

# OKLAHOMA WATER NEWS

*Bimonthly Newsletter of the Oklahoma Water Resources Board*



Duane A. Smith

*from  
the desk  
of the  
Director*

On May 15, I visited the Bureau of Reclamation regional office in Austin, Texas, to finalize details of a 5-year cooperative study of the Altus-Lugert Irrigation District in southwest Oklahoma.

The Bureau will oversee the project and provide 50 percent of the funding; OWRB and the District will provide matching funding.

The \$1.5 million effort will quantify the amount of water discharged annually by the Altus-Lugert Irrigation District into the Salt Fork and North Fork Rivers from the irrigation canals and laterals. Two stream gages will be installed on Bitter Creek, which Water Board permitting records show to be nearly fully appropriated.

Our job will be to analyze the District's 50 years of records to determine how much water is discharged and evaporates, then develop long-term management strategies that the District can implement.

The Technical Section of our Planning and Management Division, headed by Hydrogeologist Bob Fabian, will collect and analyze the data. Donna Kirby, manager of the District will oversee installation of the new gages and data management. Once the data base is complete, we can develop long-term averages and predict water-use trends.

The District will be able to implement best management practices and, at the same time, the Board will have a more accurate estimate of water available for appropriation in the basin. □

## Explore the New OWRB Website OK Water Info is a Click Away

Did you know that on a peak irrigation day, Texas County in the Panhandle uses as much water as New York City uses on an average day? That water fact and many others await visitors to the Board's new website. Information about the OWRB and its programs is now available on the World Wide Web at <http://www.state.ok.us/~owrb>.

Thanks to five months of preparation by Geologist Ed Eckenstein and Planner Brian Vance of the Planning and Management Division, 26 pages of information await web surfers. Graphics were prepared by James Leewright, cartographic drafter and graphic designer who also assisted Eckenstein and Vance in designing the site pages.

Executive Director Duane Smith heralded the website as "a great resource and customer service tool. The Water Board works very hard to be responsive to the public, and the website is another way for us to be accessible and offer information to Oklahoma

and the world on our water resources," Smith said. "Now that the website is up and running, I envision expansion so that, eventually, we can make available application forms for water use permits, well drillers and pump contractors licensing and Financial Assistance Program loans and grants," he said. Smith pointed out that in the future, OWRB Rules and Regulations, Oklahoma Water Quality Standards, the monthly newsletter, reports, calendars and agendas and other documents useful to the public could be online 24 hours every day.

According to Smith, future plans include access to various agency data bases and Geographic Information System (GIS) data through the Internet connection.

However, here and now, visitors to the website can get acquainted with the agency by reading descriptions of agency programs and special projects,

*Continued on page 2*



Brian Vance, left, and Ed Eckenstein of the OWRB Planning and Management Division designed the informative new website. Visit <http://www.state.ok.us/~owrb>.

Website, continued from page 1

meeting the nine members of the Board and agency managers, reading the OWRB mission statement, browsing Frequently Asked Questions and Oklahoma Water Facts sections and exploring water-related links to federal, state, academic and private water information sites.

Brian Vance, principal writer and editor of the information on line, points out that the "Water Facts" section is a helpful resource for students. It describes surface and groundwater resources, estimates water use and presents drought and flood facts.

Ed Eckenstein, geologist and the Water Board's website guru, was primarily responsible for coding all site content to hypertext markup language (html) and designing the site. Eckenstein said it was his goal to design pages that are attractive, readable and accessible to the most OWRB customers. He points out that there is a wide variety of hardware and software used to view the web, so the web pages must "work" and be appealing in many different formats.

"The site was designed so that the visitor will have a good experience when visiting our site," Eckenstein said.

He pointed out that site features include a thorough navigation system with a site index and fast downloading pages that look good in any browser/software combination.

"We put a lot of effort into designing the pages so they would work in the widest variety of hardware and web browser combinations," he said. He pointed out that he and Vance planned it so the visitor doesn't have to have a special brand of web browser to view the site.

Eckenstein declares he's self-taught in web page design. He says that he's been caught up in it as a hobby for over two years.

"If ever there was a 'website created on a shoestring,' it's the OWRB site," said Director Duane Smith. It's entirely the product of three gifted OWRB employees at minimal cost," he said. "It looks like a million dollars and I'm proud."

Webmaster Ed Eckenstein encourages users with comments or questions to call 405-530-8800, FAX at 405-530-8900 or write to the Oklahoma Water Resources Board, 3800 N. Classen Blvd., Oklahoma City, OK 73112. □



## "Lost Colony" Lost to Drought?

The unfortunate British colonists at Roanoke Island probably were victims of a vicious and long-lasting drought, say researchers. Archaeologists from William and Mary University and the University of Arkansas say the English could not have chosen a worse time to launch their settlements in the New World.

