

# OKLAHOMA WATER NEWS

*Bimonthly Newsletter of the Oklahoma Water Resources Board*



*from  
the desk  
of the  
Director*

**Duane A. Smith**

I am proud of the accomplishments of this agency in 1998, realized only through the support of the Board, Governor Keating, the Legislature and a staff of dedicated employees committed to upholding the OWRB mission and providing responsive customer service. I am excited about the possibilities for success in achieving the goals we've set for 1999. Chief among these initiatives is resolution of the Sardis Lake purchase, clarification on the waste by pollution issue, completion of 20 maximum annual yield studies and support for a Hazard Mitigation Fund.

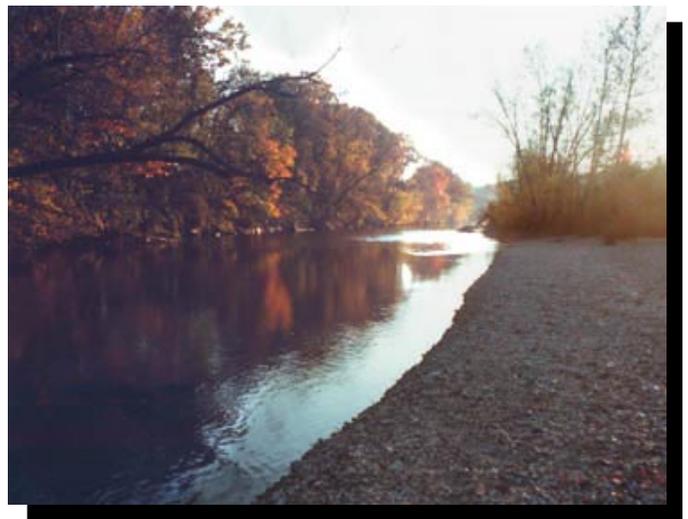
Publication of the first Beneficial Use Monitoring Report is forthcoming and the formalization of the Water Quality Standards implementation into areas such as remediation, nonpoint source and CAFO permitting will be an important step in improving the quality of the state's water quality.

We soon will see completion of the \$75 million bond issue for the Statewide Water Development Revolving Loan Fund and the \$2.3 million state match for the FY99 federal Clean Water Capitalization Grant enabling our successful loan programs. We need to identify state matching funds for the Drinking Water SRF program. The Financial Assistance Division will continue work on developing a nonpoint source loan and grant program for public entities and investigating a similar program for the private sector.

The OWRB Team -- Board members and staff -- together, through commitment to quality service and fiscal responsibility, have laid the foundation for this organization to be the benchmark agency in state government.

## Baron Fork River to be Target of First Instream Flow Study

An issue as confusing as the correct spelling of the Baron Fork River in northeast Oklahoma is that of quantifying the minimum flow needed to ensure the well-being of the cool water aquatic community that inhabits the river. Add to the puzzle, balancing the beneficial needs of the domestic water users, irrigators, a rural water district, poultry growers and others who rely on water from the Baron Fork. Still more pressure is put on the puzzle when drought, such as that experienced in 1998, steals much of the available flow. However, the weightiest consideration in appropriating water from the northeast Oklahoma stream is its status as a "scenic river," one of six rivers in the state awarded special protection by Oklahoma Statutes. (Others protected by the Scenic Rivers Act are Flint Creek, the Illinois River, Upper Mountain Fork, Lee Creek and Little Lee Creek.)



**Baron Fork near Eldon, Oklahoma**

“The Scenic Rivers Act requires the preservation and protection of instream flows for natural scenic beauty, water conservation, fish and wildlife and outdoor recreation,” said Derek Smithee, chief of the Board’s Water Quality Programs division. “The scenic river designation, along with increased demands on its waters, made the Baron Fork the state’s first candidate for a study of minimum instream flow to support the habitat and species,” he said.

The cooperative study, to begin with field work this summer, will be conducted under contract with Dr. Bill Fisher, assistant director of the Cooperative Fish and Wildlife Research Unit at OSU. “The aim is to develop a formula for determining a minimum instream flow regime for the Baron Fork, then eventually adapting it as a template in studying other scenic rivers and outstanding resource waters in Oklahoma. In the long term, we expect the formula to prove a valuable tool in protecting habitat and allocating waters of other rivers,” Smithee pointed out.

***Instream flow has been an issue for at least two decades.***

The need for such scrutiny was made apparent by the request from Adair County Rural Water District #5 for an additional 85 acre-feet of water to supplement the 75 acre-feet appropriated in 1988. RWD #5 serves 350 customers in a rapidly growing area in Adair and Cherokee Counties. The earlier permit allows the district to



**The study of instream flows on the Baron Fork River in Adair and Cherokee Counties is the first step in a process that will elevate quality issues to equal standing with quantity issues in allocating the waters of the state's scenic rivers and other outstanding resource waters.**

pump raw water directly from the river to its water treatment plant. “The permit granted by the Water Resources Board in June 1998 approved the district’s plan to establish a diversion point and build an off-stream reservoir to capture water during periods of high flows,” said Mike Mathis, OWRB Planning & Management Division chief. To protect the flow of the Baron Fork, a restriction on the permit will allow the taking of water only when flows registered at the nearby Eldon Gauge exceed 75 cubic feet per second. “In ordinary years, the river can supply abundant water to meet all the needs, but the heat and drought of 1998 emphasized the vulnerability of the Baron Fork and other rivers,” he said. “Off-stream storage will assure the water district and its users an adequate year-round supply of water.

## ***“It's a little like holding hands with an octopus”***

Establishing minimum instream flows is very difficult and controversial, involving consideration of many biological, hydrological, economic and legal issues. “It’s a little like holding hands with an octopus. Whatever policy emerges must satisfy all beneficial uses and be acceptable to the water users and all other interests,” Smithee said. “You can be sure that when we have all the facts and figures, we’ll take them to public meetings for review and comment.”

Smithee looks forward to the time when minimum flow requirements for the state’s streams and rivers are included in the Oklahoma Water Quality Standards promulgated by the Water Board.

Executive Director Duane Smith sees these recent events as enormous progress on a difficult and long-standing issue. “Until now, we have dealt with water quality and quantity as separate issues. It is time we ‘married’ those concerns and give them equal consideration. This is a very healthy step for Oklahoma’s waters and will greatly improve our allocation of stream water for beneficial use,” Smith said.

### **Baron, Barren, Barron Fork?**

Even “official” maps disagree on the proper spelling of the scenic river in Adair and Cherokee Counties. *Oklahoma Place Names*, a book by George H. Shirk, declares the nearby town is Baron, but “the local name for the community is Barren Fork, from the Barren Fork of the Illinois River.”

The Geographic Names Information System of the U.S. Geological Survey agrees on Baron, but lists as variations Barren Fork and Barron Fork. Local residents stand by Barren Fork, and the *Oklahoma Water Quality Standards* lists the river that way. However, water use permits issued by the Planning and Management Division allocate water from the Baron Fork.

The “up” side of the confusion is that no matter which version you choose, someone will agree with you. What’s in a name? A river by any other name would flow as deep.

## **Board Approves \$1.9 Million in REAP Grants at January Meeting**

Some improvements will be visible landmarks for miles, such as the 100-foot water storage tank proposed for rural McClain County; others will be underground and out of sight, such as the sewer system to serve the town of Hanna in McIntosh County or the new water lines to supply drinking water to rural water customers in Sequoyah County. Although vastly different, all are critical to the quality of life in rural Oklahoma, emphasized Ross Kirtley, OWRB chairman.

These projects are among the 20 water and wastewater projects totaling more than \$1.9 million approved for Rural Economic Action Plan (REAP) grants by the Water Resources Board January 12 at its regular monthly meeting in Oklahoma City. The OWRB administers the water/wastewater portion of REAP. The staff of the Board’s Financial Assistance Division receives, reviews and prioritizes applications from eligible entities. The REAP grants were enabled by a \$4.5 million appropriation by the 1998 Legislature -- the third such allocation since creation of the program in 1996, said Kirtley. Since then, the Board’s Financial Assistance Division has awarded \$10.6 million in 139 REAP grants to eligible communities and rural areas.

Grants approved January 12 include awards to the Town of Davidson, Tillman County, \$72,850; Rural Water District #2, McClain County, \$91,000; Kendrick Municipal Authority, Lincoln County, \$99,999; Weleetka Public Works Authority, Okfuskee County, \$65,500; Hanna PWA, McIntosh County, \$99,999; RWD #5, Sequoyah County, \$99,883; Colcord PWA, Delaware County, \$94,800; and Bluejacket PWA, Craig County, \$141,307.

Also Keystone Development Authority, Creek County, \$79,000; Soper PWA, Choctaw County, \$139,000; Haileyville PWA, Pittsburg County, \$99,900; Waukomis PWA, Garfield County, \$96,850; Carmen PWA, Alfalfa County, \$51,000; Drummond PWA, Garfield County, \$89,900; and Town of Deer Creek, Grant County, \$16,750.

And RWD #1, Woods County, \$99,990; Laverne PWA, Harper, County, \$105,000; Tupelo PWA, Coal

County, \$59,000; Bromide PWA, Johnston County, \$85,000; and the Town of Headrick, Jackson County, \$109,220.

REAP grants target rural communities with populations of 7,000 or less, but favor entities smaller than 1,500, said Kirtley. He emphasized that the program aims to fund water and wastewater improvements in Oklahoma's small communities that are unable to secure financial assistance from traditional funding sources. "There are enormous needs in remote areas in which populations, access to services and quality of life are declining," said Kirtley. "The hundreds of REAP applications to the OWRB Financial Assistance Division show the desperate need for assistance."

The REAP grants for infrastructure improvements were first authorized in 1996, when Governor Keating and the legislature explored means of restoring the economic health of Oklahoma's small communities. The 1996 legislature allocated \$17 million in REAP funding, \$4.5 million of it specifically directed to water and wastewater projects, then revitalized the program with additional appropriations in 1997 and 1998.

Eligible projects include construction or repair of sanitary or storm sewers or water distribution lines, water treatment facilities, and projects to acquire, distribute or recover water. □

## OCLA, Region 6 Monitors Meet in March

Oklahoma Clean Lakes Association will host its Eighth Annual Conference March 24-26, back-to-back with the EPA Region 6 Volunteer Monitors Conference March 26-28 at the University of Oklahoma Biological Station at Lake Texoma. The theme of both conferences emphasizes "Stewardship in Action."

According to Kendra Eddlemon, OCLA conference coordinator, the agenda will focus on lake restoration, remediation, research, Geographic Information System (GIS) and environmental monitoring.

The 1999 U.S. EPA Region 6 Volunteer Monitors Conference agenda begins with registration/check-in from 2-5 p.m. on Friday, March 26.

Saturday offers a welcome by Mike Bira, EPA Region 6 Volunteer Monitoring Coordinator, keynote address by Dr. Bob Carlson, professor of biological sciences, Kent State University; discussions of innovations in volunteer monitoring, concurrent sessions and a Quality Control Mixer. March 28 will feature breakfast, farewell and field trips/workshops.

Registration for the OCLA Conference costs \$85 (\$75 for volunteers and students) before February 26; \$100 after that date. Registration for the Volunteer Monitors Conference costs \$35 before February 15; \$50 after that date. Non-monitors' registration is \$75; \$100 after date. Accommodations are available at the Biological Station without charge, but conferees must provide their own bedding and personal items. Rooms are available at the Lake Texoma State Lodge (17 miles away) for \$53, where a block of rooms is reserved until February 24.

The conference is sponsored by the U.S. EPA Region 6 and the Office of the Secretary of Environment, Clean Lakes Association, Water Resources Board and the Conservation Commission in Oklahoma. Other sponsoring states in Region 6 include Arkansas, Louisiana, New Mexico and Texas.

For more information on the OCLA Conference March 24-26, please call Kendra Eddlemon at 405-979-2209. For information on the Volunteer Monitors Conference March 26-28, contact Leslie Nance at 405-530-8997. □

## Watch for OWRB Samplers on Bridges

Teams of water quality specialists are collecting water samples throughout the state, often lowering containers from bridges to scoop water from rivers and streams. Sampling from two-lane bridges with narrow or no shoulders is particularly dangerous, says Derek Smithee, chief of the OWRB Water Quality Programs Division. "It requires parking our truck in one lane, turning on the flashers and a portable strobe light on the cab."

Although sampling teams erect warning signs on both bridge approaches and set out orange cones, some motorists



Gene Doussett

pass dangerously close at high speed, Smithee pointed out.

Ordinarily, staff catch samples from the bank or wade to midstream, but sometimes, steep terrain, dense woods or flooding make it difficult to reach the water's edge or to wade safely.

Sample teams work closely with the Oklahoma Highway Patrol at some busy locations which have very narrow bridges," said Smithee.

The intense effort to cover the state is motivated by the Water Board's Beneficial Use Monitoring Program (BUMP.) To accomplish the program, the OWRB will sample 175-200 river and stream sites up to 10 times a year and 35-40 lakes quarterly.

"We have to get our people out to banks and bridges and we want them to be safe. We ask motorists to be on the lookout and to approach those bridge sampling sites with care," Smithee said. □

## Attend the 1999 Great Plains Symposium March 10-12

The Fifth Great Plains Symposium will be held March 10-12 in Oklahoma City at the Clarion Airport West Hotel, 737 South Meridian. The announcement was made by Dr. Jayne Salisbury, director of the OSU Spatial and Environmental Information Clearinghouse, and Oklahoma coordinator for the Symposium.

The theme of the 1999 Symposium is "The Ogallala Aquifer, Steps to Sustainability."

Registration begins at 8 a.m., followed by welcoming remarks by Governor Frank Keating. The Wednesday, March 10 agenda includes discussions of sustainable production systems, drought forecasting, innovative methods of regulating animal waste, water rights administration, weather modification and potential impacts of climate change on agriculture and food supply.

On Thursday, topics will include water quality protection, the National Water Quality Assessment, the High Plains Partnership with the U.S. Fish and Wildlife Service and a wrap-up by Lori Triplett of the Great Plains Foundation.

The afternoon will be devoted to breakout groups concerned with artificial recharge projects, Mesonet monitoring of soil moisture, historic streamflow records and relationship to groundwater discharge, and groundwater modeling of the High Plains Aquifer.

Friday's agenda will include updates on the High Plains Regional Groundwater Study and National Water Quality Assessment Program.

Registration for the Symposium costs \$85, payable by check or money order mailed to Agricultural Conference Services, 430 OSU Student Union, Stillwater 74078. Registration includes all sessions, refreshments, and Wednesday and Thursday luncheons.

The Great Plains Foundation (GPF) seeks to raise awareness, appreciation and knowledge of the Great Plains ecosystem through education, conservation and exchanges of ideas.

The Oklahoma Symposium is the fifth in a series focusing on the resources of the Great Plains.

The Oklahoma Symposium is

### ***Great Plains Symposium***

Agricultural Conference Services  
430 OSU Student Union, Stillwater, OK 74078

**Please enclose \$85 check or purchase order  
payable to Oklahoma State University**

Name \_\_\_\_\_

Organization \_\_\_\_\_

E-mail \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Zip \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

sponsored by GPF, the Oklahoma Water Resources Board, Oklahoma State University and U.S. Geological Survey.

For further information, please call Jayne Salisbury at 405-744-8433 or Kathy Peter, USGS District Chief, at 405-810-4417. □

## Board Hosts Training for 41 Oklahoma Floodplain Managers

Federal, state and county officials from throughout Oklahoma attended a week-long workshop for Oklahoma Floodplain Administrators hosted by the Water Resources Board January 11-15. The course was held at the Oklahoma Center for Continuing Education in Norman. Instructors for the course were Ken Morris, state



coordinator for National Flood Insurance Program, other members of the Water Resources Board staff and representatives of FEMA and the Tulsa District Corps of Engineers.

