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OKLAHOMA Water News

Bimonthly Newsletter of the Oklahoma Water Resources Board

From the Director



*Duane A. Smith
OWRB Executive Director*

Without a doubt, a highlight of the Governor's Water Conference in November was the opening day's Arbuckle-Simpson Symposium. I was fortunate to moderate two panels of individuals who will be integral in resolving issues related to the ongoing aquifer study and developing plan to manage the aquifer and related water resources while protecting area springs.

As you know, there are many and varied concerns surrounding the use and management of water resources in the Arbuckle-Simpson region of south central Oklahoma. Foremost among our challenges to protecting these abundant and economically significant water resources is the quest for sufficient information with which to make critically important water management decisions. As we acquire technical information, many factors must

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Lake Thunderbird Demonstration Project Initiates Monitoring Phase

Worsening sedimentation problems at Lake Thunderbird, near Norman, could become a thing of the past should the Water Board's recently completed erosion control demonstration project prove successful.

Thunderbird is Oklahoma's most heavily utilized recreational lake per capita. In addition, the reservoir serves the City of Norman and other area communities as a primary source of water supply and provides substantial flood control benefits.

However, according to Derek Smithee, Chief of the OWRB's Water Quality Division, large expanses of exposed clay and rock, eroded banks, falling trees, and threatened campgrounds ring the shoreline and the lake has been included on Oklahoma's 303(d) list as impaired by suspended solids. Excess sediment, contributed to the lake through its upstream tributaries, has also reduced Thunderbird's volume and threatens its future water supply potential.

In an attempt to control the lake's widespread sedimentation problem, the OWRB is testing new procedures aimed at reducing shoreline erosion. Late last summer, Water Quality Division staff installed hundreds of feet of break-

water structures and more than 1,000 aquatic plants along a 450-foot area of the lake's southern shoreline.

See Lake Thunderbird, Page 2



The OWRB's Leigh Cheatwood (left) and Megan Spowls prepare to plant transported vegetation at the Thunderbird site.

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be considered, including legal water use constraints, economic and aesthetic issues, and the water requirements of municipalities, rural areas, and local industries. Many of those on our Water Conference panels will be key players in this effort, especially members of the Arbuckle-Simpson Study Technical Peer Review Team.

After the passage of Senate Bill 288, the Peer Review Team was established to represent all who are involved or affected by the outcome of the aquifer study. The Team will review the scope of work and provide guidance to ensure sound science and appropriate methods are used to obtain the necessary information. The group will also lean heavily on local citizens, landowners, community leaders, environmental organizations, and other stakeholders.

This working party of experts, all from Oklahoma, brings enormous expertise to guide the study, including skills related to groundwater modeling and mapping and advanced knowledge of karst geology, recharge, and the movement of groundwater through fractured rock aquifers such as the Arbuckle-Simpson. Team members are Scott Christenson, Oklahoma District Groundwater Specialist of the USGS; Randall Ross, a hydrologist with the U.S. Environmental Protection Agency's Kerr Lab in Ada; Dr. Neil Suneson, Assistant Director of Geological

Lake Thunderbird . . . Continued from page 1

The success of the demonstration project, which will be determined through a two-year monitoring effort, hinges upon the ability of these bioengineering techniques to reduce harmful wave action that eats away the shoreline and allows sediment and other pollutants to enter the reservoir.

The calming action of the breakwaters settles out sediments and promotes the establishment of shoreline vegetation. Plant roots bind the soil and keep it in place, further reducing the contribution of sediment to the lake body.



Coir roll breakwaters are held in place by wooden stakes.

Programs with the Oklahoma Geological Survey; and Dr. Todd Halihan, Assistant Professor for the School of Geology at Oklahoma State University. Noel Osborn, a Water Board geologist with over 20 years experience will help coordinate the study and facilitate the Peer Review Team.

