

OKLAHOMA WATER NEWS

Bimonthly Newsletter of the Oklahoma Water Resources Board



*from
the desk
of the
Director*

Board's New Emergency Rule Links Water Use to Ag License

*Emergency rule requires hog farms to be licensed
by Agriculture Department to apply for water use*

On July 3, I returned from New York City, where we engaged in another enormously successful sale of \$50 million in revenue bonds to support the Board's Financial Assistance Program. In terms of visibility, service to Oklahoma communities and long-term benefits, the Financial Assistance Program is among the most successful of Board initiatives.

It was apparent to me at the bond market in New York that the Financial Assistance Program of this agency is well respected on Wall Street. We consistently win an AA rating from Standard & Poor's and the demand for Board bonds is great. It makes me proud of the Board, the Board Finance Committee and the entire Financial Assistance division that this program is a model for the nation.

On June 26, we were able to close a note for \$2.275 million to provide the Board match for EPA's Wastewater Facility Construction Revolving Loan Fund (SRF). This program devoted exclusively to financing construction and improvements to wastewater systems has had a tremendous impact on improving the water quality of Oklahoma.

Last month, EPA evaluated the SRF Program and cited the expertise and professionalism of the Board's staff. In the report, Region 6 EPA officials applauded Oklahoma's SRF staff for their skill and team spirit in training the staff of New Mexico's emerging SRF program.

The report said, "The state's Revolving Fund Program has been managed very well as evidenced by the continued good condition of the Fund."

Members of the Oklahoma Water Resources Board voted July 8 to require applicants for groundwater use for the operation of a confined animal feeding operation (CAFO) to provide an affidavit showing they have a license or a "substantially complete" application on file with the Department of Agriculture. Once the emergency rule is approved by Governor Keating, CAFO applicants who propose to use groundwater to water or cool the animals or to dispose of wastes will have to prove they have such authorization from the Department of Agriculture.

David Chandler, general counsel for Ag, defined a substantially completed CAFO license application as one that is complete enough to determine whether it should be granted. OWRB Executive Director Duane Smith agreed that a substantially completed application includes specifics regarding a pollution prevention plan, animal waste management plan and engineering studies that show that the bottom of any waste lagoon would be at least four feet above the maximum groundwater elevation. According to Smith, denial of a license by Ag will result in an incomplete permit for groundwater use.

The action is intended to hog-tie a rush of applications for CAFOs expected before September 1, the effective date of tougher new Ag rules spelled out in HB 1522. Smith said the Water Board rule answers the executive order issued by Governor Keating to protect the integrity of the water in the interim.

The law created by HB 1522 will grandfather in existing operations and CAFOs with substantially complete applications on file by September 1. Such operations will have a year to come into compliance, but may be exempted from the rule regarding set back from a neighbor's property.

Smith points out that the four points of law an applicant for a groundwater permit must satisfy remain the same:

- ✓ the applicant owns or leases the land;
- ✓ the land overlies a fresh groundwater basin;
- ✓ the water will be put to beneficial use;
- ✓ waste by depletion or pollution will not occur.

"I don't expect the emergency rule to change anything we do now," said Smith. He pointed out the potential for pollution is always of concern. Smith said a study of the Ogallala (High Plains) Aquifer is now underway, in which the Water Board cooperates with the U.S. Geological Survey. A digital groundwater flow model will estimate the amount of water in storage. Samples collected from wells on irrigated, nonirrigated, municipal and CAFO lands will establish baseline water quality. Comparison of long-term monitoring results with baseline data will determine the potential impacts to the aquifer.

"Another positive step is creation of the Animal Waste and Water Quality Task Force which will bring specific recommendations to Governor Keating in December," Smith said. □

Eureka, Recharge of the Blaine Works!

A draft report on the Blaine Gypsum Recharge Demonstration Project says the effort was successful in making 1,056 acre-feet of additional irrigation water available over the life of the project. Five recharge wells intercepted surface runoff and channeled the water into the cavernous Blaine aquifer. The recharge wells averaged 70 acre-feet per well, per year, an edge welcomed by farmers in arid southwest Oklahoma.