The course, previously offered only at the Federal Emergency Management Agency's (FEMA) National Emergency Training Center in Emmitsburg, Maryland, is presented only once a year in Oklahoma through special arrangements with FEMA. According to Morris, 41 students earned 16 continuing

education credits on various aspects of floodplain management. Morris pointed out that 25 students took the Oklahoma Floodplain Management Association certification exam. He said after the year 2000, the course will be mandatory for all state floodplain managers.

Morris has already scheduled next year's annual training for January 10-14, 2000, and encourages participants to enrol early. Attendance will be limited to 36. For more information on the course or NFIP, call Morris at 405-530-8800. □



## Drought Continues in Southwest

Despite fog, drizzle and ice since the first of the year, some areas in southwest Oklahoma have received little or no measurable precipitation. What precipitation has fallen has come sporadically and in little dribbles.

According to the *Waurika News-Democrat* in Jefferson County, the area has received less than four inches of rain since October 20. Over the last nine months, the area has received just 15 inches of rain, a third less than normal

The dry weather, following closely on the heels of one of the driest and hottest summers in state history, causes concern among ranchers about drinking water for their livestock. Mike Jeffcoat, OSU county agriculture agent, pointed out that ponds drawn down by drought last summer have not been replenished. He attributes those low levels to the lack of soaking rains that produces runoff to refill the stock ponds. Jeffcoat said that lack of runoff has also impacted the streams that lace the area.

## Forms Available on the Web

Getting a permit application or any form offered by the Water Resources Board has never been easier! To better serve our customers, the OWRB has made six categories of forms available on its web site. Downloading the forms is easy. Come to the website at [www.state.ok.us/~owrb](http://www.state.ok.us/~owrb) and click on the “Form Center” link and follow the directions.

Executive Director Duane Smith heralded the Form Center as beneficial for customers as well as the OWRB staff. “Our customers can download a form and save a phone call or letter, while the staff saves time and money on long distance phone calls and postage.”

Ed Eckenstein, OWRB webmaster said Adobe Acrobat Reader computer software, which can be downloaded free from the Adobe website, is necessary to download, read or print these forms. The OWRB asks that only clearly legible forms printed on white paper with a laser jet or inkjet printer be submitted. If you don't have access to the Internet, need a form, or have questions on filling out the forms, you can reach a friendly voice at the OWRB by calling 405-530-8800.

This newsletter, Oklahoma Water News, is also available on the website. You can read/download the latest issue at [www.state.ok.us/~owrb](http://www.state.ok.us/~owrb). If you choose to read the newsletter at the website, or no longer wish to receive Oklahoma Water News by mail, please let us know so we may save postage by removing your name from our mailing list.

## Cauthron Receives Award

Bill Cauthron, Water Quality Programs Division employee since 1988, was named Employee of the Quarter at a staff meeting held December 23. Duane Smith, executive director of the OWRB said, “Bill is a person well respected by his peers throughout state government. He has demonstrated his ability to write grant requests for special projects and sees tasks through to completion.” His fellow employees praise his excellence in technical support and training. Cauthron's most recent project has been coordinating the first year of the state's Beneficial Use Monitoring Program and overseeing preparation of the special report to the Legislature.

Born in Ada and raised in Coalgate, Cauthron has a B.S. in Biology from East Central University and M.S. in Environmental Health from the University of Oklahoma.



**Bill Cauthron**

## USFWS Lists Arkansas Shiner

The U.S. Fish and Wildlife Service listed the Arkansas River Basin population of the Arkansas River shiner, a small, silvery minnow, as threatened under the Endangered Species Act. The classification means the FWS must determine if it is likely to become an endangered species in the near future in all or most of its range.

The Arkansas River shiner once flourished in wide, sandy-bottomed rivers and streams throughout the basin in Kansas, New Mexico, Oklahoma, Arkansas and Texas. Today, it is found only in scattered reaches of the Canadian River. According to the FWS, threats include loss of habitat from the construction of lakes, reduction of stream flows caused by diversion of surface waters, or groundwater withdrawals, water quality degradation and inadvertent collection by the bait fish industry.

The protection offered by the Endangered Species Act is needed to prevent the Arkansas River shiner from becoming endangered. In the last 25 years, this species disappeared from more than 80 percent of its range. The minnow has a small, flattened head and a rounded snout and grows to a length of two inches.

The species is listed as endangered by the states of Kansas and New Mexico; threatened in Oklahoma; not listed by Texas and Arkansas.

## Westward Ho! Zebra Mussels

In 1986, the tiny freshwater mollusk called the zebra mussel first hitched a ride to the Great Lakes via a Russian freighter. In just 12 years, the nuisance has spread throughout the Mississippi River basin, clogging the waterways and intake pipes as far west as the Oklahoma portion of the McClellan-Kerr Arkansas River Navigation System

Officials in California report 13 sightings of the mussels, brought in on boat trailers from the east. The mussels had been out of the water for 48 hours or more, but they were alive and capable of infesting any waters they contacted.

Although they are troublesome in the east, zebra mussels could do enormous damage to the canals and pipes that transfer water throughout the west. Biologists point out that the zebra mussels can seal a pipe up to a foot in diameter and cause significant losses in canal capacity. The biologists say since the larval mussels are free-swimming, they can go wherever the water goes.

At Lake Powell, Utah, officials inspecting boats coming into the Colorado River system report up to 1,000 infested boats a year. To stop the migration, state and federal agencies hope to set up hot water washes at checkpoints for boats entering the Colorado River system.

## At the January Board Meeting:

In his report to the Board, Executive Director Duane Smith pointed out the highlights of the agency's activities in 1998, including the processing of 1,165 water use permits and maintenance of 12,024 active permits by the Planning & Management Division. He pointed out that the Financial Assistance Division continues to grow, adding innovative programs to an already successful array of traditional financing programs. Smith estimated that 926,000 Oklahomans have been touched by projects enabled by the FAP. He mentioned the award of 61 REAP grants totaling \$4.9 million; 22 emergency grants totaling \$1.95 million and 30 loans totaling \$106.2 million. The Water Quality Division revised Water Quality Standards and Implementation Documents and dealt with such difficult issues as nutrient criteria, nutrient-limited waters and groundwater vulnerability. Under Derek Smithee's leadership, the division set in place protocols to support the \$1 million Beneficial Use Monitoring Program.

Looking forward, the executive director emphasized that the Sardis Lake issue will again have high priority, and hopefully, be resolved.

On the regular agenda, the Board approved two emergency grants, one Drinking Water State Revolving Fund loan, one Clean Water SRF loan and 20 Rural Economic Action Plan grants. Division Chief Joe Freeman reported progress on the state match for the CWSRF loan program and the issuance of OWRB State Loan Program Revenue Bonds.

The Board approved three temporary permits for groundwater use; amended four groundwater permits and two prior rights applications. The Board approved eight regular permits for the use of stream water.

The Board approved Operator Certifications for water well drillers Alva Howard, Robert L. Griffin, Phillip Howard, Tony Mills, Christopher King, Ronnie Davis, Todd Ian Simpson and Edward Byrd. □

<b>FINANCIAL ASSISTANCE PROGRAM UPDATE</b>		
Approved at December 1998 & January 1999		
Board Meetings		
FAP Loans		
1997 Bonds; 29-year maximum term - Variable Rate		
None .....	\$	0.00
CWSRF Loans		
El Reno MA .....	\$	1,600,000.00
Emergency Grants		
Wilburton PWA .....	\$	100,000.00
Wagoner Co. RWSG&SWMD #4 .....	\$	100,000.00
Kendrick MA .....	\$	61,705.00
Town of Davidson .....	\$	99,500.00
Hughes Co. RWD #4 .....	\$	84,991.00
DWSRF Loans		
Bryan Co. RWS&SWMD .....	\$	576,675.00
Hardship Grants		
None .....	\$	0.00
REAP Grants		
(See Article on Page 3)		
<b>TOTALS AS OF JANUARY 12, 1999</b>		
	FAP Loans	CWSRF Loans
<b>APPROVED</b>	205	77
<b>Amount</b>	\$296,070,000.00	\$278,612,057.48
	Emergency Grants	REAP Grants
<b>APPROVED</b>	423	132
<b>Amount</b>	\$23,922,226.35	\$9,903,401.65
	DWSRF Loans	Hardship Grants
<b>APPROVED</b>	2	2
<b>Amount</b>	\$10,677,000.00	\$1,038,752.30

# Annual Report 1998

ISSUE

Bimonthly Newsletter of the Oklahoma Water Resources Board

MARCH - APRIL 1999



*Duane A. Smith*  
Executive Director

## What did the Water Board *do* in 1998?

We're glad you asked!

Again, in our long-standing effort to economize in state government, the Water Resources Board presents its 1998 Annual Report in the format as a scheduled issue of the Oklahoma Water News. It is with pride I invite you to review the significant accomplishments of this agency.

It is also with pride and gratitude that I have again been allowed to direct a staff of professional employees who take very seriously their mission to provide the citizens of Oklahoma with the best and most responsive customer service available in state government.

Nineteen ninety eight was a watershed year -- a year in which we met the challenges of new programs such as the Drinking Water State Revolving Fund, the Beneficial Use Monitoring Program, implementation of new regulations on hog and poultry operations, adoption of the Oklahoma Drought Management Plan, new Geographic Information System applications, important work on biological criteria for Oklahoma waters and development of a nutrient management strategy. We welcomed these and other initiatives onto our already "full plate" of water resources responsibilities.

As we review the year, we do so with appreciation to all who have supported us in our efforts, with special thanks to Governor Keating, the Oklahoma Legislature and the Board members.

## First let us tell you who we are...

The Oklahoma Water Resources Board is a state agency staffed by 85 dedicated men and women working in five Divisions -- Executive Administration, Administrative Services, Financial Assistance, Planning and Management, and Water Quality Programs. Six more employees work in Branch Offices to assist OWRB customers in Woodward, Lawton, Tulsa and McAlester. All in all, we are 91 people, committed to working hard for Oklahoma.



*Offices of the Oklahoma Water Resources Board - 3800 N. Classen*

# Meet the Oklahoma Water Resources Board

The Oklahoma Water Resources Board was created in 1957 as a seven member board, then expanded to nine in 1972. Members are appointed by the Governor and approved by the Oklahoma Senate to serve staggered seven year terms. In the interest of balance, members

represent all categories of water use -- recreational, industrial, irrigation, municipal, agriculture, soil conservation and rural residential. There is geographic diversity as well, with members representing the Congressional Districts and three members serving at-large.



**Seated:** *Bill Secrest, Broken Arrow; Grady Grandstaff, Oklahoma City; Lonnie Farmer, vice-chairman, Davidson; Richard Sevenoaks, secretary, Tulsa; Ross Kirtley, chairman, Kingfisher.*

**Standing:** *Dick Seybolt, Afton; Ervin Mitchell, Balco; Wendell Thomasson, Sawyer; Richard McDonald, Walters; OWRB Executive Director Duane Smith.*

## Administrative Services

builds a strong foundation to support the activities of all Divisions.

Accounting, under the direction of Jim Schuelein, prepared the agency's FY 99 budget, issued 294 purchase orders/contracts, paid 2,306 claims, processed payroll, maintained an inventory system, assisted in audits and prepared documents in support of the Board's loan and grant programs.

Information Services manages all Geographic Information Systems (GIS) activities and in 1998, developed coverages for the Rural Water Survey, Water Quality Standards, well logs, permitted water wells, diversion points and areas of use and land dedicated.

IS specialists assisted in the creation of an Internet Web Site, late in the year adding a full selection of Water Board forms and instructions for downloading by OWRB customers.

The Mapping and Drafting unit prepared 127 full color maps illustrating lake water quality for inclusion in the Beneficial Use Monitoring Program report, revised the Floodplain Ordinance Administrators' Guidebook, produced a water conservation brochure, charts, web graphics, FAP grant and REAP presentation checks, flip charts, and a wide array of graphics to enhance groundwater basin studies, the Oklahoma Water News and activities of the Office of the Secretary of Environment.

Legislative and Media Relations, managed by Mike Melton, assistant to the director, answered

OWRB activities, prepared six issues of the bimonthly newsletter, *Oklahoma Water News* and provided photography for all 1998 publications. The LMR Section coordinated a very successful 19th Annual Governor's Water Conference in Muskogee September 29. Melton coordinated 50 ceremonies attended by legislators and local officials at which REAP and emergency grants were presented.

## Planning and Management

assesses water supplies, plans future development and administers a complex structure of water rights.

The Planning and Management Division, directed by Mike Mathis, allocates stream water and groundwater supplies to all applicants who meet the requirements of Oklahoma Statutes and propose to put the water to beneficial use without waste. In 1998, the Permitting Section of P&M issued 29 regular stream water permits and 691 provisional temporary stream water permits allowing water use up to 90 days. The Section issued 150 regular and temporary groundwater permits and issued 295 provisional temporary permits. In day-to-day activities, P&M maintained a file of more than 12,000 active water use permits and processed 134 change-of-ownership documents.

The P&M Technical Studies Section published the update of the Hydrologic Investigation of the Arkansas River Basin, the basis for determining water availability in the stream system. Geologists also performed a *Vulnerability Assessment of Twelve Major Aquifers in Oklahoma* for incorporation into Oklahoma Water Quality Standards. The Section also published *Groundwater Levels in Observation Wells in Oklahoma* and completed studies on two major basins and 23 minor basins. Geologist Mark Belden oversaw the annual mass measurement of 750 water wells throughout Oklahoma. The depth to water and saturated thickness data collected between January 1 and March 31, provide valuable information concerning water availability in the state's major groundwater basins.

The Section also coordinated training workshops for 668 water well drillers/pump contractors representing 333 firms. Gary Glover, who administers the D/PC program, with assistance from Branch Office associates, visited 40 drilling firms and inspected 210 water wells for compliance with minimum construction standards.

Ken Morris, coordinator of the National Flood Insurance Program (NFIP) in Oklahoma, worked with the Oklahoma Floodplain Management Association in implementing voluntary certification for local floodplain administrators. The Division conducted four one-day workshops for floodplain administrators throughout the state and a week-long Federal Emergency Management Agency (FEMA) Flood Damage Mitigation workshop in Norman. Planning and Management assists Oklahoma commissioners to four Interstate Stream Compacts in which the state participates. Division planners cooperate with local sponsors and the U.S. Army Corps of Engineers in developing plans for management, utilization and conservation of water resources. In 1998, the OWRB facilitated 11 studies under the Corps' Planning Assistance to States program.

Planning & Management assured inspection of all dams of high, significant and low-hazard; operated five stream gaging sites, administered the second successful year of the Oklahoma Weather Modification Demonstration Program, developed a comprehensive water conservation brochure, implemented the new Oklahoma Drought Management Plan and distributed bi-weekly updates during emergency drought conditions of 1998.

## Water Quality Programs

aims to protect and enhance the integrity of Oklahoma's waters.

Among the primary concerns of the Water Quality Programs Division is the promulgation of Oklahoma Water Quality Standards, the cornerstone of the state's water quality management programs. The Standards define beneficial uses, set out strategies to protect them, and declare an anti-degradation policy. All other state agencies with environmental missions rely on the Standards for guidance. With direction by Derek Smithee, WQP Division chief, staff update the Standards every three years and prepare implementation

documents. The Division circulated the 1998 Standards for public comment and review at informal meetings held in the Fall and scheduled a formal hearing in January, 1999, and submittal to the Board in February.

The 1998 revision included use assessment protocols to standardize the collection of sampling data in documenting the frequency and magnitude that any body of water exceeds limits set out in the Water Quality Standards. Staff visited with Indian tribes to learn their concerns, and as a result, the revision proposed additional protection for some “culturally significant” waters, those used in tribal ceremonies. In answer to concerns regarding water quality degradation by swine and poultry operations, water quality specialists studied nutrient-vulnerable groundwater basins and nutrient-limited watersheds. The Standards identified 11 nutrient-limited watersheds, based on eutrophic status of their lakes.