Their conclusions were drawn from examinations of trees that would have been growing in the region during the 16th century. The most extreme drought in 800 years is implicated in the mysterious disappearance of the Roanoke Island colony and the later Jamestown settlement. The Roanoke colony, started in 1587, had mysteriously disappeared by the time Jamestown colonists arrived. Settlers in Jamestown in 1607, who also suffered cruel losses, found only the word "Croatoan" carved on a tree at Roanoke Island.

Study of tree ring evidence concluded even the best planned and determined colony would have been supremely challenged by such extreme climatic conditions.

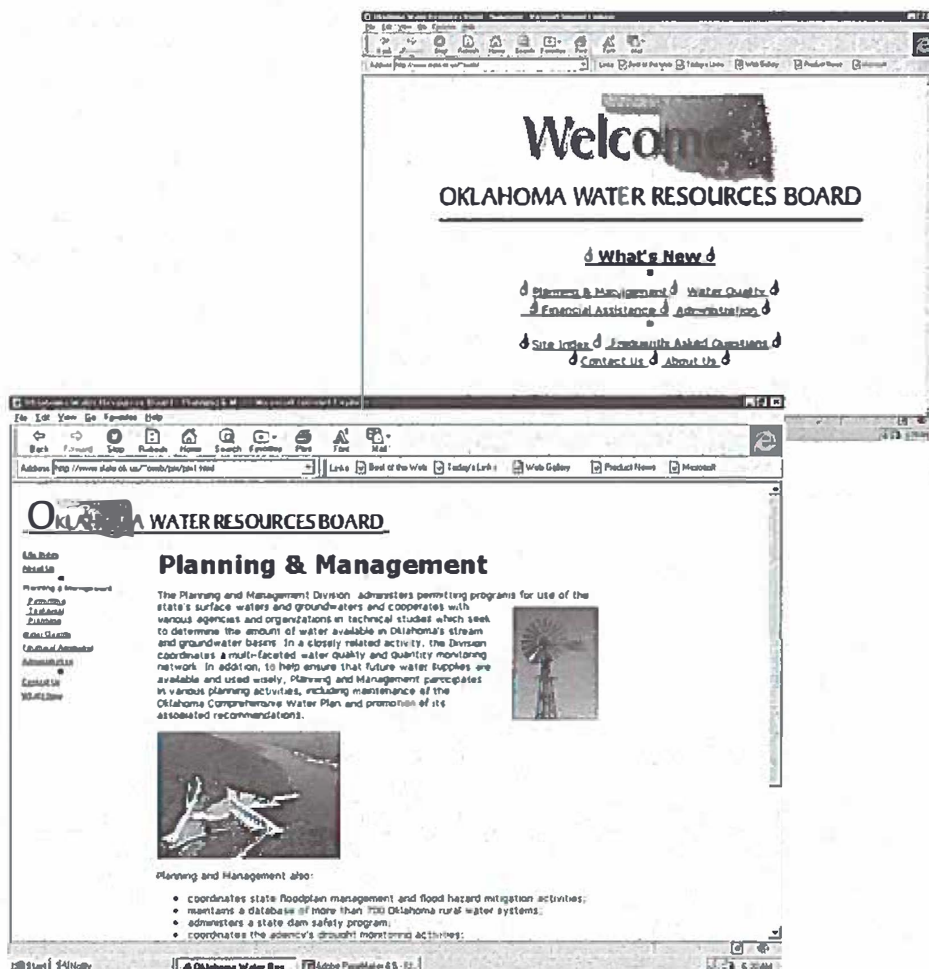
## Napa Tax Could be Model

Voters in Napa, California, approved a special half-cent sales tax in March to be dedicated to flood control along the Napa River. The tax approved for 20 years will raise \$6 million annually.

The measure is designed to protect the valley from catastrophic floods, while restoring wildlife habitat along the 30-mile length of the river. The plan devised to control the river shuns concrete lined channels in favor of environmentally friendly alternatives, removal of perennially flooded structures and creation of broad riparian zones where the river can wander harmlessly during floods.

The meander belts will double as wildlife habitat. In addition, the plan authorizes a bypass to divert floodwaters away from the city. Flooding has been a chronic problem, worsened by heavy rains over recent years, rapid growth in the city and intense cultivation of vineyards in the upper valley. All these contributed to increased runoff.

The federal government will contribute \$78 million toward the flood control project to match funds from the city of Napa.