"It demonstrated that artificial recharge using gravity flow recharge wells is economically feasible, with benefits exceeding costs more than four to one," says Geologist Noël Osborn, project manager.

The Blaine project was one of 13 studies implemented by the Bureau of Reclamation. It was sponsored by the Water Resources Board in cooperation with the Southwest Water and Soil Conservation District (SWSCD) near Hollis. The Bureau granted the project a 2-year extension due to a series of setbacks, including lightning strikes to field equipment, mechanical failures and delays in bidding and construction. Osborn submitted the draft report to the Bureau of Reclamation in July. The final report will be submitted to the U.S. Congress in October.

Farmers in the region had long explored means to enhance the water supply of the Blaine, seasonally stressed by huge withdrawals of water for irrigation. They had begun efforts to artificially recharge the Blaine aquifer in 1968, when they formed the SWSCD and constructed recharge wells, diversion channels and impoundments.

Osborn says the intent of the OWRB program was to assist the district in expanding the recharge system by constructing additional wells and an impoundment (which also provides flood control to Hollis.) Recharge wells in the OWRB project collect runoff in more than 23,000 acres.

Baseline monitoring of existing wells began in 1991, then 32 test holes, 24 monitoring wells and five recharge wells were constructed. Post-recharge monitoring began in 1993. Each site consisted of one recharge well and 3-7 monitoring wells.

Osborn says the OWRB team overseeing the project noted flashy response to recharge, with water levels in the monitoring wells rising as much as 25 feet in an hour following a rainfall. She said dye tracing tests to measure velocity of the groundwater showed maximum movement to be two miles

a day and the average to be one mile a day. "The regional velocity is much slower -- only about nine feet a day," says Osborn.

The amount of water recharged to the aquifer varied, Osborn pointed out. "However, by comparing the average 70 acre-feet of recharge to each well to the average 142-acre-foot pumpage of each irrigation well, we can conclude that the recharge well was providing about half the water produced by the irrigation well."

Now that the Water Board's study is over, monitoring wells plugged and the recharge wells and other structures integrated into the SWSCD network, Water Board investigators rate the project as extremely successful. They conclude the project proves artificial recharge to the Blaine works; it is economically feasible; it is an effective method of offsetting water level declines; and it puts to beneficial use water that would have been lost.

Irrigators of the Southwest Water and Soil Conservation District will continue to operate and maintain the wells and include them in the district's

recharge network. A long-term benefit is the project's impoundment, left in place to protect the Hollis area from flooding. □



Noël Osborn, author of the report, and Ed Eckenstein, quality control officer on the Blaine project, and standing, Bob Fabian, head of the Technical Section of the Planning and Management division.

Watterson's Meadowlake Efforts Recognized

Juli Watterson of the OWRB Water Quality Programs Division was honored for her work in coordinating Enid's Meadowlake Watershed Protection Program (MWPP.) At an awards ceremony June 26, Keep Oklahoma Beautiful judged MWPP the winner of the Outstanding Achievement Award for its lasting impact, use of education, promotion, media and community resources.



Juli Watterson

The Meadowlake Watershed Protection Program is an expansion of the Clean Lakes project at Meadowlake sponsored by the Water Board and cost-shared with EPA and the City of Enid.

The Outstanding Achievement Award was shared with Craig Stephenson, Enid assistant city manager; and Enid grants administrators Sheila Demetero and Rhonda Skrapke. In addition to the Outstanding Achievement Award, the MWPP won the award for Best Achieve-

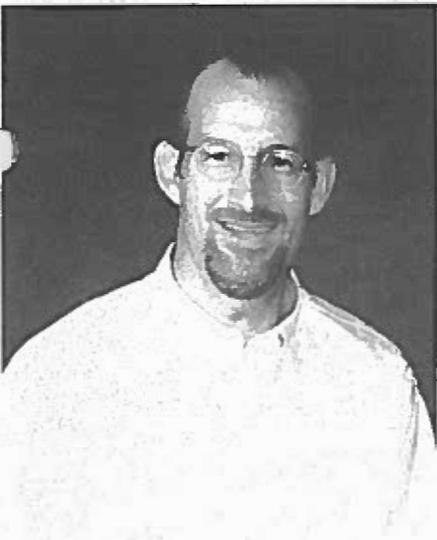
ment in Environmental Improvement for a Government Entity.