In mid-year, at the close of the legislative session, the Water Resources Board was assigned the Beneficial Use Monitoring Program and awarded funding to implement the new program. Under the direction of Bill Cauthron, WQP staff established 84 permanent monitoring sites and 77 rotational sites on rivers and streams. Staff sample fixed sites for nutrients, general water quality parameters, metals, pesticides and bacteria. Water quality specialists will monitor rotational sites for the specific parameters known to impair the streams’ beneficial uses. A sampling program for state lakes is also underway, in many instances an expansion of the on-going Oklahoma Water Watch and Lake Water Quality Assessment efforts. At year’s end, the OWRB submitted to legislative leaders a 276-page report illustrating water quality in 127 lakes.

The Clean Lakes Section continued aquatic plantings in the shallowest areas of Lake Wister as means of reducing erosion and algae growth. The Section cooperated in sampling water supply lakes in Tulsa and Oklahoma City to determine reliable yield and assess impacts of hog and poultry industries. The Clean Lakes Section finished the 1996 Lake Water Quality Assessment, increased the number of volunteer monitors in Oklahoma Water Watch to 350 and produced the first OWW Monitoring Report on Grand Lake.

## Meet the Water Board's Managers

**Seated:**

*Duane Smith,  
executive director*

*Mike Melton,  
assistant to the  
director*

**Standing:**

*Mike Mathis, chief, Planning  
and Management Division*

*Joe Freeman, chief,  
Financial Assistance Division*

*Derek Smithee, chief, Water  
Quality Programs Division*

*Dean Couch, general counsel*

*Jim Schuelein, chief,  
Administrative Services Division*



## Financial Assistance

offers an affordable array of financing alternatives for water and wastewater improvements.

One of the state's most important initiatives and one that has won the respect of the nation's financial community is the Board's Financial Assistance Program, a program administered by Joe Freeman, chief of the Financial Assistance Division. The successful bond loan program was fully established in 1983 with a \$25 million legislative appropriation to the Statewide Water Development Revolving Fund, and today, stands as the primary state provider for water and wastewater improvements. The loan program enabled by the revolving fund offers loans with terms as long as 30 years at fixed or variable interest rates. Since 1978, the FAP 6-month variable interest rate has averaged 4.95 percent. The integrity of the program has consistently won its bond issues Standard & Poor's AA rating.

The Board provides low-interest loans for wastewater facilities under the Clean Water SRF, supported by the EPA Wastewater Facility Construction SRF and state matching money. The Board's Clean Water SRF program underwrites loans specifically for major wastewater construction projects, then, as loans are repaid, re-loans the proceeds to smaller communities for wastewater improvements that otherwise may have been out of reach. In annual evaluations, the EPA consistently commends the program for sound management and financial condition.

The newest initiative of the Financial Assistance Division is a loan program targeting drinking water infrastructure in which the Board is "banker" in a cooperative effort with the Oklahoma Department of Environmental Quality. With recommendations from the ODEQ, the Board approves Drinking Water State Revolving Fund loans to municipalities and rural water districts for the construction or improvement of treatment and distribution systems. Loans were enabled by a \$3.5 million legislative appropriation as a match for EPA grants to the Drinking Water State Revolving Fund (DWSRF.) The Board approved its first loan in the DWSRF program to Holdenville in August; the second to Cushing in September, 1998. Oklahoma's Drinking Water SRF program, administered by the FA Division, was the first in EPA Region 6 to approve and close loans under the new initiative.

In 1998, the Board approved 14 bond loans totaling \$43.7 million; 14 Clean Water SRF loans totaling \$53.3 million; and two Drinking Water SRF loans totaling \$9.17 million. In terms of dollars, 18% of all loans approved in the history of the Financial Assistance Program were approved in 1998.

Freeman and Paul Hodge, assistant chief, estimate that the Financial Assistance Programs have demonstrated profound and far-reaching results, with projects approved and funded touching the lives of more than one million Oklahomans.

An emergency grant program, enabled by interest earned on the Statewide Water Development Revolving Fund, awards grants up to \$100,000 for water and sewer improvements to communities who demonstrate greatest need and have no other funding options. Criteria set out by the Board dictate that conditions exist which "threaten life, health or property." In 1998, the program awarded 13 emergency grants for water projects; eight for sewer improvements; one for a water/sewer project. In all, the Board approved 22 emergency grants totaling \$1.59 million.

In 1998, the OWRB was again entrusted by the legislature for administering \$4.5 million appropriated to the Rural Economic Action Plan for grants for water and wastewater infrastructure. The program aims to revitalize the economic health of small towns and rural areas, in which tax bases and access to services are shrinking. At the onset of the REAP, specialists of the Financial Assistance Division formulated rules and a priority system to fairly evaluate applicants for REAP assistance. The program gives preference to communities with populations smaller than 7,000, and awards extra points to those with 1,500 or fewer residents. By the close of 1998, the Board had assisted 61 communities with more than \$4.9 million in infrastructure needs. Water improvements in 35 towns totaled more than \$2.7 million; 22 sewer projects amounted to nearly \$1.9 million; and four water/sewer improvements totaled \$388,158.

## Oklahoma Water Resources Board Budget

FUND	FY-95	FY-96	FY-97	FY-98	FY-99
<b>State Appropriated Funds:</b>	\$3,125,864	\$3,136,194	\$4,200,453	\$3,866,678	\$3,837,343
<b>Constitutional Reserve Fund</b>					\$ 500,000
<b>State Continuing/Revolving:</b>					
205 Weather Modification Rev Fund	0	0	1,001,000	1,042,036	75,000
210 Well Drillers & Pump Installers Fund	1,699	1,153	26,000	0	57,000
240 Water Management Fund	471,011	342,935	390,417	318,934	457,950
420 USGS Cooperative Fund	249,793	109,129	200,000	145,985	200,000
426 Stripper Well Oil Overcharge Fund	5,139	5,761	0		
443 Reimbursement Fund	591,301	698,367	1,289,666	561,590	2,146,838
472 WRF-SRF Account	50,811	366,354	357,410	280,467	100,000
<b>Total Revolving Funds</b>	\$1,369,754	\$1,523,699	\$2,263,493	\$2,349,012	\$3,036,788
<b>400 Federal Funds</b>	\$ 744,026	\$ 805,474	\$ 998,395	\$ 455,503	\$1,083,378
<b>410 Federal Water Quality Management</b>	\$3,083,169	\$2,700,692	\$5,000,000	\$4,675,775	\$7,000,000
<b>Total Expenditures by Fund</b>	\$8,322,813	\$8,166,059	\$13,463,341	\$11,346,968	\$15,457,509
<b>ACTIVITY/NUMBER AND NAME</b>					
01 Administration	\$1,707,447	\$2,371,243	\$2,499,150	\$1,810,076	\$2,695,734
02 Water Quality Programs	666,364	557,252	845,602	707,189	937,391
03 Planning*	1,173,755	943,293	0		
04 Financial Assistance	599,685	600,867	1,051,463	778,810	1,288,624
05 Water Management*	866,442	832,158	0		
07 Planning & Management			3,902,954	3,125,185	3,224,008
11 USGS Cooperative Program**	73,730				
15 Office of Secretary of Environment	3,235,390	2,861,246	5,164,172	4,925,708	7,311,752
<b>Total Expenditures by Activity</b>	\$8,322,813	\$8,166,059	\$13,463,341	\$11,346,968	\$15,457,509

\* These activities were combined in Activity 07 (Planning & Management) in FY-97

\*\* This activity was transferred to Planning in FY-96

# OKLAHOMA WATER NEWS

*Bimonthly Newsletter of the Oklahoma Water Resources Board*



*from  
the desk  
of the  
Director*

**Duane A. Smith**

We are very encouraged with the good progress of the OWRB's legislative agenda for this session. I interpret that as a vote of confidence for the Water Resources Board's people and programs.

With the passage of the Oklahoma Flood Hazard Mitigation Act, the Oklahoma Legislature took a giant step toward insulating Oklahomans from the enormous costs of repetitive flood damage. At last, the state has the tool to interrupt the costly cycle by clearing the floodplain of troublesome structures with histories of repetitive loss. The OWRB, Department of Civil Emergency Management and Federal Emergency Management Agency look forward to the next step in providing funding for buyouts.

We are encouraged that there is progress on a lake level management plan for Sardis Reservoir, assuring bountiful water supplies to residents of southeast Oklahoma.

We have resubmitted certain rules pertaining to the Oklahoma Water Quality Standards and their implementation. Concerns expressed by the Water Board's sister environmental agencies about use support assessment protocols (standard methods to be adopted by all agencies to determine which surface waters can support the beneficial uses assigned them) caused us to withdraw those rules. We will continue to work with the other agencies and the public toward developing acceptable protocols.

It is encouraging to see the high level of interest and degree of familiarity with the Standards by our sister agencies. I am pleased that they want to be active and involved in Oklahoma's water quality management program.

The Oklahoma Weather Modification Act, now in conference committee, proposes a program of hail suppression/cloud seeding funded by the insurance industry. A similar successful effort in Canada has saved millions of dollars for insurance companies and policy holders. Should it win legislative approval, the OWRB will promulgate rules to administer the program.

We are encouraged with approval of the base appropriation of \$3.7 million for agency operation and \$4.5 million to the Rural Economic Action Plan in the General Appropriations Bill.

Priority initiatives remaining to be approved are the \$2 million state match to the Drinking Water State Revolving Fund supported by the EPA and \$1 million to continue the energetic Beneficial Use Monitoring Program, begun last year. With a month of the Legislative Session remaining, we are confident they will gain approval.

## *Towns Turn to Technology to Treat High Nitrates*

The small town of Coyle in central Oklahoma recognized a problem with its water supply when water samples began showing nitrate levels as high as 9.5 parts per million (ppm.) The U.S. EPA and Oklahoma Department of Environmental Quality (ODEQ) consider 10 ppm potentially harmful to babies younger than six months and pregnant women. Higher concentrations can depress oxygen levels in the blood. "Lack of oxygen, called methemoglobinemia, or blue baby syndrome, can cause suffocation in young babies," says Derek Smithee, OWRB chief of the Water Quality Programs Division. "Once ingested, the baby's stomach converts nitrates in the water into nitrites, which reduces the body's ability to destroy methemoglobin."

Nitrates dissolve in raw water from naturally occurring pockets in the soil, over fertilization of crops, lawns and

gardens or application of animal wastes by confined hog, poultry and cattle operations.

The town's options to supply safe water to its citizens were simple: purchasing water from the nearby community of Langston, drilling a replacement well and hoping it wouldn't become contaminated, supplying bottled water to those most vulnerable, or finding a way to purify the water.

After exploring the options in water treatment -- reverse osmosis and biological denitrification -- the latter proved to be more economical.

Bio-denitrification is the process of adding naturally occurring, harmless, non-pathogenic bacteria to the well water. The water must be low in dissolved oxygen, accomplished by adding sulfite. The bacteria rely on a carbon-based energy source for respiration, which, in Coyle's case, is acetic acid, injected into the water entering the treatment plant. The bacteria respire the nitrates in the water into harmless nitrogen and carbon dioxide gases, which are vented into the air, leaving a virtual nitrate-free water supply. However, at this stage, the water is still laden with bacteria, which are removed by carbon and sand filtration. Then, as a final precaution, chlorine is added, just as it would be added to raw water from any source. The nitrate-free water is added to chlorinated well water to produce a blend in the storage tank that meets current state drinking water specifications.

Reverse osmosis is a process achieved at the molecular level in which negatively charged nitrate ions are exchanged for other negatively charged ions, such as chloride. Reverse osmosis creates as by-products very concentrated quantities of nitrates and brine which must be handled as hazardous waste, adding costs for disposal and consuming about 15 percent of the incoming water. Water purified by reverse osmosis is mixed with chlorinated water in the tank to produce good quality drinking water. While bio-denitrification and reverse osmosis are very different, the outcomes and costs per-thousand-gallons are similar.

Officials in the town opted for bio-denitrification and the result is history-making. A Colorado company seeking a prototype site came to Coyle to install the first biological denitrification system in the U.S. approved for municipal use by a state regulatory agency.

Financing for the Coyle project was provided by an OWRB grant for \$100,000 and \$12,839 in local funds. Total cost of the system was \$130,000, with the company that designed and installed the system picking up the difference because of the prototype nature of the project.

Taloga, in Dewey County, also faced problems with a water supply laced with nitrates, but chose reverse osmosis to bring levels to acceptable limits. Construction of the new water treatment plant was enabled by a bond loan and emergency grant from the OWRB Financial Assistance Program, along with other state and local funds. Today, the plant distributes good quality water at the cost of about \$2.18 per thousand gallons.

Innovative strategies to deal with the high nitrate problem include a unique, cooperative approach of nine entities in Kiowa County that united in the Quartz Mountain Water Authority to secure funding to build a reverse osmosis water treatment facility. Some of the entities have very little water available to them; some have nitrate-contaminated supplies; others lack water for adequate fire protection. The communities that have water, although nitrate-contaminated, pipe it to the central plant which processes it and distributes it to member entities.

The water treatment plant was financed by a \$50 per meter fee to water users, along with Community Development Block Grants and Rural Development loans and grants. The Quartz Mountain Water Authority markets treated water at \$2.18 per thousand gallons, with a lower rate allowed communities that contribute raw water. The communities that purchase the water are responsible for all system maintenance outside the plant, as well as billing and accounting services.



**Joe Galloway, water treatment plant operator, takes a water sample from the new bio-denitrification system at Coyle.**

## Lake Wister Revegetation Project Recruits Volunteers

The Water Quality Programs Division is seeking volunteers to help in a lake beautification and water quality improvement project at Lake Wister in eastern Oklahoma. After studying turbidity and nutrient problems in the shallow areas of the Lewis Creek arm of Lake Wister, Water Resources Board specialists determined the problems were caused by poor quality water flowing into the lake, wind-driven waves constantly stirring sediments and fluctuating water levels further muddying the waters. Corps of Engineers researchers from the Lewisville (Texas) Aquatic Ecosystem Research Facility assisted in identifying native plant species that root well in the muddy bottom and flourish in the shallow waters.

Now, as part of this revegetation project, native aquatic plants will be carefully harvested from the shorelines of several other lakes for transplanting in the upper end of Wister Lake. They expect the plants to help calm the waters, remove sediments and nutrients and provide habitat for wildlife, fish and waterfowl.

According to Paul Koenig, OWRB limnologist overseeing the project, the plants will produce a seed bank that will help to establish a stable aquatic community.

“The benefits may not be realized immediately, but in the long-term, we should see improved lake water quality achieved at relatively little cost,” he pointed out. “This environmental restoration could take 5-10 years to realize its optimum potential. We’re dealing with only a small area of shoreline -- future plantings will be needed to address the entire lake,” Koenig said. He said he hopes local cooperators will take on the program, once this effort is over.

However, the Water Resources Board needs volunteers or groups who are willing to help them by spending a day or two harvesting aquatic plants from Lakes Murray and Spavinaw and transplanting them in Lake



**This *scirpus validus* (softstem bulrush) is one of several species that will be planted in Lake Wister in an effort to improve water degraded by nutrients and sediment.**

Wister. In addition to the plantings, a 2100-foot line of round hay bales will be installed to reduce waves and protect the shoreline from erosion.

Tentative schedules for harvesting and planting are June 1-4 and 14-18 at Lake Murray and July 26-30 at Lake Spavinaw. Six hourly workers have also been hired to work with OWRB staff and volunteers at the lake sites through August.

For more information or to volunteer for the Wister Revegetation Project, please call the OWRB Water Quality Programs Division at 405-530-8800.