## Freeman Wins Employee Award

Joe S. Freeman, chief of the Board's Financial Assistance Division since 1993, was named Employee of the Quarter at staff meeting on March 26. In presenting the award to Freeman, Executive Director Duane Smith said, "we honor one of the most dedicated and hardest working employees. He has guided the development of one of the OWRB's youngest programs into a phenomenal success story that is admired and emulated by other states across the country."

Freeman oversees Financial Assistance loan and grant programs that have assisted hundreds of qualified Oklahoma entities in the construction or renovation of water and wastewater infrastructure.

Freeman joined the OWRB in March 1990 from a background in banking



Executive Director Duane Smith honored Joe Freeman as Employee of the Quarter at the March staff meeting for Freeman's success in making the Board's loan and grant program a model in the nation. Freeman is chief of the Financial Assistance Division.

in Oklahoma City and Ponca City. He is a graduate of OSU, where he earned a BS degree in Business Administration with a double major in finance and economics. He earned a Master of Business Administration from the University of Central Oklahoma. Freeman was named to the Dean's Honor Roll at both OSU and UCO.

He has served on the board of directors of several local and regional theater groups.

## Barge Tonnage Sets Record

A record 12 million tons of commercial commodities valued at \$2.6 billion was shipped on the McClellan-Kerr Arkansas River Navigation System in 1997. Tonnages increased three

percent over 1996, setting a record for the fourth consecutive year.

According to a Corps of Engineers report, iron and steel shipments, worth \$1.25 billion, rose 23 percent in 1997 to more than 1.1 million tons. Chemical and fertilizer shipments, valued at \$474 million, increased two percent to 1.8 million tons. Soybean shipments, worth \$221 million, rose 12 percent to 934,597 tons and other grains, worth \$104 million, rose 35 percent to 691,453 tons. Petroleum shipments remained steady; shipments of other chemicals, coal and coke, aggregates, wheat, forest products and miscellaneous shipments declined slightly.

## OWF Offers Topographic Atlas

The Oklahoma Wildlife Federation announces the organization has available for sale an "Oklahoma Atlas & Gazetteer." The 11x15 1/2-inch full color maps of all Oklahoma counties show detailed topographic features; lakes, streams and rivers; Geographic Information System grids, major highways and back roads and national and state parks and preserves.

The Atlas also lists historic sites, state lands, float trips, fishing, hunting, campgrounds, biking, wildlife viewing and scenic drive opportunities. It contains an index of place names and map features and guides to museums

and other attractions. It also presents information on the state's Native American culture.

The "Oklahoma Atlas & Gazetteer" costs \$16.95 from the Oklahoma Wildlife Federation, 3900 N. Santa Fe, Oklahoma City, OK 73118 or by calling 405-524-7009.

## Boundary Commission Meets

The Oklahoma Red River Boundary Commission met in Oklahoma City April 29 to review a new draft of the document that would establish a political boundary between Oklahoma and Texas. Senator Robert M. Kerr is chairman of the Oklahoma commission.

Executive Director Duane Smith, Commission member, and General Counsel Dean Couch represented the Water Resources Board at the meeting.

According to Smith, representatives of the Kiowa, Comanche and Apache Intertribal Land Use Committee support proposed criteria for establishing the south bank of the Red River west of the 98th Meridian if tribal interests are not affected. An option for the far west portion of the river (from the North Fork confluence to the Texas Panhandle) was introduced by Charles Mankin, director of the Oklahoma Geological Survey. It would recognize the boundary as "fast land," the land

## OWRB Observes Anniversary of Bombing



Mary Schooley, executive secretary, left, and Connie Ziegelgruber of the Planning and Management Division tie bows to the two trees planted in memory of Trudy Rigney and Bob Chipman, OWRB victims of the April 1995 bombing of the Murrah Federal Building. The memorial trees were planted on the north side of the OWRB offices on the first anniversary of the bombing. OWRB employees gathered around the trees for a brief service on April 17.

## New Rules Afford Wells More Protection

One of the Water Board's most successful programs is the well drillers/pump installers initiative, a program that cooperates with the well drilling industry in designing standards and enforcing laws to protect Oklahoma's fresh groundwater.

The minimum standards for construction of groundwater wells, fresh water observation wells, heat exchange wells and water well test holes, included in the OWRB Rules mirror changes in the industry and environment.

"Rules protecting the state's fresh groundwater continue to tighten as potential pollution sources increase -- such as burgeoning swine and poultry operations," says Mike Mathis, chief of the Board's Planning and Management Division.

Mathis points out that the Drillers/Pump Contractors Program's significant accomplishments are largely the result of careful day-to-day management by Gary Glover, who oversees the D/PC initiative.