The cooperative effort of Watterson and Penn Cline of Pegasys, Enid's public access television station, earned a third award for Watterson. The award was presented for Best Electronic Media Coverage for production of an 18-minute educational video. □



MWPP won the overall Outstanding Achievement Award, above, and best in the Government and Electronic Media categories.

Ten-Inch Rain July 10 Swamps Elgin



Brian Vance

Updated OCWP Now Available

Duane Smith, OWRB executive director, announces an Update of the Oklahoma Comprehensive Water Plan (OCWP) is now available. The Update, mandated in 1992 by the Oklahoma Legislature in HB 2036, provides long-range projections of water problems and requirements through the year 2050.

Fifteen years of profound changes in Oklahoma's social, political and economic climate necessitated a fresh look at the Plan, said Smith.

Brian Vance, OWRB water planner and author of the publication, said, "Input was solicited from 20 groups of state and federal water professionals and two Citizens Water Advisory Groups."

Public meetings were held throughout the state to provide an opportunity for citizens to shape the final document and recommendations were offered to the Oklahoma Legislature.

The chief concept was to take the OCWP published in 1980 and modify it to reflect changing water resource philosophies and trends in water use.

The Update addresses 11 categories of water resource policy issues and recognizes specific objectives adopted from the original Plan. Thirty one specific water management issues are discussed. The Update projects statewide water use for the year 2050 at 11.7 million acre-feet.

The "Update of the Oklahoma Comprehensive Water Plan, 1995," is available at OWRB offices for \$14 or \$17 by mail. □

It was a typical July evening in southwest Oklahoma, with heat and high humidity nourishing the growth of dark thunderheads. The residents of Elgin sat on their porches, hoping for rain-cooled air to make their evening more pleasant. The evening turned into a nightmare as a stalled cool front tripped the release of a 10-inch deluge in three hours.

Gently flowing creeks became raging torrents. Eight homes, three businesses and a school received damage totaling thousands of dollars.

The deluge was devastating to those living in mobile homes who had enjoyed rural living in the shade of giant trees in a wedge of land between tributaries of Nine-Mile Beaver Creek. On July 10, they watched helplessly as parts of their homes disappeared in the swirling muddy waters. Dark water marks on buildings attest to flood waters 10 feet deep. Residents tell of the bird dog chained to a doghouse that disappeared. The storm waters ripped propane tanks from their mounts, inundated mobile homes and sent residents scrambling for high ground, flattened fences, unearthed a storm shelter, flooded sewage lagoons and swept away small bridges and outbuildings. The storm's fury doused electricity and only lightning flashes illuminated the flooded community.

Ironically, one of the residents awash in 12 inches of water inside his mobile home had done everything right. He had obtained flood maps which showed his building site lay outside the 100-year floodplain and he had his property surveyed. Ten months ago, he built his mobile home foundation two feet

higher than required and purchased flood insurance.

According to Ken Morris, OWRB administrator for the National Flood Insurance Program, the flooding in Elgin exceeded the 100-year flood level. "Water from the drainage basin around the properties converged in a torrent in the creeks adjacent to the houses, but clutter and heavy vegetation in the channel blocked passage of the floodwater, said Morris. Obstructions caused the water to back up and inundate higher ground than if it had been allowed to flow unimpeded.

A sanitation problem occurred as a result of floodwater invading sewage lagoons before flooding the homes in the Twin Creek addition.