**Shelly Carter, Larry Sullivan, Robin Randolph and Kim Ross of the OWRB Water Quality Programs Division pot fragrant water lily bulbs in the Kerr Center nursery pond. After the plants establish roots, they will be introduced into Lake Wister.**

# THE FLOOD CURRENT

## *Buy-Out Legislation, Floodplain Ordinance Workshops Usher In Flood Awareness Month*

This year has been a busy one for members of the Oklahoma Floodplain Management Association. The organization hosted two important events -- the Spring Technical Conference in Tulsa and the annual Legislative Reception at the State Capitol.

The March 9 reception, attended by more than 200 Capitol residents, gave the OFMA membership an excellent opportunity to share with legislators the many benefits of wise floodplain management and flood damage mitigation in Oklahoma. Central to these issues is House Bill 1841, signed by Gov. Keating April 6, which creates a state flood hazard mitigation program to assist state communities in reducing their repetitive loss properties. Passage of this important measure demonstrates that Oklahoma's governor and legislature intend to take a pro-active stance regarding flood mitigation. I express gratitude to the many individuals who supported enactment of HB 1841, including authors Rep. Larry Rice and Sen. Kevin Easley; Albert Ashwood, Director of the Oklahoma Department of Civil Emergency Management; Duane Smith, OWRB Executive Director; Paul Muegge, OFMA chair; Danny George, Oklahoma Municipal League; and numerous support staff of the OWRB, ODCEM and House of Representatives. Next year, the Legislature will consider funding levels for the flood hazard mitigation program.



**Ken Morris listens to questions concerning HB 1841 posed by Representative Barbara Staggs.**

address unimproved real estate disclosure for floodplain lands. Too often, citizens are unaware that the land they purchase is in a flood hazard area. Then they are frequently faced with prohibitive construction costs to build structures above the established base flood elevation.

Earlier this month, the OWRB also hosted our annual series of one-day floodplain management workshops in Norman, Tulsa, Woodward and Lawton. This outreach program provides an excellent opportunity for community floodplain managers from across the state to keep abreast of the latest NFIP compliance requirements and related regulations as well as measures to improve local floodplain management programs.

I also want to encourage all state floodplain officials to attend the 23rd Annual Conference of the Association of State

In the near future, the OWRB and OFMA members would like to see the legislature



**Senator Paul Muegge visits with Carolyn Schultz of the OFMA during the reception at the Capitol.**

Floodplain Managers in Portland, Oregon, May 23-28. The theme is "Planning Ahead: Flood Loss Reduction in the 21st Century." The program, which includes the unveiling of the national floodplain managers' certification accreditation, looks excellent and will provide a great learning opportunity. Remember OFMA is a Chapter member of ASFPM, Inc. If you're interested in attending, please give me a call at 405-530-8840.

We are again honored that Governor Keating has proclaimed May 1999 as "Flood Awareness Month" in Oklahoma. Historically, Oklahoma's worst flood disasters occur that month and most, but not all, warrant federal aid. For those who live in a flood-risk area, the absolute best form of protection against flood-induced, personal economic ruin is the purchase of flood insurance. For all floodplain managers in Oklahoma, Flood Awareness Month is an excellent time to encourage your residents to purchase flood insurance. And remember, use good judgement when building. It's always better to build up and away from the water!



## *Governor Keating Signs HB 1841 Enabling Flood Hazard Mitigation Fund*

A bill signed by Governor Keating on April 6 could help turn the tide on Oklahoma flood waters. Senator Kevin Easley and Representative Larry Rice authored House Bill 1841, the Oklahoma Flood Hazard Mitigation Act.

The measure is designed to provide a fund from which municipalities can draw loans or grants to acquire repetitive flood loss structures in the regulatory floodplain and move them to higher ground.

House Bill 1841 also expands uses of the Statewide Water Development Revolving Fund, allowing creation of a flood hazard mitigation account within the Revolving Fund to be administered by the OWRB. Proponents of the new law see it as means to prevent property owners from building in the floodplain; encourage the purchase of flood insurance; reduce the cost of disaster response and recovery operations; and encourage cities and towns to develop a comprehensive hazard mitigation plan. It establishes the State Hazard Mitigation Team.

Should the legislature later appropriate money, or funds be made available from other sources to support the program, the fund will be used for flood mitigation opportunities

### *May is Flood Awareness Month*



**Oklahoma Floodplain Management Association Board members display proclamation signed by Governor Keating declaring May Flood Awareness Month. Left, Cliff Pittner, McAlester; Anna Lee, Woodward; Ken Morris, OWRB; Barbara Hall, Oklahoma City; Ron Flanagan, OFMA vice-chair, Tulsa; Paul Zachary, chair, Tulsa; Hank Elling, OWRB, Lawton.**

at the local level, with the local jurisdictions responsible for at least 25 percent of the costs if a grant is used, or for the entire amount of funds if a loan is used. Hazard mitigation project eligibility is clearly defined in federal administrative procedures, and those procedures will be tailored to Oklahoma's program.

How will projects be reviewed for eligibility?

The State Hazard Mitigation Team will be made up from its members of 13 state agencies and the U.S. Army Corps of Engineers. The team will have the primary responsibility of reviewing all flood mitigation project applications submitted by the local jurisdictions and recommending an order of priority for approval and funding.

Members will be actively involved in reviewing all applications submitted by the local jurisdictions for use of the funds. The intent of the program is to help communities that are helping themselves. Project priorities will be developed and funding will be provided based upon locally demonstrated self-help initiatives.

Why do we need it?

The estimated dollar amount for damages to residences as a result of flooding in Tulsa, Oklahoma City and Miami equals approximately \$12,400 per residence per flood event. Recent information provided by FEMA indicates that the state has 664 properties that have repetitive losses -- which means the properties have flooded more than twice.

It is estimated that only about 20 percent of the residential structures that flood throughout the state are covered by flood insurance. Clearly, with approval of HB 1841, Governor Keating and the Oklahoma Legislature have taken a giant step toward enabling removal of repetitive loss properties from the floodplain. Funding and development of a fine tuned and coordinated state and local action plan can indeed turn the tide on Oklahoma's costly flood waters.

## NFIP Workshops Scheduled

As the designated coordinating agency for the National Flood Insurance Program in Oklahoma, the OWRB sponsors regular workshops on the program. It is the goal of the NFIP to make low-cost flood insurance available to property owners or renters whose homes lie in the floodplain, thereby reducing losses of lives and property to flooding.

The OWRB conducted workshops in Norman and Tulsa earlier this month and announces two more one-day workshops for local floodplain administrators in Woodward and Lawton. Workshops are free and begin at 9 a.m.

### Woodward - May 11, 1999

High Plains Institute of Technology  
3921 34th Street

### Lawton - May 13, 1999

Great Plains Area Vo-Tech  
4500 SW Lee Boulevard  
Bldg. 600, Room 656

Although there is no charge, NFIP Coordinator Ken Morris requests advance registration by phone. For more information or to register, please call 405-530-8800.



## Three New Reports Available

Librarian Susan Birchfield announces the availability of two OWRB groundwater publications entitled *Hydrologic Report of the Southwestern Oklahoma Groundwater Basin in Caddo, Kiowa and Jackson Counties* (Technical Report 98-3) and *Statewide Groundwater Vulnerability Map of Oklahoma* (Technical Report 99-1.) Technical Report 98-3 costs \$5; Technical Report 99-1 costs \$13 from the Board

The Southwestern Basin report contains information on the basin's physical setting, descriptions of the aquifer parameters, storage and yield capabilities, water use and prior groundwater rights, as well as analyses of water quality.

Authors of the Groundwater Vulnerability report, Noel Osborn and Ray Hardy, developed a map showing the relative vulnerability of groundwater in 30 hydrogeologic basins in Oklahoma that are exposed at land surface, and thus more susceptible to pollution. According to Osborn, vulnerability was computed with the DRASTIC index

method, developed by the U.S. EPA. Hydrogeologic basins are classified in five groups of relative vulnerability from very low to very high. The report contains 13 color maps, discussion and five tables.

A third report concerning *Standard Operating Procedures for Stream Assessments and Biological Collections Related to Biological Criteria in Oklahoma* (Technical Report 99-3) is also available. According to author Chuck Potts, the protocol is intended to establish a uniform biological assessment through which aquatic communities of similar streams can be compared.

To order copies of these reports, call the Oklahoma Water Resources Board at 405-530-8800.

## General Counsel Honored

Dean Couch, OWRB general counsel, was named "Employee of the Quarter" at the staff meeting on March 25. The award was presented by Executive Director Duane Smith, who commended Couch on his skill in preparing legal briefs and his work on agency rules.



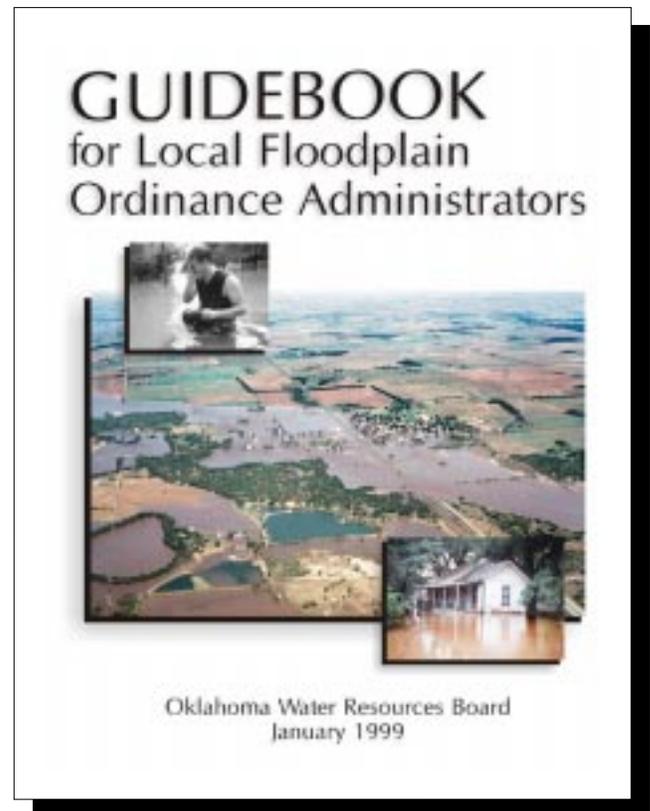
**Dean Couch**

Couch graduated from University of Central Oklahoma in 1976 and received his law degree from the University of Oklahoma in May 1982. Before coming to the OWRB, he served as a judicial intern for Oklahoma Supreme Court Judge Robert E. Lavender.

He is active in civic and church groups and is often requested as a speaker on water law. When Dr. Joe Rarick of the OU Law School died in January 1989, Couch was invited to finish out the year teaching Rarick's class in Oklahoma water law.

Couch and his wife, Jeannie, are the parents of two sons, Matthew and Daniel.

## New Guidebook Available



The 1999 *Guidebook for Local Floodplain Administrators* is updated and ready for distribution, announced NFIP Coordinator Ken Morris, who worked with James Leewright, OWRB publications designer, to make this version more user friendly.

For the first time, the *Guidebook* includes a chapter on professional development, information on the Association of State Floodplain Managers, the Oklahoma Floodplain Management Association, the OFMA Certification Program and training opportunities available through the National Emergency Training Center.

The publication features an improved format with updated appendices, flood map order form, publications reference list, website addresses and information about Project Impact, a national challenge to floodproof cities.

Floodplain administrators who have not received a copy, should call Morris at 405-530-8800.

# At the April Meeting of the Water Resources Board

Executive Director Duane Smith announced the Annual Meeting of the Red River Compact at Broken Bow May 3-5. He announced the June Meeting of the Board will be held at Shangri-La on Grand Lake June 8 at 9:30 a.m. to preface the Annual Meeting of the Interstate Conference on Water Policy June 9-11.

Joe Freeman, Financial Assistance Division chief, asked and received Board approval for emergency grants to Woodward County Rural Water District #1 and Hughes County RWD #4.

The Board approved Rural Economic Action Plan grants for RWD #8 (Wagoner Co.), Grand Lake PWA (Delaware), Clayton PWA (Pushmataha), Ratliff City Water Trust Authority (Carter) and Mountain Park PWA (Kiowa).

On the Planning and Management agenda, Chief Mike Mathis asked and won Board approval of seven temporary and three regular groundwater permits and amendments to one groundwater prior right and one stream water prior right. The Board approved eight regular and one term permit for use of stream water and approved plans for construction of a dam/reservoir.

The Board considered withdrawal of some OWRB Rules and replacement with those proposed by HJR1022 on April 12. Rule revisions included adoption of language consistent with that of the Department of Agriculture concerning the 3-mile setback of animal feeding operations from camps operated by churches and certain other non-profit organizations. Other replacement rules submitted for legislative approval included some definitions contained in Chapters 45 and 46, Oklahoma Water Quality Standards, and some appendices to those chapters. The Board heard and considered changes proposed to the Sardis Lake management plan, but declined to change the rule. The replacement rules adopted by the Board will be resubmitted to the Oklahoma Legislature and Governor.

<b>FINANCIAL ASSISTANCE PROGRAM UPDATE</b>		
Approved at March & April, 1999		
Board Meetings		
<b>FAP Loans</b>		
<small>1997 Bonds; 29-year maximum term - Variable Rate</small>		
Rogers Co. RWD #7 .....	\$	1,845,000.00
Rogers Co. RWD #8 .....	\$	1,985,000.00
<b>Emergency Grants</b>		
Council Hill PWA .....	\$	100,000.00
Tillman Co. RWD #1 .....	\$	97,100.00
Woodward Co. RWD #1 .....	\$	100,000.00
<b>REAP Grants</b>		
Hardesty PWA .....	\$	69,118.00
Big Cabin PWA .....	\$	50,000.00
Wagoner Co. RWD #8 .....	\$	108,000.00
Grand Lake PWA .....	\$	50,000.00
Clayton PWA .....	\$	136,000.00
Ratliff City WTA .....	\$	99,999.00
Mountain Park PWA .....	\$	32,800.00
<b>TOTALS AS OF APRIL 13, 1999</b>		
<b>APPROVED Amount</b>	<b>FAP Loans - 206</b>	<b>CWSRF Loans - 78</b>
	\$292,750,000.00	\$290,454,754.20
<b>APPROVED Amount</b>	<b>Emergency Grants - 432</b>	<b>REAP Grants - 151</b>
	\$24,703,242.35	\$11,642,120.60
<b>APPROVED Amount</b>	<b>DWSRF Loans - 3</b>	<b>Hardship Grants - 2</b>
	\$9,753,675.00	\$1,038,752.30



# OKLAHOMA WATER NEWS

*Bimonthly Newsletter of the Oklahoma Water Resources Board*



**Duane A. Smith**

*from  
the desk  
of the  
Director*

I am well satisfied that the Water Board attained the legislative goals we set out early in the year. I believe the Legislature demonstrated its confidence in the Board and staff with the endorsement of existing programs and assignment of new initiatives.

We are pleased with the passage of SB 101, a weather modification measure that seeks to ameliorate costly hail damage to crops and property. We are excited with the opportunity to work in partnership with property and casualty insurance companies in implementing a true state-of-the-art hail suppression/rainfall enhancement program. We believe this cooperative approach can produce a model for the nation. It establishes a

Weather Modification Revolving Fund, creates a Weather Modification Division in the OWRB and an Advisory Board composed of myself as chairman, and including representatives of agriculture, tourism, the insurance industry and the Oklahoma Legislature.

In the same tone is the Oklahoma Flood Hazard Mitigation Program created by HB 1841. The program is an effort to reduce losses and human suffering by removing structures with histories of repetitive loss from the floodplain. It encourages communities to develop comprehensive flood hazard mitigation plans. The law names a Flood Hazard Mitigation Team on which the Water Board will play a key role.

The Legislature again appropriated \$4.5 million for the Rural Economic Action Plan (REAP), with a potential for additional funding from oil and gas production tax revenues. There was also clarification in the statutes that will make the REAP program more effective in meeting the needs of small communities.

The OWRB received an appropriation for its share of the EPA cost match for the Drinking Water State Revolving Fund, one of the agency's most important initiatives.