The Symposium also featured a panel that explored "Local Water Management Issues" in both the Arbuckle-Simpson region and in central Oklahoma. Widely varying perspectives were presented by Dick Scaff, Chairman of the Ada Water Resources Board; Yukon City Manager Jim Crosby; Sen. Jay Paul Gumm (who authored SB 288); and Rep. Susan Winchester. While their views were at times contradictory, each contributed unique insight into this highly contentious issue that could eventually impact citizens throughout Oklahoma.

The purpose of the Water Conference is to bring together water professionals so they may share their opinions about Oklahoma's water future. In this way, Oklahomans are better prepared to deal with the many water issues and problems that inevitably lie ahead. Perhaps never before has this purpose been better served than by those who participated in, contributed to, or attended the 2003 Arbuckle-Simpson Symposium and Governor's Water Conference. Thanks to you all and see you next year at the Conference's special 25th anniversary.

Two types of primarily organic breakwaters have been installed at the project site. Branchboxes—rolled, tight bundles of live brush about 10-feet long and one- to two-feet in diameter—have been stacked and compressed between fence posts inserted in the water along the shoreline to prevent large waves from slamming into the bank. The resulting buildup of sediment becomes a medium for aquatic plant growth, further protecting the shoreline as well as providing habitat for fish and other aquatic life.

Similarly sized woven rolls of coir, strong and coarse fibers produced from coconut husks and held together by netting, serve a similar purpose. Coir requires less time to install than branchboxes, and it is more versatile because it can be used directly against an eroded bank as well as in a breakwater. It is biodegradable and the fibrous nature of the material provides an excellent medium for plant growth.

While traditional erosion control structures, such as rock revetments and bulkheads, offer adequate shoreline protection, branchboxes and coir provide additional benefits related to habitat, water quality improvements, and aesthetics. They are also more economical and require little maintenance. A similar demonstration project will soon be implemented at Lake Carl Blackwell near Stillwater.

During the next two years, OWRB staff will monitor sedimentation and erosion at the site to determine the effectiveness of the breakwaters prior to potential widespread implementation of the control measures.

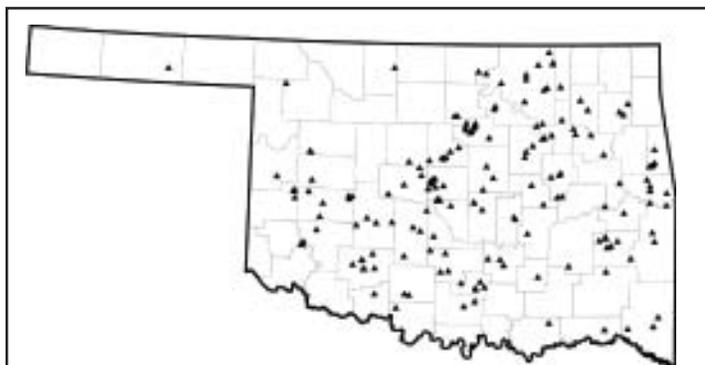
Nation's Dams in Critical Condition

According to the Association of State Dam Safety Officials (ASDSO), the cost of upgrading or repairing the nation's non-federal dams is more than \$36 billion. According to a nine-member ASDSO task committee charged with compiling state and national estimates of the cost of dam rehabilitation, almost one-third of this amount—\$10.1 billion—is needed for the nation's most critical dams, those whose failure would cause loss of human life.

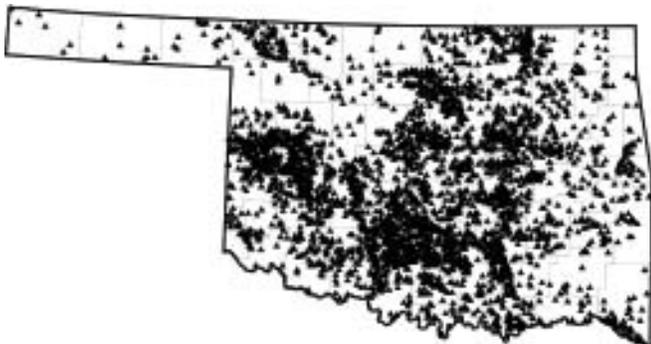
During the past two years, at least 21 dam failures have occurred in the U.S., causing widespread damage to utility facilities, the environment, roads, bridges, homes, and businesses, as well as associated economic loss.