Morris pointed out that heavy thunderstorms are common in Oklahoma, but loss of lives and property damage can be mitigated or prevented. He emphasized these rules:

- ✓ Do not build in flood-prone areas.
- ✓ Build above the highest known flood elevation, the historic high-water mark.
- ✓ Clear creek banks and floodways of trash, trees, brush, fences and other obstructions to the flow of water.
- ✓ Discourage development in flood-prone areas and enforce floodplain zoning regulations.
- ✓ Construct sewage lagoons high enough to prevent invasion by floodwater and the flushing of pollution onto nearby properties or into streams.
- ✓ Encourage participation in the National Flood Insurance Program. □



The deluge washed this diesel tank from its platform, damaged businesses, homes and outbuildings. Flood damage was greatest in a housing addition southeast of Elgin.

FAP News

An update of the OWRB FINANCIAL ASSISTANCE PROGRAM

JULY-AUGUST 1997

Standard & Poor's Awards AA Rating to Board's Bonds

Joe Freeman, chief of the Board's Financial Assistance division announces the July 2 sale of \$50 million in revenue bonds to continue the Board's thriving loan program. This issue again received Standard & Poor's AA rating.

A bulletin published by Standard & Poor's reported, "The long-term rating incorporates cash flows that illustrate coverage consistent with S&P's large pool financing criteria for 'AA' credits. Additional credit strengths include the maturity of the loan program, which has a good history of borrower repayments, and the program's strong management and sound underwriting standards.

Representatives of S&P's had visited the Water Resources Board on May 28 to inspect procedures in the FAP. The firm issued its rating statement June 16, preceding the closing date for the bond sale.

Freeman pointed out that the loan program has been funding loans to eligible water and wastewater entities since 1985 without any payment defaults by local borrowers.

Standard & Poor's had noted that of the \$162.8 million currently outstanding bond issue loans, investment-grade borrowers represent 87 percent of the outstanding loan amounts. "In addition, reserve funds of \$26.4 million cover the noninvestment-grade borrowers and others rated below AA."

The loans are funded from a "blind pool" in which the loans are not committed until after the bond issuance. Money from the lending pool is used to make low interest loans to communities which meet the strict requirements of the program. A por-

tion of the pool is dedicated to loans to small entities which could not go to conventional sources for loans on their own financial strength. At the same time, small communities benefit from the Board's strong bond rating.

Freeman pointed out that loan repayments are used to retire the bonds. The Statewide Water Development Revolving Fund and \$10 million of surety bonds from AMBAC Indemnity of New York provide collateral for the bond issue.

The liquidity facility for the variable-rate bonds is provided through Union Bank of Zurich, Switzerland. PaineWebber Securities served as senior underwriter for the issuance. The Board obtained an investment agreement for the loan pro-

ceeds from the CDC Funding Corporation. Bond counsel services were provided by the Board's long-time counsel, Fagin, Brown, Bush, Tinney and Kiser. The Board retained Liberty Bank and Trust Company, Oklahoma City, as the new trustee bank for all of the Board's financings.

The Board's program to assist in the construction of water and sewer facilities is so attractive to borrowers that Freeman anticipates the full \$50 million bond issue will be used in two years or less.

Day-to-day management of the program is handled by Freeman and his staff of 16, with oversight by the Finance Committee of the Board. Members of the Finance Committee

Continued on page 5



Joe Freeman



Members of the Board's Financial Assistance division: Karen Yuan, engineer; Lillie Simon, Carl Albert executive fellow; Kim Brown, grant analyst; Angela Roberson, financial analyst; Lori Williamson, secretary; Shelly Bacon, administrative assistant. Standing, Brenda Maxey, financial analyst supervisor; Paul Hodge, assistant chief; Marc Hullinger, senior engineer; Stan Halley, environmental specialist supervisor; Lannie Hughes, financial analyst; John Day, environmental specialist; Reese Daugherty, engineering supervisor; Tiger Feng, senior engineer; Joe Freeman, division chief. Not pictured, Laura Oak, financial analyst.