The Beneficial Use Monitoring Program (BUMP) was funded for the second year, reaffirming the Legislature's confidence in the program and its first-year successes.

We look forward to carrying out the provisions of HCR 1066, instructing the Board to meet with Choctaw and Chickasaw tribes and local leaders to design the Comprehensive Kiamichi River Basin Water Development Plan, due for submittal to the Legislature February 1, 2000.

SCR 60 establishes a task force, including the OWRB, to study the Cache Creek Basin and the operation of Lakes Lawtonka and Ellsworth. The task force will seek means to maximize water supply and recreational benefits and minimize flooding; and report to legislative leaders by December 31. □

## *Board Aids Bridge Creek In Tornado Recovery Efforts*

Monstrous tornadoes have so many devastating aspects -- one catastrophe melting into another, like ripples in a pond. The immediate focus is on the victims, then on their crushed homes and businesses, crumpled cars and trucks, dead or dazed farm animals and family pets.

The immediate tragedy is so heart-rending and the losses so enormous that many of the fringe problems are dismissed to outer circles. Among the problems realized later in the disaster are the loss of utilities and destruction of water wells -- especially critical to a small, rural community like Bridge Creek where residents rely on individual wells for water supply.

According to Gary Glover, who oversees the Water Board's well driller/pump contractor program, many of the community's 300+ wells were damaged by the storm or covered up with debris. Some water wells skipped over by the tornado were damaged in good-intentioned cleanup efforts by crews with tractors and debris removal equipment.

Glover headed up an OWRB team that spent weeks in the field locating wells buried in rubble and marking them with tall flags so tractors could avoid further damage. On the team were Geologists Mark Belden, Kent Wilkins and Kim Sullivan and Hydrologists Lisa Penderson, Ray Hardy, and Nathan Kuhnert and Engineer Hank Elling.

For water wells that appear intact, Glover advised well owners to remove submersible pumps and disinfect the wells.

Gravel and other small debris often lock the pump in the wells allowing pollution and debris to sift in the opening between the pump and the inner casing. "In those cases, the well is lost to use and must be plugged," Glover said. He urged well owners to include loss of a water well in damage claims to insurance companies.

"In many cases, insurance will pay for plugging the tornado-damaged well and replacing it with a new one," he said. In cases where wells are damaged beyond repair and the costs of plugging are not covered by insurance, help may be available from the OWRB Well Drillers Indemnity Fund, Glover pointed out.

Amendments to Senate Bill 549 by Sen. Bruce Price and Rep. M. C. Leist, during the recent Legislative Session provide for costs of plugging wells damaged in a declared disaster, such as the May 3 tornado. Costs of well plugging previously borne by the owner now can be reimbursed from the Well Drillers Indemnity Fund administered by the OWRB.

Glover cautioned well owners not to use water from a damaged well until the well has been inspected and disinfected. Before using water from a well in the tornado area, even though it appears normal, he urged homeowners to submit a water sample to the Oklahoma Department of Environmental Quality (ODEQ) Lab to ensure the water is safe for drinking.

According to instructions from the DEQ, homeowners can disinfect a water well with ordinary chlorine laundry bleach (5.25 percent chlorine.) Do not use scented bleach such as lemon or pine.



Hydrologist Lisa Penderson and Geologist Kent Wilkins worked on the OWRB team that assisted in locating, clearing and assessing damage to water wells in Bridge Creek. Global Positioning System (GPS) equipment, used here by Penderson, along with well logs, helped pinpoint well locations.

### ***HOW TO DISINFECT A WELL***

1. Pump the well enough in advance to completely remove sediments and other debris.
2. For a 6-inch diameter well, use five pints (80 ounces) of bleach for every 100 feet of standing water. For wells of different diameter, use approximately one pint of chlorine bleach per inch in diameter for every 100 feet in depth.
3. Open all water taps in the system until a strong chlorine odor is present, then close the tap. This will allow for disinfection of the house service line. To disinfect the well casing, briefly flush water back down the casing with a garden hose. Reinstall the sanitary well seal.
4. Let the chlorine remain in the water system for at least four hours (better still, overnight), but no longer than 24 hours. Then, turn on all the taps until the chlorine odor is gone.

Although the renovation/replacement of water wells would seem a minor task compared to the immense task of rebuilding a community, it is a vital step in helping Bridge Creek families again put down roots. □



The Financial Assistance Program of the Oklahoma Water Resources Board (OWRB) is so successful in its mission that today it stands as the state's primary provider for water and wastewater improvements. The cornerstone of the initiative that has won the respect of the nation's financial community is the bond loan program, credited with enabling 211 water/sewer projects totaling over \$303.6 million.

The FAP that flourishes in 1999 began in

1983 with the Oklahoma Legislature's appropriation of \$25 million in "seed money" to the Statewide Water Development Revolving Fund. In terms of appropriations, it was a small seed, but it thrived under able management, and continues to bear abundant fruit for the cities and rural areas throughout Oklahoma.

So fruitful and far-reaching are the programs that FA Division Chief Joe Freeman, and Assistant Chief Paul Hodge, estimate that projects approved and funded by Financial Assistance Programs touch the lives of more than 1.5 million Oklahomans.

### *It's Oklahoma's top provider of loans for water/sewer projects*

The sale of \$75 million in revenue bonds in March continues to nourish the loan program. The recent bond issue again received Standard & Poor's AA rating, reflecting the program's maturity, good history of borrower repayments, strong management and sound underwriting standards. Loans are funded from a "blind pool" in which loans are not committed



**Seated:** Debbie Dickson, administrative assistant  
Wilma Beagle, accountant  
Angela Thompson, financial analyst supervisor  
Suzi Kyte, financial analyst  
Karen Yuan, engineer  
Jennifer Halstead, environmental specialist  
Latricia Durham, financial analyst

**Standing:** Tiger Feng, engineer  
Shelly Bacon, grant analyst  
Harold Springer, chief engineer  
Paul Hodge, assistant division chief  
Joe Freeman, division chief  
Marc Hullinger, engineer  
Manuel Phillips, financial analyst intern  
John Day, environmental specialist

**Not present:** Reese Daugherty, engineer and technical supervisor; Jalisha Booth, clerk; Laura Oak, CPA accountant.

until after the bond issuance. Money from the lending pool is used to make low interest loans to communities which meet the FAP's strict requirements.

As of June 8, the bond loan program has approved 211 loans underwriting more than \$303.6 million in water and wastewater projects in Oklahoma.

Day-to-day management of the program is handled by Freeman and his staff of 17 specialists, with oversight by the Board's Finance Committee.

## ***FAP generated \$25 million in emergency grants***

Since inception of the Financial Assistance Program in 1983, interest earned on the Statewide Water Development Revolving Fund and bond issue reserves has contributed more than \$25 million to a fund for emergency grants. The Board awards grants up to \$100,000 for sewer and water emergencies to communities that demonstrate the greatest need for the funds.

To gain eligibility, communities must exhibit conditions which "threaten life, health or property" and rank high in the priority point system carefully developed by the FA division.

With the award of two emergency grants at the June 8 Board meeting, the Board has approved 437 emergency grants totaling \$25,002,528.25. Of the total grants approved to date, 274 enabled water improvements; 162 assisted sewer infrastructure; and one contributed to a project consisting of both water and wastewater facilities.

## ***A state-federal initiative offers loans for wastewater facilities***

The Clean Water State Revolving Fund (CWSRF) loan program is one of the state's strongest and most respected funding initiatives. The U.S. EPA commends it as "a very well managed program, as evidenced by the continued good financial condition of the fund."



**Marc Hullinger, left, engineer of the Board's Financial Assistance Division, examines details of the Ponca City wastewater treatment plant, a project financed by an \$18 million loan from the Board's Clean Water State Revolving Fund program. Also pictured, Sam Blackburn, construction services administrator, and David Rankin, resident inspector, both of FHC, Inc.**

## ***Ponca City Wastewater Treatment Plant***



**Old and new facilities are shown in this view of construction at the Ponca City wastewater treatment plant. Building in foreground is the old operations building which will be replaced by the new one behind it. Structure on right is an existing digester unit undergoing renovation. Five buildings and other facilities are being added in the two-phase project scheduled for completion in August. It is designed to meet the projected needs of Ponca City for 20 years.**

As an incentive to achieve compliance with the federal Clean Water Act, the Board offers lower than market interest rates on loans to wastewater systems. The CWSRF is supported with funding from the U.S. EPA, state matching funds (generated through the issuance of debt), loan interest and principal payments, and investment earnings on CWSRF accounts at the state treasury.

This financing alternative underwrites loans to large cities and smaller entities that meet requirements of the program. Large communities often combine CWSRF funds with bond loan program funds to construct or refinance large projects. As construction loans are repaid in the large community CWSRF program, loan proceeds are used to make new loans.

The Board has approved 83 CWSRF loans totaling \$296.1 million.

## ***DWSRF targets needs of drinking water systems***

The most recent addition to round out the OWRB array of infrastructure financing opportunities is the Drinking Water State Revolving Fund program, in which the Oklahoma Department of Environmental Quality provides a prioritized list of applicants to the FA Division for funding. The Division is “banker” in the cooperative effort to provide low-interest loans to municipalities and rural water districts for the construction or improvement of drinking water treatment and distribution facilities. The first loans approved under the DWSRF initiative were those to Holdenville in August, 1998, and Cushing in September. With the able management of the FA Division, Oklahoma’s Drinking Water SRF program was the first in EPA Region 6 to close loans. Since implementation, the program has approved three loans totaling \$9.75 million.

The program is supported by \$5.5 million in appropriations by the Oklahoma Legislature to match EPA grants to the Drinking Water State Revolving Fund.

## ***REAP grants are a boon to small communities***

When the Oklahoma Legislature mandated the Rural Economic Action Plan (REAP) in 1996, its members assigned to the OWRB administration of that portion of the program that assists water and wastewater projects. The \$18 million appropriated to the program specifically targets communities with populations of 7000 or less, but awards priority to those of 1,500 or less.

In structuring the program, the legislature aimed its assistance to areas where faltering tax bases and declining populations limit economic viability. As of mid-year, 1999, the Board has approved REAP grants to 161 communities totaling \$12.5 million. □



## ***Report Notes 5-Year Water Quality Trends***

A new report, *Five Year Trends Update, 1993-1997*, charts long-term trends in Grand Lake’s water quality, based on data collected by Grand Lake Association (GLA) volunteers in Oklahoma Water Watch, a citizens monitoring program administered by the OWRB.

Derek Smithee, OWRB Water Quality Division chief, emphasized that long-term data is extremely valuable to water quality managers, environmental agencies and state leaders in making sound decisions in managing Grand Lake as an important economic resource.

Since 1992, volunteers have tested for dissolved oxygen, water clarity, pH, air temperature and water temperature, adding nitrate-nitrogen, ammonia-nitrogen and ortho-phosphate parameters in 1993 as means of monitoring the lake’s aging processes.

The report noted that volunteers sampled streams, coves and open lake areas and found most areas followed normal seasonal water quality patterns. Dissolved oxygen (DO) levels were normal and stable in most open lake locations, but somewhat lower the upper lake area.

Only a few isolated exceptions were noted in evaluating the lake’s overall clarity. A decline in water clarity can be a symptom of accelerated algae growth and sediment loading.

Sampling in some coves showed elevation in nitrate, phosphorus and ammonia levels in 1996 and 1997. Overall, results demonstrated encouraging trends in water clarity and low nutrient levels in major areas of the lake.

The report recommends additional monitoring to protect one of the state's prime surface water resources.

The Grand Lake chapter of OWW, organized in 1992, was the first in the state, and today, 50 GLA volunteers continue to collect water quality data at 37 sites. Monitors have volunteered more than 4700 hours. The group has helped to establish baseline water quality conditions, identify potential water quality concerns, determine water quality trends and promote citizen involvement in managing water quality.

Julie Cunningham, OWW coordinator, said "the GLA monitors have exceeded all we asked and sampled in all kinds of weather for five years."

At Quality Control sessions April 30-May 1, Resolutions of Appreciation were presented to Cliff Younger, Chet Long and Ted Myers.

Five-Year Outstanding Volunteer Awards were presented to Albert Hall, Virginia Seibert, L. M. Seibert, Lonnie Stover, Sr., Cecille Bales, Don Bramer and Don Roderick.

Honored for two years' service were Shirley Trout-Claybaugh, Weldon Speer, Linda Elmburg, the Wyandotte Tribe and Marion Sizemore. □



### *First Crude Oil Revenues In*

Thanks to a measure passed by the Oklahoma Legislature in the special session to deal with low crude oil prices, the Rural Economic Action Plan (REAP) was beneficiary of \$103,701. The amount contributed to REAP in June reflected earnings for May.

House Bill 1003X of the session called January 20 revamped the gross production tax collection formula and created a special revolving fund to receive oil tax revenues at such time as crude oil prices recovered. The revolving fund was earmarked for education, but included the OWRB REAP to share the revenues.

The fund is tiered with a cap of \$100 million. According to Mike Melton, OWRB assistant to the director, if crude oil prices should rise to \$20 per barrel and stay at that level for a year, the Board's REAP could be beneficiary of \$5 million.

### *New REAP Deadlines Adopted*

The Financial Assistance Division announces changes to the procedure it uses in scoring applications for Rural Economic Action Plan (REAP) grants. Changes to OWRB rules governing the program adopt a "closed cycle" that sets a Septem-

ber 1 deadline for submittal of grant applications to be considered for FY 2000 funding.

Joe Freeman, FA Division chief, said the Board had used an "open cycle" in which grant applications were continually accepted, prioritized and funded as money became available. "The disadvantage was that a community whose application scored very high in priority points and had awaited funding for a year or more could be bumped by any new application that scored even one point higher," he explained.

"The mismatch between the Water Board's "open cycle" program and the COGs' "closed cycle" program had made coordinating of project funding unnecessarily complicated, confusing and time consuming," he pointed out. "I believe this system is fairer for all REAP applicants."

REAP applications already on file with the OWRB Financial Assistance Division, as well as new ones submitted by the September 1 deadline, will be considered for funding in this cycle. Freeman says his staff is working toward the Division's goal of having those of highest priority eligible for approval by the 9-member executive Board at its November meeting, with funding when money is made available to the program January 1, 2000.

### *Value of Water Booklet Offered*

How can water planners and suppliers make better investment decisions for their water supply?

The answer may lie in the National Water Research

Institute's new publication entitled *The Value of Water*, made available without charge to decision-makers in Oklahoma through the Water Resources Board.

The document challenges the decision-maker to consider investment opportunities in a new way -- by recognizing the real value of water.

*The Value of Water* shows that the real value of water is not necessarily associated with its price or cost, but what it does to enhance the environment, economy and quality of life.

For a free copy, please call 405-530-8800 or write to the Oklahoma Water Resources Board, 3800 N. Classen, Oklahoma City, OK 73118.

### *Wister Revegetation Project Recruits Seven*



Recruited for work on the Wister Revegetation Project are, seated: Dane Evans, Matt Cogburn, Bryan Martin, Michael Gibson. Standing: Steve Hughes, Mike Green and Jared Steelman. Wick Warden and Robin Randolph of the Water Quality Division staff oversee the project.

### *Guiles Employee of the Quarter*

Lenora Guiles, an employee of the Information Services Section, was honored as Employee of the Quarter at the June 24 staff meeting. Executive Director Duane Smith commended Guiles for working quietly behind the scenes in a number of important agency programs and being a perennial volunteer in tackling tough tasks.

A graduate of Capitol Hill High School, Guiles worked in



the private sector several years before joining the Water Board's Information Services Section in January 1987.

She is a lifetime resident of Oklahoma City and the mother of an adult son, Michael.

### *A \$ Saved is a \$ Earned!*

With the Board's approval of two emergency grants in June, the total dollars awarded in emergency grants surpassed the \$25 million legislative appropriation that established the Statewide Water Development Revolving Fund in 1983. In addition to putting the powerful Financial Assistance Program in place, the seed money provided -- and continues to provide -- opportunities for grants funded from interest earnings.