Gary Glover

Among the new rules recently approved by the Legislature were regulations increasing the distance from water well drilling sites from potential contaminants. Where previous rules required wells to be 100 feet from a waste lagoon for a feedlot or an animal feeding operation, the new rules require a distance of 300 feet from the outside edge of the drainage area, lagoon or other possible pollution source.

According to Glover, wells not to be used for drinking water, observation or heat exchange may be located closer to a possible pollution source if the source is not a waste-water lagoon. New language in the law requires the driller to advise the owner that the well may be subject to contamination. The owner is then required to notify the Board that he will authorize drilling the well closer than the minimum standard.

Glover points out that in such instances, the driller fills the outside water-tight casing with cement grout at least 20

feet down from the land surface or pitless adapter connection. Except for a heat exchange well near a building foundation, the well must be located as far as possible from the potential pollution source.

If the well is a heat exchange well, the driller is required to completely seal the annulus from the bottom to within 20 feet of the surface with high-solids bentonite grout, pellets or chips. The driller then is required to seal the well with at least 20 feet of cement from the bentonite to the surface.

Mathis and Glover expect the new rule to afford much greater protection to groundwater supplies in areas adjacent to poultry and swine operations.

"The changes in the Drillers/Pump Contractors Program mark maturity in the effort," says Glover. He points out that since water well driller licensing began in 1973, the number of licensed firms has grown from 33 to 375 firms employing 750 licensed water and monitoring well drillers and pump installers.

The 1973 legislation also required water well drillers to submit multi-purpose completion reports (well logs) on all of the wells they drilled, and by 1974, 120 reports were on file with the Board. Today, 46,000 reports are on file. □

Jann Hook, Mike Sughru and Kevin Koon demonstrate the Water Board's GIS capabilities at the State Capitol.



## May 13 GIS Day at the Capitol

The Fourth Floor Capitol Rotunda hummed with activity May 13 as 23 exhibitors displayed their expertise in Geographic Information Systems (GIS.) Among participants were the OWRB and other state agencies, federal agencies, universities, cities and vendors. Bob Springer, coordinator of the State GIS Council, said this was the fourth annual GIS Day at the Capitol.



not usually covered by water which has developed a soil profile and supports "upland" vegetation.

Unlike the active watercourse bank which can shift almost overnight, or the vegetation line which might change over several months, a fast land boundary may take decades to move. Adoption of a fast land boundary would mean moving the boundary south toward Texas from a few feet to several hundred yards.

An Oklahoma subcommittee charged with recommending parameters to establish the boundary proposes to use the vegetation line along the river's south bank, from the east base of Denison Dam, east to the Arkansas border, and west of Lake Texoma to the confluence of the North Fork.

The boundary within the lake bed would be set at the south bank of the Red River, as determined at the time of construction of Denison Dam.

The Oklahoma Boundary Commission will continue to exchange proposals with the Texas counterpart commission. If these commissions agree on terms, the proposal will be submitted to each state legislature, then to the U.S. Congress for approval.

## Floodplain Administrators Meet

The National Flood Insurance Program, coordinated by Ken Morris of the OWRB, observed May Flood Awareness Month by offering regional workshops for state floodplain administrators.

The Water Resources Board held workshops in the Oklahoma City area at Midwest City on May 5, Tulsa on May 7, Woodward on May 12 and Lawton on May 14.



Gavin Brady, manager of the OWRB Tulsa Office, registers Stuart Chai, Midwest City, for the annual Floodplain Administrators Workshop held at the Midwest City Public Library May 5.

## Inside and Out, Water Conservation Pays!

◆ Install low-flow showerheads that spray about three gallons a minute; time showers for five minutes or less.

◆ Install a toilet tank displacement insert or dam to reduce the volume of water in the tank and the amount used per flush. A plastic jug filled with water and placed in the tank is an effective displacement device.

◆ Do not use the toilet to flush away objects that should be thrown away.

◆ Use sink and tub stoppers to avoid losing water when shaving, washing hands and washing dishes.

◆ Wash only full loads of dishes and clothes.

◆ Keep a bottle of chilled water in the refrigerator instead of running water from the tap until it is cool.

◆ Use a small pan of water, rather than running water to clean vegetables.

◆ Check all water line connections and faucets for leaks, especially between the water meter and house.

◆ Learn to read your own water meter and keep track of water bills so that you can judge when and how much water you use and see opportunities to conserve it.

◆ Water your lawn only when it really needs it -- when the leaves begin to roll or show signs of wilt, when grass does not feel "springy" and its appearance is dull, grey-green.