Bond issue, continued from page 4

are Richard McDonald, Walters; Dick Seybolt, Afton; Wendell Thomasson, Sawyer; and Richard Sevenoaks, Tulsa.

An initiative related to the loan program is the emergency grant program with grant funds derived from interest earned on the Statewide Water Development Revolving Fund and bond issue reserves.

Board's emergency grant program assists communities in crisis

To administer the emergency funds fairly, staff developed a priority point system. Once eligibility is established and the likelihood of other financing options is explored, staff assess applications for degree of emergency. Grant criteria define "emergency" as threatening to life, health or property.

The limit on a single grant is \$100,000, but Freeman and his staff encourage communities to request the smallest amount possible in order to stretch grant funds to as many communities as possible.

The program has awarded 405 emergency grants totaling \$22.7 million to Oklahoma cities, towns, rural water and sewer districts and other entities. For more information, call the Water Resources Board at 405-530-8800. □

\$4.1 Million in REAP Grants Improves Rural Infrastructure

Since the Oklahoma Legislature created the Rural Economic Action Plan in May 1996, sixty-three small communities have infrastructure improvements to attest to the success of the program. The demands on the program were so great that legislative leaders revitalized it with an additional \$4.5 million appropriation in May, 1997.

Since the first REAP grants were announced in January 1997, the Board's Financial Assistance division has awarded \$4.1 million to eligible communities and rural areas.

Governor Keating and the Oklahoma Legislature explored means of restoring the economic health of the state's small communities. The Legislature allocated \$17 million in REAP funding, \$4.5 million of it specifically targeting water and wastewater improvements in small towns and rural areas. They aimed their efforts at areas in which populations, access to services and quality of life are diminishing.

Due to experience in administering the Board's successful Financial Assistance Program and REAP's similarity to existing Board programs, the Legislature entrusted the OWRB Financial Assistance division with administration of REAP funds for sewer and water improvements.

The financial specialists of the Financial Assistance division formulated rules and a point system to fairly evaluate and prioritize applications.

Smaller, needier entities get preference

According to FA division chief Joe Freeman, grant funds are available to small towns and unincorporated areas with populations less than 7,000. "However, we award extra priority points to those with populations less than 1,500 and entities with weakest financial capacity and fewest options," Freeman explains.

Among eligible projects are construction or repair of sanitary or storm sewers or water distribution lines, water treatment facilities, and projects to acquire, distribute or recover water.

"The hundreds of applications submitted to the REAP show the desperate need for such assistance in Oklahoma's small communities," Freeman points out.

Communities interested in REAP applications, assistance in completing applications or information are invited to call the Financial Assistance division at 405-530-8800. □

\$2.27 Million SRF Note Closes

On June 26, the Board closed a \$2.275 million 2-year note that will supply the state match for the EPA Wastewater Facility Construction Revolving Loan Fund (SRF) program administered by the Financial Assistance division. Chief Joe Freeman pointed out this is the third time the OWRB has issued debt to provide the 20 percent match.

The SRF program is one of the state's strongest and most successful initiatives. The combined federal/state funds are loaned for major wastewater construction projects, then as loans are repaid, proceeds are loaned to smaller communities. To date, the Board has approved 57 SRF loans totaling more than \$213 million.

In mid-July the Board received EPA's FY 1996 Program Evaluation concerning administration of the SRF program. The EPA reported, "the SRF program has been very well managed, as evidenced by the continued good financial condition of the fund. The OWRB has done a very good job in managing the program in Oklahoma."