To prevent such calamities, ASDSO has pledged to strongly promote the passage of dam safety legislation in the U.S., including the establishment and strengthening of state dam safety programs. More than 50 percent of U.S. dams are privately-owned, and owners often lack the financial resources to maintain and repair these structures, which provide valuable water supply, flood control, and recreational benefits to the country.

OWRB engineer Cecil Bearden was a member of the ASDSO task committee and recently completed a four-year term on the organization's board. Bearden coordinates the agency's Dam Safety Program, through which the OWRB is responsible for ensuring the safety of dams in Oklahoma that are greater than 25 feet in height or store more than 50 acre-feet of water.



Locations of the 184 high-hazard dams in Oklahoma. The high-hazard classification is afforded to those structures whose failure could result in loss of life.



Locations of the 4,476 dams in Oklahoma that are under OWRB jurisdiction as part of the agency's Dam Safety Program.

Grant Funds Available for Marina Owners

Oklahoma's Office of the Secretary of the Environment announced Monday that federal grant funds are available to marina owners in Oklahoma to reduce potential water pollution resulting from service to watercraft. Grant applications must be received by December 29, 2003.

The competitive grant program, established through the 1992 Clean Vessel Act (CVA), helps fund the construction, operation, and maintenance of pumpout facilities to service pleasure craft and help reduce pollution from vessel sewage discharges into the nation's waters. The Office of the Secretary of the Environment serves as the grant coordinator as part of its commitment to provide a clean, safe, and enjoyable environment in Oklahoma. Clean Vessel Act grant funds are from the U.S. Fish and Wildlife through the Sport Fish Restoration Account of the Aquatic Resources Trust Fund.

Clean Vessel Act grant funds are available on a competitive basis to both the public and private sector, including all local governmental entities and private businesses that own and operate boating facilities that serve the general public. The grant reimburses recipients for up to 75 percent of the installed cost of pumpout and dump stations, including new equipment, as well as pumps, piping, lift stations, on-site holding tanks, pier or dock modifications, signs, permits, and other miscellaneous equipment required to operate a complete and efficient station. Grant funds are not available for the construction or renovation of onshore restroom facilities or sewage treatment plants including septic tanks, leach fields, private and municipal treatment plants, and other special treatment devices.

To request a CVA application package, contact Jennifer Wasinger with the Office of the Secretary of Environment at (405) 530-8997, go to www.ose.state.ok.us, or write to Office of the Secretary of Environment, Clean Vessel Act Grant Program, 3800 North Classen Blvd., Oklahoma City, OK 73118.

EPA's Mehan Resigns

G. Tracy Mehan III, assistant administrator for the Office of Water at the U.S. Environmental Protection Agency (EPA), submitted his resignation to the president November 21, effective December 29, 2003.

In his letter to President Bush, Mehan highlighted the Administration's accomplishments in helping the nation's communities meet growing infrastructure needs, increasing the security of water and wastewater infrastructure against possible terrorist threats and campaigning to improve the ability to monitor the nation's water quality.



The 2003 Governor's Water Conference



OWRB staff members Darla Whitley and Mary Nell Brueggen (Registration Coordinator) and Joyce Boyd (OSE) at the registration table



Duane Smith presides over panels outlining the Arbuckle-Simpson Hydrology Study and the numerous related water issues facing both central Oklahoma and the Arbuckle-Simpson region.



OWRB Chairman Grady Grandstaff with Executive Director Duane Smith and Alvin Files, Ada City Attorney



Board member Lonnie Farmer with Gary Sherrer, KAMO Power



Board members Glenn Sharp and Jack Keeley with D. Craig Shew, special counsel for the City of Ada



Peter Fahmy, Solicitor's Office, Dept. of Interior; Sen. Jay Paul Gumm; and John Bruno, CPASA



Conference Coordinator Mike Melton with Ron Jarman, Jarman Environmental, Inc.