◆ Water slowly and thoroughly, rather than frequently, to encourage root system growth and avoid runoff.

◆ Condition soil with mulch or compost before planting to promote water penetration and retention in grass and flower beds.

◆ Water turf areas separately from shrubs, flower beds and other plantings. Group landscape plants together according to water needs.

◆ Use hose washers between outdoor spigots and water hoses to eliminate leaks. Check for leaks often.

◆ Use a mulching mower that leaves the clippings on the lawn. Mulching helps grass retain water and reduces the amount of fertilizer needed to maintain a healthy and attractive lawn.

◆ Use a sprinkler that applies water as slowly as possible. Waste occurs when water is applied faster than it can soak in.

◆ Use a sprinkler that distributes large droplets on a low trajectory close to the ground or one that simulates a gentle rain.

◆ To find out how much water your sprinkler applies, set 3-5 empty cans at different distances from the sprinkler, with the last can near the edge of the sprinkler coverage. Run sprinkler 30 minutes. Add the inches of water in all cans and divide by the number of cans to obtain an average. Then multiply the average by 2 to determine how many inches of water are applied in an hour.

◆ Choose native plants or species with low water demand.

◆ Eliminate weeds to reduce competition for water. Keep the soil loose to promote easy penetration of water.



## At the May 12 Board Meeting:

On May 11, members of the Oklahoma Water Resources Board and staff attending the monthly Board meeting in Duncan were guests of the National Rural Water Association for a tour of NRWA headquarters and a reception and dinner at the Simmons Center.

The regular meeting of the Board began at 9:30 a.m. in the Simmons Center. Executive Director Duane Smith congratulated Ervin Mitchell on his recent reappointment to the Board by Gov. Keating. Smith updated the Board on the Sardis Reservoir buyout proposal discussed with the Corps of Engineers, Department of the Treasury and Office of Management and Budget on his recent trip to Washington with Board Member Lonnie Farmer and General Counsel Dean Couch. Smith said he is also working closely with Congressman Wes Watkins' office concerning terms of such an agreement.

Joe Freeman, chief of the Financial Assistance Division, asked and gained approval for an emergency grant of \$45,621 to the Town of Ames, Major Co.; a Clean Water SRF loan of \$3.3 million to the Okemah Utilities Authority, Okfuskee Co.; a CWSRF loan of \$4,505,300 to the Tulsa Metropolitan Utilities Authority, an FAP loan of \$8,500,000 to TMUA and an increase in the amount of a previous loan to Fort Gibson Utilities Authority, Muskogee Co. Rural Economic Action Plan (REAP) grants were approved for Lincoln Co. RWD #1, Morrison PWA, Noble Co., Town of Roosevelt, Kiowa Co., Grayson Development Authority, Okmulgee Co., and Rush Springs MA, Grady Co.

The Board approved a resolution authorizing the issuance of CWSRF revenue notes in the amount of \$2.2 million to provide the state match for the federal capitalization grant under the Clean Water Act, FY 1998.

Mike Mathis, Planning and Management Division chief, asked approval of seven temporary and one regular permit to use groundwater, three amendments to temporary permits

and two amendments to prior rights to use groundwater.

The Board approved Drillers/Pump Contractors licenses for Spencer Correll and operator certification for Michael Dane Elliott of the Layne Christensen Company. □

### FINANCIAL ASSISTANCE PROGRAM UPDATE

Approved at April and May 1998  
Board Meetings

#### FAP Loans

4.222% 1997 Bonds; 29-year maximum term

Ponca City UA .....	\$ 7,555,000.00
Tulsa MUA .....	\$ 8,500,000.00

#### CWSRF Loans

Norman UA .....	\$ 4,850,000.00
Ponca City UA .....	\$ 4,400,000.00
Okemah UA .....	\$ 3,300,000.00
Tulsa MUA .....	\$ 4,505,300.00
Grayson Dev. Auth .....	\$ 94,910.70
Ft. Gibson UA .....	\$ 445,100.00

#### Emergency Grants

McIntosh Co. RWD#12 .....	\$ 50,000.00
East Central Ok. WA .....	\$ 97,750.00
Purcell PWA .....	\$ 67,000.00
Town of Ames .....	\$ 45,621.03

#### TOTALS

	FAP Loans	CWSRF Loans
<b>APPROVED</b>	199	70
<b>Amount</b>	\$267,500,000.00	\$253,148,522.48
	<b>Emergency Grants</b>	<b>REAP Grants</b>
<b>APPROVED</b>	418	104
<b>Amount</b>	\$23,634,926.35	\$7,883,096.44

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Barry Fogerty, Writer, Photographer

James Leewright, Typography and Layout

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