Earlier, SRF staff had shared their knowledge and expertise with the New Mexico Environment Department's new SRF staff by hosting training at Board offices. The EPA commended the Oklahoma staff for its teamwork in assisting New Mexico in structuring its new program. □

FINANCIAL ASSISTANCE PROGRAM UPDATE Approved at July and August 1997 Board Meetings

FAP Loans			
4.372% 1997 Bonds; 30-year maximum term			
Delaware Co. RWD #1	\$	380,000.00	
Wagoner RWD #8	\$	280,000.00	
FAP Grants			
Delaware Co. RWD #1	\$	85,000.00	
SRF Loans			
Geronimo PWA	\$	440,438.50	
TOTALS			
	FAP Loans	FAP Grants	SRF Loans
APPROVED	183	406	58
Amount	\$237,995,000.00	\$22,792,709.32	\$219,426,477.90
FUNDED	174	384	55
Amount	\$231,185,000.00	\$20,959,329.76	\$213,299,839.40



Leewright Honored with Award

James Leewright, head of the Board's Mapping and Drafting section, was recognized as Employee of the Quarter at the July 7 staff meeting. The announcement was made by Executive Director Duane Smith.

In his 29 years of OWRB service, Leewright has overseen the produc-



James D. Leewright

tion of the region book series, the Oklahoma Comprehensive Water Plan and the Update of the Oklahoma Comprehensive Water Plan, the Oklahoma Water Atlas, annual reports, brochures, displays and graphics. The newest pub-

lication, Update of the Comprehensive Water Plan, is the first OWRB publication produced entirely electronically. He is the designer of the OWRB seal.

Lake Arcadia Sweep August 23

The OWRB, Office of the Secretary of Environment, Clean Lakes Association, EPA and other groups will sponsor a cleanup of Lake Arcadia's shoreline on August 23. Oklahoma Lake Sweep will begin at 9 a.m. at Lake Arcadia's Spring Lake Park.

Oklahoma Clean Sweep attracted more than 70 participants who collected 10 cubic yards of trash during the first Lake Sweep held at Lake Thunderbird near Norman June 28.

Silvia Ritzky of OSE encourages participants to wear sturdy shoes, and bring work gloves, trash pickup sticks, insect repellent, sunscreen and water.

Each participant will receive a T-shirt and is invited to attend a cook-out following the cleanup.

For more information or to volunteer, call Ritzky at 405-530-8996 or the Arcadia Lake Project Office at 405-396-8122.

Divers Plan Underwater Sweep

Tenkiller Lake will be the target of an Underwater Cleanup on September 6 sponsored by the Waterdaws Dive Club. Scuba diving teams of two

to six certified divers are invited to compete for cash prizes up to half of jackpot comprised of team entry fees. Preregistration costs \$50, with \$45 of it contributed to the jackpot from which prizes are awarded. Registration after August 25 costs \$60 per team.

According to Ken Morris of the OWRB, prizes will be awarded for most unusual piece of trash, most aluminum cans and greatest total weight of trash collected. Teams will meet at Pine Cove Area H at Tenkiller State Park at 8 a.m., with a contestants' meeting at 8:45 a.m. and diving from 9 a.m. to 3 p.m.

Trash weigh-in begins at 3 p.m. and awards will be presented at 5 p.m.

For information, call Ethan Jenni at 405-340-2617. Send registration checks to Waterdawg Dive Club, 2220 Covell Lane, Edmond, OK 73034.

Water, Water Everywhere...

Lonnie Farmer, Board member and banker from Davidson, contributed this fact to "Oklahoma WaterNews:"

A glass of water contains eight septillion (that's 8 followed by 24 zeros) molecules. In 100 years, water spends 98 years in the ocean, 20 months as ice, about two weeks in lakes and streams and less than a week in the atmosphere.

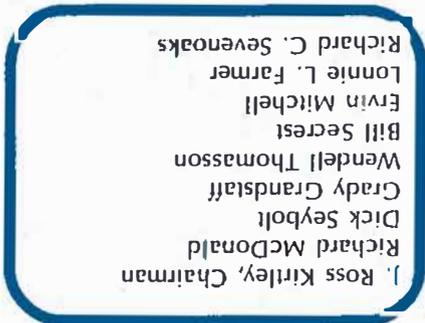
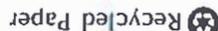
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