Joe Freeman, Financial Assistance Division chief, announced that the grants for \$50,000 to Shell Creek RWD #12 and \$50,000 to the Keota PWA pushed emergency grant totals "over the top" to \$25,002,528.25. All the while, most of the seed money that set the Financial Assistance Program in motion remains viable to back the Board's bond issues. It continues to earn interest that accrues in the emergency grant fund to assist communities with urgent infrastructure needs.

The \$25 million in emergency grants exerts wider, more critical influence than its total would suggest, enabling \$140.2 million in total projects.

A series of bond sales backed by the fund has provided \$292 million in loans for the construction and improvement of water and wastewater infrastructure in 75 of Oklahoma's 77 counties.

## *At the June 8 Board Meeting:*

Executive Director Duane Smith updated the Board on legislation of interest and declared a very successful session, in terms of OWRB programs and appropriations. Mike Melton, legislative liaison, distributed copies and discussed results of pertinent legislation.

Joe Freeman, Financial Assistance Division chief, asked and gained approval for emergency grants to Shell Creek RWD #12 (McIntosh Co.) and the Keota PWA (Haskell Co.) The Board approved loans to the Shattuck MA, (Ellis Co.), Broken Arrow MA, Owasso PWA (Tulsa Co.) and Chandler MA (Lincoln Co.)

Rural Economic Action Plan (REAP) grants were awarded to the Town of Meridian, (Logan Co.), Temple UA, (Cotton Co.), Meeker MA, (Lincoln Co.), RWD #5, (Adair Co.) and the Town of Tyrone, (Texas Co.)

Planning and Management Division chief Mike Mathis asked approval of two temporary and five regular permits and amendment to one temporary groundwater permit. Three regular permits were issued for stream water use. Water well driller/pump contractor licenses were issued to Mike Buse, Turn Key Drilling; and Leroy Ledford, Ledford Pump Service. Contracts for Financial Assistance under the Statewide Rural Energy and Water Conservation Program were extended for 12 entities.

The Board voted to reconsider action, vacate the Board Order and withdraw the permit for water use issued to Seaboard Farms, Inc., at the May Board meeting. The Board asked staff to hold hearings to gather additional information and return with recommendations to the Board in August. Hearings were scheduled at the High Plains Vo-Tech in Woodward at 10 a.m. June 28.

The Board elected these officers for the upcoming year: Lonnie Farmer, Davidson, chairman; Richard Sevenoaks, Tulsa, vice-chairman; and Grady Grandstaff, Oklahoma City, secretary. □

### FINANCIAL ASSISTANCE PROGRAM UPDATE

Approved at May & June, 1999

#### Board Meetings

##### FAP Loans

1999 Bonds; 30-year maximum term - Variable or Fixed Rate

Comanche Co. RWD #2 .....	\$ 1,045,000.00
Broken Arrow MA .....	\$ 1,910,000.00
Chandler MA .....	\$ 3,000,000.00
Muskogee MA .....	\$ 4,300,000.00
Owasso PWA .....	\$ 570,000.00

##### CWSRF Loans

Broken Arrow MA .....	\$ 1,128,000.00
Broken Arrow MA .....	\$ 945,000.00
Muskogee MA .....	\$ 2,164,800.00
Owasso PWA .....	\$ 931,609.92
Shattuck MA .....	\$ 500,000.00

##### Emergency Grants

Pushmataha Co. RWD #3 .....	\$ 44,506.00
Town of Commerce .....	\$ 48,000.00
Town of Davidson .....	\$ 56,780.00
Garfield Co. RW,SD #5 .....	\$ 100,000.00
McIntosh Co.,Shell Creek RWD #12 .....	\$ 50,000.00
Town of Keota .....	\$ 50,000.00

#### TOTALS AS OF JUNE 8, 1999

<b>APPROVED Amount</b>	<b>FAP Loans - 211</b> \$303,685,000.00	<b>CWSRF Loans - 83</b> \$296,103,876.38
<b>APPROVED Amount</b>	<b>Emergency Grants - 437</b> \$25,002,528.25	<b>REAP Grants - 161</b> \$12,570,406.60
<b>APPROVED Amount</b>	<b>DWSRF Loans - 3</b> \$9,753,675.00	<b>Hardship Grants - 2</b> \$1,038,752.30



# OKLAHOMA WATER NEWS

*Bimonthly Newsletter of the Oklahoma Water Resources Board*



*from  
the desk  
of the  
Director*

*Duane A. Smith*

It has been my privilege this summer to meet with the Choctaw and Chickasaw tribes, legislators and local leaders in the Kiamichi River Basin to cooperate in drafting a plan for developing the water resources of the region. House Concurrent Resolution 1066 of the 1999 Legislative Session illuminated specific goals and set a February 2000 deadline for submittal of the Kiamichi River Basin Water Resources Development Plan to the Senate and House of Representatives.

HCR 1066 set out these six "Cornerstone Principles."

**(1) Implement a lake level management plan** that will protect fishery and recreational interests by gradually increasing water levels to approximate normal elevation in early spring (March 1-31); maintaining stable or slightly increased levels April-August; and reducing level (but limiting drawdown to less than four feet) September-February to allow revegetation of shoreline habitat.

**(2) Protect future local use of water** by setting aside 20,000 acre-feet of Sardis water supply for future local use and/or economic development.

**(3) Optimize water and wastewater financing opportunities** by investigating options to finance infrastructure and develop local regional water supplies.

**(4) Address obligation for federal construction costs** and repayment of construction costs according to terms of the Sardis Reservoir (water supply) Contract.

**(5) Protect present and future needs** of the Kiamichi River Basin.

**(6) Protect the integrity** of the Kiamichi River.

Local interests and Choctaw and Chickasaw representatives agreed to extend the "Cornerstone Principles" to the lower basin region which includes Hugo Lake. The group aims to develop a Hugo Lake Management Plan, address wildlife management issues, negotiate payment by the Hugo Public Works Authority on its storage contract with the U.S. Army Corps of Engineers, and ensure an adequate future water supply.

This is an intimidating task to accomplish by February 1, 2000, but the Water Resources Board, Choctaw and Chickasaw tribes and local people involved at the conference table are enthusiastic, dedicated and optimistic that we will submit to the Legislature a landmark strategy that will satisfy all parties.

It is my extreme pleasure to work with this group. □

## Oklahoma Water 2000: Blueprint for the Future Theme of Nov. 17 Governor's Water Conference

*20th Annual Conference spotlights water for the millennium:  
secure supplies, good quality, futuristic financing strategies*

When the 20th Annual Governor's Water Conference opens on Wednesday, November 17, in Oklahoma City, the Water Resources Board and 30 other sponsors will present an agenda that foresees the future for water in Oklahoma. A parade of experts will predict water availability and demand, water quality and infrastructure financing strategies ahead in Year 2000.

The conference, entitled "Oklahoma Water 2000: Blueprint for the Future," will be held at the Clarion Meridian Hotel and Conference Center, 737 South Meridian.

The conference will begin with registration at 8 a.m. and opening remarks by Water Board Chairman Lonnie Farmer at 8:30 a.m. Lieutenant Governor Mary Fallin is invited to welcome conferees.

Anticipating the availability and quality of 2000 water supplies will be the concern of a panel of experts representing rural, municipal and regional water suppliers. Invited panelists are Gene Whatley, Oklahoma Rural Water Association; Chuck Thomas, Stillwater city commissioner; John Ward, Oklahoma Association of County Commissioners; and Zach Taylor, Association of Central Oklahoma Governments.

Federal agency heads are invited to speak in a panel projecting programs in Oklahoma in the twenty first century. Invited are Kathy Peter, District Chief, U.S. Geological Survey; Col. Leonardo V. Flor, District Engineer, U.S. Army Corps of Engineers; Larry Caldwell, State Conservation Engineer, Natural Resources Conservation Service; and Donald Moomaw, Deputy Area Manager, Bureau of Reclamation.

Carroll Fisher, Oklahoma Insurance Commissioner, will describe the insurance industry's support of the innovative hail suppression/weather modification activities set out in Senate Bill 101 of the 1999 Legislative Session. Before his election, Fisher has owned an insurance firm, taught insurance classes at Tulsa Junior College and been honored with many industry awards.



*Carroll Fisher*

In mid-morning ceremony, all Rural Economic Action Plan (REAP) grants for entire FY 2000 will be announced. Participating legislators and officials of cities, small towns and rural water districts will be recognized. REAP is an initiative of the 1996 Legislature to assist small communities and rural areas in improving water and wastewater infrastructure as means of stimulating economic development.

Invited for a return engagement at the Governor's Water Conference is Gregg Cooke, EPA Region 6 administrator, who will predict water quality trends. Cooke has practiced environmental law and served as assistant attorney general of Texas.

Chief Greg Pyle of the Choctaw Nation and Duane Smith of the OWRB, both of whom participate in designing a plan of development for the Kiamichi River Basin, will discuss cornerstone principles mandated by the Oklahoma Legislature. Smith will present an interactive GIS-based program on water resources of the Kiamichi Basin.

Luncheon speaker will be attorney Carolyn Richardson, Director of Environmental Advocacy for the California Farm Bureau Federation. The Federation challenges the authority of the EPA in regulating agricultural nonpoint sources under 303(d) of the Clean Water Act.

The Oklahoma Congressional Delegation, Speaker Loyd Benson, Rep. Randall Erwin, Sen. Mark Snyder and Sen. Rick Littlefield are also invited to address the luncheon session.

A tradition in closing the conference will be presentation of Oklahoma Water Pioneer awards recognizing the lifetime achievements of individuals in the planning, development, conservation and protection of Oklahoma's water resources.

Registration for the Governor's Water Conference costs \$30. For information, call Mary Whitlow, conference coordinator, at 405-530-8876. To register, call Mary Nell Brueggen at 405-530-8849.

To make room reservations at the special conference rate of \$59, single or double, call the Clarion Meridian Hotel and Conference Center at 405-942-8511 before November 8.



**REGISTRATION**

**Governor's Water Conference**  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118

Please enclose **\$30** check or purchase order payable to **Oklahoma Water Resources Board**

Name \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Zip \_\_\_\_\_ Phone ( \_\_\_\_\_ ) \_\_\_\_\_ - \_\_\_\_\_

## 3-Year Study of Ogallala Aquifer Completed

In an effort to better understand the hydrology of the Ogallala Aquifer in northwestern Oklahoma and portions of Kansas and Texas, the OWRB cooperated in a study by the U.S. Geological Survey. Since development of the Ogallala Aquifer for irrigation in the 1940s, water levels have declined sharply in small areas of Texas County where the aquifer is thickest, Richard R. Luckey told members of the Oklahoma Water Resources Board at the August 10 meeting. Lesser declines were noted in Cimarron County. Luckey is a hydrogeologist with the U.S. Geological Survey, who along with Mark F. Becker, recently completed a 3-year study of the Aquifer.

Only a small area of Beaver County demonstrated declines greater than 10 feet and Ellis County registered rises of more than 10 feet.

These findings emerged from the cooperative OWRB-USGS study of the aquifer to develop a groundwater flow model which will assist the Water Board in managing water supplies in the region.

Duane Smith, OWRB executive director, said public hearings on the study findings will be scheduled soon to allow input into the maximum annual yield and equal proportionate share determinations.

The area under scrutiny consists of 7,100 square miles in Oklahoma, a sector producing crops and livestock valued at \$4.5 billion. Annual water use amounts to 396,00 acre-feet, with Texas County accounting for 217,000 acre feet; Cimarron County, 70,000 acre-feet; and Beaver County, 41,000 acre-feet.

Irrigation accounts for 93 percent of total water use; livestock watering, approximately five percent. Oklahoma Ogallala areas east of the Panhandle were estimated to use 68,000 acre-feet per year. The saturated thickness or water producing zones of the sedimentary formations which make up the aquifer, ranges from 400 feet to less than 50 feet, averaging 125 feet in the study area. Luckey pointed out that the arid region receives little rainfall for recharge, estimated to be 4.0 percent of the precipitation in greater recharge zones and 0.37 percent of precipitation in lesser recharge zones. Because discharge exceeds recharge, groundwater storage is expected to follow current trends to 2020.

Luckey said the computer model forecast additional decline over some areas of Texas County, if current pumping rates are maintained. Water levels are simulated to remain stable or increase in much of Cimarron, Beaver and Ellis Counties.

“Previous studies indicated that Oklahoma portions of the aquifer would be dry by the year 2020,” Smith pointed out. “These are very encouraging results, and credit must go to the irrigators for increased efficiency in irrigation systems and methods.” He said groundwater withdrawn for irrigation has decreased one-fourth in the last three decades.

The USGS model also predicted declines of more than 100 feet in some areas in Kansas, 50 to 100 additional feet in several areas of Texas. □



*Richard R. Luckey*



### ***Water Rights Undergo Review***

Mike Mathis, Planning and Management division chief, announced that the Board’s periodic review of stream water permits will begin in September.

Letters to permit holders who have not used their full allocation of surface water once in a 7-year period will ask for voluntary cancellation or reduction of their allotment to reflect actual use. Mathis pointed out that

there is a waiting list for stream water allocations in some water-short areas of the state.

Permit holders who reported no water use or use of less water than allocated, but choose to retain their water right, will be offered an opportunity to schedule a hearing in the nearest OWRB Field Office.

### ***Currie Appointed to Board***

Governor Frank Keating announced the appointment of Harry Currie, Oklahoma City business owner, to the Oklahoma Water Resources Board. Currie will serve a 7-year term, replacing former Board Chairman J. Ross

Kirtley of Kingfisher.

Currie, owner and president of a bag manufacturing firm, is a member of the Oklahoma Community Sentencing Council,



*Harry Currie*

trustee and elder of the Del City Christian Church and former 2-term mayor of Del City. He has served as president of the Del City Chamber of Commerce and Kiwanis, member of the Oklahoma Mental Health Board and member of the Midwest City

Regional Medical Center Board of Trustees.

Currie is a graduate of Oklahoma State University and owns farming and ranching interests. He and his wife, Joan, have two adult children.

### ***Brochure Named to ALA List***

The American Library Association (ALA) recently recognized an Oklahoma publication as a “notable document” on its list of outstanding publications from 43 state and federal government sources. “Conserving Oklahoma’s Water,” a brochure published by the Oklahoma Water Resources Board, made the elite list compiled annually by the Notable Documents Panel of ALA’s Government Documents Round Table (GODORT.) Nominations to the list are made by librarians throughout the U.S. It was one of only six publications by state entities recognized throughout the nation and one of two from Oklahoma, the other being the Oklahoma Department of Libraries website.

The 25-page full-color brochure was written by Brian Vance of the OWRB Planning and Management staff, with graphic design by James Leewright and photography by Barry Fogerty. The booklet describes activities to reduce water demand and improve efficiency. It tells how to estimate how much water is used in an average home and how to use less. Homes, businesses, industry and public facilities can use the tips in the booklet to save water and reduce water bills.

According to Duane Smith, OWRB executive director, it is the third time a Water Resources Board publication

has been recognized by the prestigious ALA Round Table. Earlier, the “Oklahoma Water Atlas” and “Update of the Comprehensive Water Plan, 1995”, were named to the Notable Documents list.

The selections are considered by the ALA to be commendable documents less known outside their target audiences and of interest to many readers.

“Conserving Oklahoma’s Water” is free and available at OWRB offices at 3800 N. Classen, Oklahoma City, by calling (405) 530-8800, or on the web at [www.state.ok.us/~owrb](http://www.state.ok.us/~owrb).

### ***Fish-Friendly Turbines Coming?***

Hydroelectric turbines that could virtually eliminate fish kills are being tested by the Corps of Engineers.

The first fish-friendly turbines will be tested at Bonneville Dam on the Columbia River near Portland, OR. Cost for the prototype turbine is estimated to be \$1.7 million, with subsequent models costing \$1.2 million.

