0.17
NORTH CENTRAL (2)	UNUSUAL MOIST SPELL	2.80	3.48	-0.68
NORTHEAST (3)	MOIST SPELL	1.43	1.81	-0.38
WEST CENTRAL (4)	UNUSUAL MOIST SPELL	2.21	2.51	-0.30
CENTRAL (5)	INCIPIENT MOIST SPELL	0.97	2.10	-1.13
EAST CENTRAL (6)	INCIPIENT MOIST SPELL	0.65	0.68	-0.03
SOUTHWEST (7)	MOIST SPELL	1.19	2.43	-1.24
SOUTH CENTRAL (8)	INCIPIENT MOIST SPELL	0.96	2.10	-1.14
SOUTHEAST (9)	NEAR NORMAL	0.40	0.58	-0.18

Standardized Precipitation Index

Through March 2005

3-Month	6-Month	9-Month	12-Month
MODERATELY WET	VERY WET	VERY WET	VERY WET
NEAR NORMAL	VERY WET	MODERATELY WET	MODERATELY WET
NEAR NORMAL	VERY WET	MODERATELY WET	NEAR NORMAL
NEAR NORMAL	VERY WET	VERY WET	MODERATELY WET
NEAR NORMAL	MODERATELY WET	MODERATELY WET	NEAR NORMAL
NEAR NORMAL	MODERATELY WET	MODERATELY WET	MODERATELY WET
NEAR NORMAL	VERY WET	VERY WET	MODERATELY WET
NEAR NORMAL	VERY WET	VERY WET	MODERATELY WET
NEAR NORMAL	MODERATELY WET	NEAR NORMAL	NEAR NORMAL

Financial Assistance Program Update

Loans/Grants Approved as of April 14, 2004

FAP Loans—309 totaling $551,840,000

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 extremely competitive low-interest rates, averaging approximately 4.762 percent since 1986.

CWSRF Loans—162 totaling $559,196,254

The Clean Water State Revolving Fund (CWSRF) loan program was created in 1988 to provide a renewable financing source for communities to draw upon 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—47 totaling $189,283,938

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—413 totaling $35,901,834

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—513 totaling $30,091,005

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

Total Loans/Grants—1,444 totaling $1,366,313,031

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.

More information about the OWRB's Financial Assistance Program can be obtained by calling the OWRB at (405) 530-8800.

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