The new turbines will be about six percent more efficient than older models, so they are expected to pay for themselves. More water through turbines and less over the spillway will increase power production by 25 percent.

Additionally, the new design reduces the chance that fish can slip by the blades and get caught in a pressure change. The plan calls for 100 percent survival. There are only five blades on the new engines, compared to six on previous models.

### ***Board Offers Two Reports***

Two new reports, “Groundwater Level Changes in Oklahoma 1978-1998” and “Hydrologic Investigation of the Red River Basin”, are now available from the Oklahoma Water Resources Board, according to Librarian Susan Birchfield.

Ground Water Changes is a result of 20 years measuring static water levels in 750 observation wells throughout Oklahoma. Emphasis of the network has been in high groundwater use areas. The aquifers most heavily monitored by the Board are the Ogallala, Rush Springs and alluvium and terrace deposits of the Cimarron River, North Canadian River and the North Fork of the Red River. The publication authored by OWRB Geologist Mark Belden is illustrated with color maps, along with pertinent graphs and tables.

Groundwater Level Changes in Oklahoma 1978-1998 costs \$10.

Hydrologic Investigation of the Red River Basin

compiles in one volume data gathered in 11 hydrologic investigations of stream systems that contribute flow to the Red River. Author of the report is Saji Varghese, hydrologic engineer. It is available for \$5.

Both reports are available by writing to the Oklahoma Water Resources Board, 3800 N. Classen, Oklahoma City 73118, or by calling 405-530-8800.

### ***Water Rights, Well Logs Imaged***

A futuristic leap in technology is underway at the Water Resources Board as members of the Planning and Management Division and Information Services Section prepare some 670,000 paper pages for imaging. Water rights permits and well logs will be stored on optical platters that hold 5.2 gigabytes (GB) each. Jann Hook, who oversees the project, says OWRB permits, well logs and other imaged documents will require some 34 GB of storage.

The project has been assisted by Jann Hook, Phyllis Robertson, Bob Sanbo, Susan Birchfield, Tori Sherrer, Jim Summers, Mike Albano, Mary Nell Brueggen, Cathy Poage, Lenora Guiles and Pat Kirkpatrick.



***Cathy Poage of the Woodward Office and Lenora Guiles prepare water rights files for imaging.***

### ***Cherokee Port Organized***

The new Cherokee Nation Port Authority held its first meeting recently in Tahlequah, according to Charles Gourd, administrator.

The industrial complex planned on 1000 acres of land along the McClellan-Kerr Arkansas River Navigation System could create 1500 jobs in the next 10 years, Gourd pointed out. The port site is on land placed in trust with the Department of Interior by the U.S. Army Corps of Engineers.

The Cherokee Nation also received a towboat surplus by the Corps.

Gourd said it will take three to five years to develop the infrastructure for an industrial complex similar to the Ports of Muskogee and Catoosa.

John Sparlin of the Corps and Glen Cheatham, Jr. of ODOT's Waterways Branch, and the ports have worked closely with the Cherokee Nation in laying groundwork.

Elected members of the Cherokee Nation Port Authority are B.J. Drummond, Tulsa business owner; Michael Hathaway, Washington, D.C. attorney; Dick Mayo, Sallisaw newspaper publisher; Jess Sixkiller, Phoenix economic development consultant; and George Underwood, former Tulsa University accounting professor.

### ***Have a Drink, Rover***

Perhaps a sports drink for dogs, similar to Gatorade for their owners, is the ultimate in pet pampering. According to U.S. Water News, an entrepreneur with a nauseous dog was told by the vet to feed the canine Gatorade to settle the pet's stomach.

Next followed a year and a half of research by the entrepreneur to find out what kind of sports drink would be healthy and tasty for dogs. He spent time with dogs and dog owners, humane societies and dog clubs to hit upon a palatable formula for the pets. The end result is "Rebound," the first sports drink for dogs.

A K-9 unit policeman credits it with providing his dog more energy and stamina and helping the dog to snap back when he was sick by replacing vitamins and minerals.

Vets, on the other hand, are reluctant to proclaim any scientific benefit, declaring dogs must first have a healthy diet with exercise.

### ***Less is More in Viticulture***

A study pioneered by a Washington state wine grape grower suggests that less may be more in the case of irrigation of grape crops. In six years of testing, Columbia

Crest Winery in dry south-central Washington state noted that less irrigation early in the season reduced labor, decreased pests and helped fruit ripen earlier.

It was an important step for a regional wine industry that's considered a youngster on the world scene.

In recent years the winery has reduced annual water use by 375 million gallons, saving \$30 million without compromising quality. Winery researchers, with the cooperation of Washington State University, found limiting water early in the season reduces leaf growth, which allows more sunlight to reach the fruit and saves

hours in vine trimming.

Before the study, protocol was to irrigate early in the year and cut back after bloom, so the fruit could ripen.

During the experiment, 64 acres of Sauvignon Blanc grapes were divided into sections and watered on different schedules -- from low water all season to lots of water all season. Low early-season watering resulted in fewer leaves and grapes with better flavor and color. Tasters agreed the practice translated into wines of fuller body and more attractive color.



### *Wes Watkins Lake, Dr. Joe Taron Dam Dedicated*

In ceremonies August 9 attended by namesake, Congressman Wes Watkins, the Watkins Reservoir was dedicated northwest of Shawnee. The Pottawatomie County Development Authority, Shawnee Conservation District and the Natural Resource Conservation Service (NRCS) cooperated in the development of the multipurpose reservoir which will provide water supply to Shawnee, Tecumseh and other communities and rural water districts, recreation, and flood protection to the area. The reservoir is impounded by Dr. Joe Taron Dam on North Deer Creek.

The lake has been stocked by the Oklahoma Department of Wildlife Conservation but a "catch and release" policy is in place. The lake area features special jet ski and water skiing areas away from fishing areas, 29 recreational vehicle hookups, 33 primitive camp sites, 40 picnic sites, three boat ramps and three courtesy docks.

Mike Melton, assistant to the director, and Terri Sparks, OWRB planner, attended the afternoon dedication ceremony held at a park on the north side of the reservoir. □



*Attending the dedication were Pottawatomie County Development Authority Trustees Max Hunt, Jean Shannon, Terry Powell, Congressman Wes Watkins, Trustee Karl Kozel, John Mueller, NRCS; Dr. Joe Taron, Trustees Curtis Stanford and Bruce Drawdy.*

## ***Ardmore Boy Scout Troop 5 Harvest Aquatic Plants for Wister***

Boy Scout Troop 5 and their adult leaders from Ardmore recently assisted in the effort to restore the water quality in Lake Wister by harvesting bulrushes in Lake Murray for transplant in Lake Wister.

OWRB Water Quality specialists had determined turbidity and nutrient problems were caused by inflow of poor quality water, wind-driven waves constantly churning sediments and fluctuating water levels. Paul Koenig, Robin Randolph and Wick Warden of the OWRB, along with seasonal employees and volunteers, began a two-pronged effort to quiet the shallow waters.

Thousands of native aquatic plants harvested from other Oklahoma lakes were transplanted in the shallow waters and mud flats along the shore. A barrier of sturdy and environmentally friendly hay bales was constructed across the Lewis Creek Arm of the lake to protect the shoreline from buffeting by waves.

According to local authorities, some 2,000 pounds of sediments are removed daily at the water treatment plant that supplies water to 40,000 residents of LeFlore County.



***Ardmore Boy Scout Troop 5 and adult leaders volunteered to harvest aquatic plants from Lake Murray to transplant at Lake Wister.***



## ***Feds to Cut Aid to Repetitive Flood Claims***

As costs to repair flood damaged properties skyrocket, the federal government is trying the carrot and stick approach to get people to move to higher ground -- out of harm's way.

The carrot approach offers to buy repetitively flooded properties and relocate owners or commending communities who have made strides in disaster prevention. The Federal Emergency Management Agency lends technical support to cities and towns enrolled in Project Impact, an initiative encouraging towns to become disaster resistant.

Those are the "carrots."

The stick is FEMA's recent announcement that it will cut off federally subsidized flood insurance to those with a history of losses and increase premiums for those who choose to live in high-risk areas.

The proposal is part of FEMA's new focus on preventive rather than after-the-flood assistance. FEMA points out that 35,000 properties that are still in the National Flood Insurance Program have filed claims at least twice, costing the feds more than \$200 million a year.

In a recent report the National Wildlife Federation found

that, although repetitive loss properties are only two percent of all property in the federal insurance program, they receive 40 percent of its payouts.

In Illinois, where 30 of the nation's top 300 flood loss communities are located, 200 homes have collected more in insurance payments than they are worth.

Under FEMA's plan, flood insurance would no longer be provided to homeowners who have filed two or more claims that total more than the value of their home and who refuse to either elevate or accept a buyout. FEMA also wants to charge fair-market rates to people who live in high-risk areas, instead of the lower subsidized rate now available.

The agency hopes to save up to \$1 billion by 2010. Although there is no target date for enactment of new rules, FEMA plans to present them for congressional approval next year. People in floodplain areas will think FEMA's stand is harsh, but the agency counters that if you make the decision to live in flood-prone areas, you should not make taxpayers pay for that decision.

## *At the August 10 Board Meeting:*

In opening remarks, Executive Director Duane Smith reminded Board members and staff that, at the invitation of Board Chairman Lonnie Farmer, the September Board meeting will be held in Frederick, at Southwest Bank at 9:30 a.m. Smith announced that conflicts make it necessary to reschedule the 20th Annual Governor's Water Conference in Oklahoma City on November 17, instead of October 13, as previously announced.

Joe Freeman, Financial Assistance Division chief, asked and received approval for an emergency grant of \$19,295 to Hobart Public Works Authority and a \$3.5 million State Revolving Fund loan to Stilwell Area Development Authority.

Water Quality Division Chief Derek Smithee presented an overview of the division's programs and activities, emphasizing the effort invested in the Beneficial Use Monitoring Program mandated by the legislature.

Richard Luckey, U.S. Geological Survey hydrologist summarized findings of a 3-year USGS study of the Ogallala Aquifer underlying the Panhandle and some western counties. Luckey projected some declines in water levels in Oklahoma; significant declines in areas in Kansas and Texas.

Mike Mathis, Planning and Management chief, asked and received approval for eight temporary permits and one regular permit for groundwater use; amendments to four. The Board denied the application for a temporary permit for groundwater use by Seaboard Farms, Inc., Beaver County, citing the 3-mile setback rule approved by the Legislature in May. The Board approved two regular permits for the use of stream water. Applications for Driller/Pump Contractor licenses were approved for Mark E. Holden, Woods

Pumping Service, Inc.; John Mark Bates, Clear Water Drilling; Robert Edwards, Sage Water Well Drilling; Justin McDaniel, Nipp Pump Service. ☐

### FINANCIAL ASSISTANCE PROGRAM UPDATE

*Approved at July & August, 1999  
Board Meetings*

#### FAP Loans

1999 Bonds; 30-year maximum term - Variable or Fixed Rate

Noble Co. RWD #2 .....	\$ 520,000.00
Enid MA .....	\$ 2,510,000.00

#### CWSRF Loans

Enid MA .....	\$ 1,374,000.00
Stilwell DA .....	\$ 3,540,000.00
Warner UA .....	\$ 258,000.00

#### DWSRF Loans

Clinton PWA .....	\$ 644,000.00
El Reno MA .....	\$ 4,690,571.90

#### Emergency Grants

Noble Co. RWD #2 .....	\$ 100,000.00
Hobart PWA .....	\$ 19,225.83

#### REAP Grants

Tillman Co. RWD #1 .....	\$ 135,273.00
Locust Grove PWA .....	\$ 91,000.00
Osage Co. RWD #5 .....	\$ 39,900.00
Whitefield MIA .....	\$ 80,000.00
LeFlore Co. RWD #17 .....	\$ 99,000.00
Town of Ames .....	\$ 110,500.00
Hammon PWA .....	\$ 134,003.00

#### TOTALS AS OF AUGUST 10, 1999

<b>APPROVED Amount</b>	<b>FAP Loans - 213</b> \$306,685,000.00	<b>CWSRF Loans - 85</b> \$300,798,218.87
<b>APPROVED Amount</b>	<b>Emergency Grants - 439</b> \$25,147,118.08	<b>REAP Grants - 168</b> \$13,323,345.60
<b>APPROVED Amount</b>	<b>DWSRF Loans - 5</b> \$15,088,246.90	<b>Hardship Grants - 2</b> \$1,038,752.30



# OKLAHOMA WATER NEWS

*Bimonthly Newsletter of the Oklahoma Water Resources Board*



*from  
the desk  
of the  
Director*

**Duane A. Smith**

In mid-November, the Water Resources Board held the most successful Governor's Water Conference in the 20-year history of the event. Attendance was approximately 425 and, for the first time, included officials and legislators representing 53 communities that will be awarded Rural Economic Action Plan (REAP) grants in FY 2000. The conference welcomed citizens from all parts of Oklahoma, representatives of state and federal agencies and many others to a program of exceptional speakers and topics. The Water Board is fortunate to have loyal and active sponsors, as well as a staff that takes pride in producing a memorable conference.

As I write this, we are completing a series of public meetings throughout the state to collect public opinion concerning proposed rules and regulations. It was a pleasure to visit with interested folks and friends in Altus, Guymon, Woodward, Tulsa and McAlester.

We have been working hard to prepare a legislative agenda setting out priorities and identifying issues the Water Board believes important to be addressed in the upcoming session of the Oklahoma Legislature.

It is, indeed, a busy time of year.

But year's end also presents us an opportunity to reflect on a blessed year. On behalf of the Board, OWRB staff and myself, I send warmest wishes for a happy holiday season.



## *Conference Projects Millennium Water Supplies, Quality Issues*

***Keynoter downplays agriculture's role in pollution; declares EPA standards arbitrary, unattainable***

The Environmental Protection Agency oversteps its authority in regulating agricultural runoff, Carolyn Richardson, California Farm Bureau Federation attorney, told 425 attendees of the Governor's Water Conference November 17. She said the EPA is engaging in a regulatory experiment that could destroy the agricultural economy. "The standard for Total Maximum Daily Load (TMDL) – the amount of nonpoint source pollutants in water – makes

***Keynoter Carolyn Richardson, California Farm Bureau Federation, is interviewed by reporters following her address concerning regulation of nonpoint sources.***



compliance impossible.” Nonpoint source pollutants include sediment in rain runoff from fields. Richardson said the states normally set TMDL levels, but the EPA has forced states to allow the federal government to set the standards instead.

“The EPA claims 70 percent of surface pollution can be traced to agriculture, but the record needs to be set straight,” Richardson said. “A more accurate figure is, at most, 4.6 percent and the pollutant is soil from erosion. Agricultural officials have worked for 60 years to successfully reduce the problem.” She pointed out that the Journal of Science recently published a study that examined 140 years of data on California watersheds. The study found that soil erosion and related pollution peaked in the 1920s. By the 1970s, erosion was only at six percent of the 1920s peak and it has remained at that level ever since. Richardson sees voluntary efforts as the means to achieve the results, instead of switching to a costly, heavy-handed regulatory regime to fight pollution.

Federal law deals only with point source pollution, she noted. The government has spent \$100 billion over 27 years and has successfully controlled it. Now, EPA wants to combat non-point sources with arbitrary regulations instead of money, claiming authority through the federal Clean Water Act. Richardson pointed out.

Sharing the conference keynote slot was Gregg Cooke, EPA Region 6 administrator. He stated his agency is attempting to make application of water quality standards consistent from state to state. He said each state has interpreted federal mandates differently, leading to vast inconsistencies in the way water pollution problems are solved.

Mid-morning panels examined issues facing state and federal organizations in the 21st century. Then Oklahoma Insurance Commissioner Carroll Fisher sketched the Commission’s support for cloud seeding as means to replace damaging hail with beneficial rainfall. OWRB Executive Director Duane Smith briefed the conference on initiatives to promote economic development and enhance water supplies in southeastern Oklahoma’s Kiamichi River Basin.

The luncheon program included an address by Larry Watkins,

general manager of the Electric Cooperatives of Oklahoma, who compared boundary disputes between rural water districts and municipal suppliers with problems experienced in supplying power to outlying areas.

Water Pioneer Awards recognized three Oklahomans outstanding in their efforts in developing, protecting and conserving the state’s

waters. They were Sidney D. Williams, Stillwater attorney instrumental in the development of rural water legislation; the late Jimmie Pigg, Moore teacher and environmentalist; and the late James Eddie Phillips, Faxon soil conservationist and university professor.



*OWRB Executive Director Duane Smith, Water Pioneer Sid Williams, Anna Belle Williams, wife; Marilyn Wilson, daughter; Jennifer Edwards, granddaughter; Anna Maria Johnson, daughter*



*Col. Michael Phillips, son; Polly Belle Krasser, daughter, and Mrs. James Eddie Phillips accept award honoring the late James Eddie Phillips from OWRB Executive Director Duane Smith.*



*Robert Gibbs receives award on behalf of his friend, the late Jimmie Pigg.*

*Some of the speakers, guests and workers at the 20th Annual Governor's Water Conference.*



*Harvey Thomason, Altus-Lugert Irrigation District; Sen. Robert M. Kerr; Donna Kirby, Altus-Lugert Irrigation District; Rep. David Braddock*



*Gregg Cooke, EPA Region 6 Administrator, Marla Peek and Sam Knipp, Oklahoma Farm Bureau*



*Insurance Commissioner Carroll Fisher*



*Gerald Borelli, Kingfisher; Nat Alea Hile, OWRB; Carolyn Schultz, OFMA*



*Ron Jarman, Environmental Federation of Oklahoma; Jon Craig, Department of Environmental Quality, Bill Howard, School Land Commission*



*Mary Nell Brueggen, Latricia Durham, Wilma Beagle, OWRB, assist registrant.*



*Dr. Joe Taron, Pottawatomie County Development Authority; Julie Cunningham, Oklahoma Clean Lakes Association*



*Derek Smithee, OWRB; Gil Luton, Environmental Federation of Oklahoma, Duane Smith, OWRB*



*Ronn Cupp, State Chamber of Commerce; Dean Couch, Mary Schooley, OWRB*

For the first time, the announcement of all Rural Economic Action Plan (REAP) grants for FY 2000 was included as part of the agenda. Changes to the REAP program in the last legislative session allowed for setting the closing date for grant applications to September 1, enabling the announcement of 53 REAP grants totaling \$4.4 million. (See page 6.)



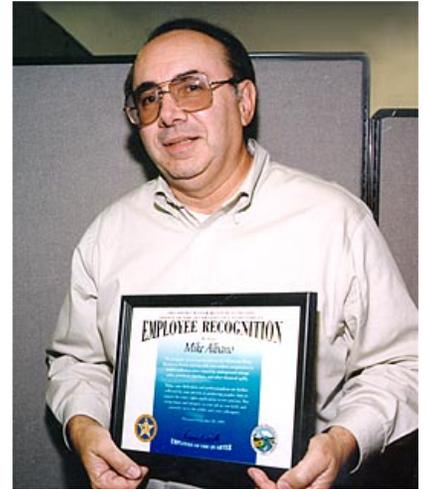
## *Albano Employee of the Quarter*

Mike Albano was named Employee of the Quarter by his co-workers and friends at the OWRB. He was presented with a plaque and other rewards at a staff meeting held September 29 and honored again at the October meeting of the Oklahoma Water Resources Board.

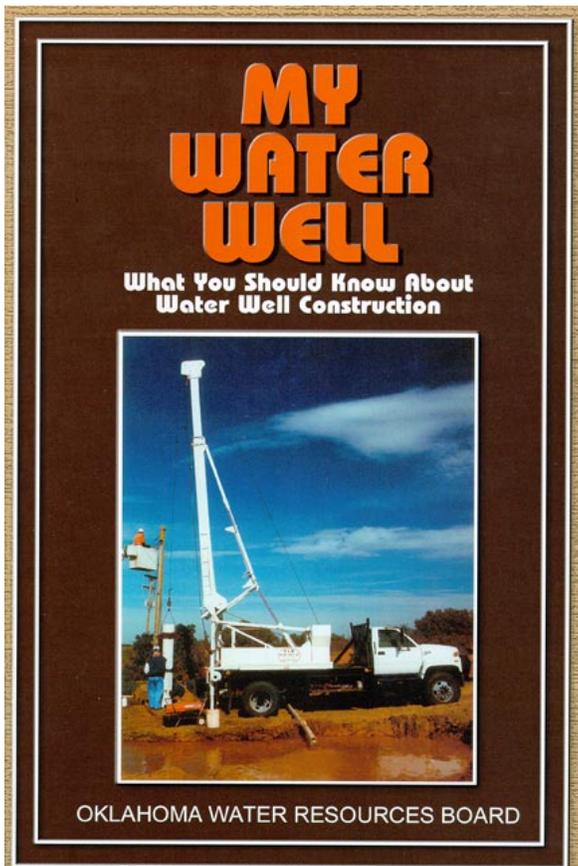
Executive Director Duane Smith praised Albano's skills in dealing with customers of the Board fairly and in a forthright manner. He noted that Albano has continually upgraded his computer skills in the area of Geographic Information Systems (GIS) to utilize the technology in making himself more useful and efficient in his position in the Permitting Section of the Planning and Management Division.

Albano holds bachelor's and master's degrees in geology from Oklahoma University.

"His quiet and knowledgeable way of doing his job assures customers they are dealing with a professional who will interpret water law in a most equitable fashion," Smith said.



## *New Water Well Book Available*



Gary Glover, coordinator of the OWRB Driller/Pump Contractor Program, announces a new publication offered free to Oklahoma water users. The publication, *My Water Well: What You Should Know About Water Well Construction*, explains the state's program for water well drillers and pump contractors, what landowners should know before constructing a well, how to protect the well from contamination and offers many other helpful tips.

For a free copy, write the OWRB at 3800 N. Classen, OKC 73118, or call 405-530-8800.

# THE FLOOD CURRENT

NOVEMBER - DECEMBER 1999

## *OFMA Celebrates Legislation, Certification in 1999*

*Notes from the desk of Ken Morris, CFM, Oklahoma NFIP Coordinator*

What an eventful year for floodplain management in Oklahoma! The Oklahoma Floodplain Managers Association (OFMA) extends special thanks to Charles Don Ellison, Harold L. Springer and Carol Williams for realizing early on the importance of such an organization.

Although Oklahoma did not experience any devastating flood disasters in 1999, floods at Blackwell and Miami inflicted significant damage in November, 1998. In Blackwell, 365 homes were damaged by floodwaters and Miami suffered many losses. OFMA worked hard to set in place a mechanism to buy out homes with histories of repetitive flood damage. House Bill 1841, authored by Sen. Kevin Easley, Sen. Sam Helton and Rep. Larry Rice, created a landmark flood mitigation program.

OFMA will be challenged in 2000 to obtain legislative approval for long-term funding to support this important initiative.

The Ninth Annual OFMA Training Conference at Lake Murray Lodge attracted 85 people, including Region VI Director Buddy Young, who made opening remarks, and Larry Larson, executive director of ASFPM, Inc. At the conclusion of the conference, OWRB hosted an 8-hour floodplain management workshop, replacing the workshop canceled by the May 3 tornados.

Of the 32 who attended the workshop, seven had been pre-approved to take the OFMA Certified Floodplain Manager exam. Congratulations are in order for Nancy Wade, Bartlesville; Robert Tortorelli, Oklahoma City; Floyd Hansen, Woodward, Stephen Seikel, McLoud; Terry Thurman, Del City; Jim Leach, Tulsa; and James Roberts, Stilwell, who passed the exam.

OFMA is grateful to the Board of Directors who appointed a Professional Development Certification



*Midwest City Engineer Stuart Chai was recognized as Oklahoma Floodplain Manager of the Year and received the award from Ken Morris.*



*Paul Zachary, former OFMA chair, presents speaker gift golf shirt to FEMA Representative Lonnie Ward at the Lake Murray conference.*

Committee to pursue attaining certification for Oklahoma's program. Members of the committee are Eric Wiles, Joe Remondini, Ron Flanagan, Cliff Pitner, Carolyn Schultz, Nancy Kennedy and Ken Morris. For many months, the PDCC worked closely with the ASFPM in revising and strengthening the program and won certification by the national organization.

As a result, Oklahoma floodplain managers will have an opportunity to be Certified Floodplain Managers and write the CFM designation after their names.

All materials for the program are available on the OFMA website: [www.sirinet.net/ofma](http://www.sirinet.net/ofma) and may be downloaded with Adobe Acrobat.

Applicants must submit a completed application and \$25 fee to OFMA, P.O. Box 8108, Tulsa, OK 74101-8101. Applicants must have a high school diploma or GED, two years experience in floodplain management and membership in OFMA.

The PDCC will review all applications and notify applicants concerning testing. The next opportunity to take the exam will be January 14 at the University of Oklahoma Adult Education Center at the conclusion of the 5-day NFIP workshop. For more information, call the OWRB at 405-530-8800 soon.



*Past PDCC members Cliff Pitner, Vice-Chair Joe Remondini, Ron Flanagan, Nancy Kennedy, Chairman Ken Morris, Carolyn Schultz, and Secretary Eric Wiles.*

## ***OFMA Program Nationally Accredited***

*(Article reprinted from the ASFPM, Inc., News and Views, October 1999.)*

The Oklahoma Certified Floodplain Managers Program has become the first state program in the nation to obtain accreditation from the Association of State Floodplain Managers, Inc. In early September, the ASFPM Certification Board of Regents (CBOR) approved the Oklahoma program, under provisions of the Charter of the Certified Floodplain Manager Program of ASFPM.

The Charter provides that the certification programs of states may, upon meeting certain criteria and receiving the Certification Board's approval, add the designation ASFPM-accredited to their certification.

Oklahoma's program was developed by the Oklahoma Floodplain Managers Association, which is a chapter of the ASFPM.

In its letter granting accreditation, the CBOR noted that the Oklahoma program will be an effective tool for ensuring that floodplain managers in the state obtain and maintain the skills and training to properly administer programs aimed at reducing flood losses. And because it is the first state to receive accreditation, the materials and procedures that Oklahoma has developed can become a model for other chapters to use in developing their programs.

Oklahoma's certification requires application and fees, continuing education, and adherence to a professional code of conduct. Applicants must demonstrate knowledge of floodplain management by passing a written exam. Oklahoma's exam covers elevation certificates, mapping, insurance, wetlands, natural and beneficial values and state-specific components.

As the Oklahoma group moves to implement its program, it will continue to coordinate with the ASFPM executive office.

The ASFPM congratulates the Oklahoma Floodplain Managers Association and applauds the opportunity this presents for floodplain managers in Oklahoma to receive the recognition they deserve.

## *11 Communities Honored for Flood Safety Efforts*

In mid-September, 11 Oklahoma communities were honored by state officials for their flood control efforts resulting in lower flood insurance premiums for local residents. State Insurance Commissioner Carroll Fisher and officials of the OWRB and the Oklahoma Department of Civil Emergency Management presented the awards at the State Capitol.

The communities honored are Bartlesville, Blackwell, Broken Arrow, Chickasha, Dewey, Edmond, Enid, Lawton, Sand Springs, Stillwater and Tulsa. The communities have exceeded minimum guidelines of the National Flood Insurance Program, (NFIP) through participation in the Community Rating System (CRS) and, as a result, residents are able to purchase flood insurance at reduced premiums.

Discounts are five percent for residents of Bartlesville, Broken Arrow, Chickasha, Dewey, Edmond, Enid and Stillwater; 10 percent for Blackwell, Lawton and Sand Springs; 25 percent for Tulsa.

Fisher pointed out that Tulsa stands as a strong leader for flood control in the United States.



*Representatives of the state's 11 model cities for flood control efforts received awards from Insurance Commissioner Carroll Fisher in ceremonies in the Blue Room at the Capitol on September 17.*



## *Board Announces Award of 53 REAP Grants at Conference*

For the first time in the 20-year history of the Governor's Water Conference, announcement of \$4.4 million in Rural Economic Action Plan (REAP) grants for FY 2000 was a feature of the luncheon agenda. Changes to the REAP program in the last legislative session allowed for setting the closing date for grant applications to September 1, enabling the single announcement ceremony. Under previous rules, the Board's Financial Assistance Division continually accepted, prioritized and funded applications as money became available. Communities that had ranked high and waited a year or more could be bumped by a new application that ranked as little as one point higher in the priority system.

*For a list of communities approved for grants - see next page*

***The 53 communities approved for REAP grants were:***

Garvin Public Works Authority .....	\$ 99,999	Gould Public Works Authority .....	\$ 79,700
Bokoshe Public Works Authority .....	\$124,332	Canadian Co. Rural Water, S&SWMD #1 .....	\$ 99,945
Pushmataha Co. Rural Water District #1 .....	\$ 99,900	City of Coyle .....	\$ 98,448
Red Rock Public Works Authority .....	\$116,651	City of Marshall .....	\$ 92,965
Town of Nash .....	\$139,990	Grady Co. Rural Water District #1 .....	\$ 58,100
Garfield Co. Rural Water District #7 .....	\$ 38,000	Ringling Municipal Authority .....	\$ 79,000
Town of Covington .....	\$ 39,903	Geronimo Rural Water Assoc .....	\$ 86,352
Garber Public Works Authority .....	\$ 79,550	Wayne Public Works Authority .....	\$ 87,120
Jet Utilities Authority .....	\$ 99,900	Tillman Co. Rural Water District #1 .....	\$105,375
Woodward Co. Rural Water District #1 .....	\$119,825	Ryan Utilities Authority .....	\$100,000
Woods County Rural Water District #3 .....	\$ 99,330	City of Yale .....	\$ 50,000
Texas Co. Rural Water District #1 .....	\$ 99,999	Hughes Co. Rural Water District #3 .....	\$ 99,300
Goodwell Public Works Authority .....	\$ 73,300	Seminole Co. Rural Water District #2 .....	\$ 99,900
Shattuck Municipal Authority .....	\$ 99,969	Wanette Public Works Authority .....	\$ 51,500
Dewey Co. Rural Water District #2 .....	\$119,500	Davenport Utilities Authority .....	\$ 99,900
Bryan Co. Rural Water, S&SWMD #6 .....	\$119,000	Vian Public Works Authority .....	\$ 59,500
Town of Lehigh .....	\$ 85,920	Watts Public Works Authority .....	\$ 99,800
Town of Ravia .....	\$ 99,000	Sequoyah Co. RW,S,GSWMD #8 .....	\$138,500
Paoli Municipal Authority .....	\$ 78,000	Hulbert Public Works Authority .....	\$ 79,350
Love Co. Rural Water District #1 .....	\$ 80,850	Cherokee Rural Water District #13 .....	\$ 80,000
Town of Kingston .....	\$ 59,400	Kansas Public Works Authority .....	\$109,500
Bokchito Public Utilities Authority .....	\$ 27,500	Rogers Co. RWD #9 .....	\$ 98,000
Dill City Public Works Authority .....	\$149,215	Inola Public Works Authority .....	\$ 67,874
Beckham Co. Rural Water District #3 .....	\$ 44,970	Depew Public Works Authority .....	\$ 79,000
Beckham Co. Rural Water District #2 .....	\$115,000	Wynona Public Works Authority .....	\$ 99,900
Frontier Development Authority .....	\$ 20,218	Depew Public Works Authority .....	\$ 38,000
Lone Wolf Public Works Authority .....	\$ 14,550	Osage Co. RW,S&SWMD #3 .....	\$ 27,640