Conference attendees enjoy visiting during a break



Governor Brad Henry

Coast Guard Honors Bridge Collapse Heroes

At a special Conference luncheon ceremony, six Oklahomans were honored by the U.S. Coast Guard for their efforts to rescue victims of the Memorial Day 2002 barge accident and resulting I-40 bridge collapse on the Arkansas River near Webbers Falls. Receiving Public Service Awards were Kirk Washburn (Harrah, at right with Coast Guard Lt. Robert Helton), Gabe Swain (Tulsa), John Swain (Tulsa), Alton Wilhoit (Harrah), Randy Graham (Wagoner), and Norman Barton (Vian).



John Keys, Bureau of Reclamation Commissioner, served as the Conference keynote speaker.



Kathryn Taylor, Sec. of Commerce/Tourism; Grady Grandstaff, OWRB Chair; Miles Tolbert, Sec. of Environment; and Phil Thomlinson, Sec. of Transportation



Jim Barnett, EFO, with Christine Altendorf, Tulsa District Corps of Engineers and Dean Couch, OWRB



Angela Thompson and Lynda Williamson at the OWRB's Financial Assistance booth with Mike Brown, Brown Engineering



Miguel Flores, EPA Region 6 Director of Water, with Derek Smithee, OWRB Water Quality Chief



Christy Rard, USDA, with Cliff Tatum, Hughes Co. RWD #6, and Charles Dewberry, Spear/McCaleb



Jon Craig, DEQ, with Kim Winton, USGS



Rep. Danny Hilliard contributes his perspective as a member of the State Legislature.



Grady Grandstaff, OWRB Chair, applauds featured luncheon speaker, former Gov. George Nigh.

2003 Water Pioneers Honored at Annual Conference

Sponsors of the annual Governor's Water Conference selected three individuals to receive the Oklahoma Pioneer Award in 2003, bringing to 97 the total number of Water Pioneers recognized since the Award's inception in 1985. The Oklahoma Water Pioneer Award honors those men and women who have made important contributions in the planning, development, management, and conservation of Oklahoma's water resources. This year, the award went to Wes Watkins, Clifford Younger, and Mark Coleman.

Wes Watkins was considered one of the most knowledgeable of Oklahoma's Congressional delegates regarding water issues, and during his tenure as an Oklahoma Congressman, his positions on key Appropriations and Energy and Water Development Committees enabled him to write and promote legislation that resulted in many vitally important water and economic-related infrastructure development projects, especially in rural areas of southeastern Oklahoma. He strongly supported the efforts of the Corps of Engineers, Bureau of Reclamation, and NRCS with technical and financial assistance to help local landowners, communities, and rural water districts with their water needs. The Arkansas Basin Development Authority and Red River Valley Association called on Wes each year to ensure their funding authorizations for bank stabilization, navigation, and related needs were met.

Notable achievements for which Wes Watkins is responsible include funding for establishment of a much-needed water supply system for the Sardis Lake area, reallocation of water supply storage at Lake Wister, study and authorization of Parker Reservoir, construction of a multipurpose reservoir (appropriately named Wes Watkins Lake) to provide water supply for Pottawatomie County citizens, and establishment of several important water-related organizations, such as the McGee Creek Project Area Council, Red Ark Development Authority, and Rural Enterprises, Inc.,.

Clifford (Cliff) Younger has been with the Oklahoma Water Watch Volunteer Monitoring program since its inception in 1992. He first volunteered as a water quality monitor for the Grand Lake Association chapter and eventually took over the responsibility of Program Coordinator in 1995. Cliff has persistently focused on maintaining the consistent collection of quality data. He has been instrumental in the coordination of fund-raising for program activities, working tirelessly to improve and expand the program, without a doubt setting an outstanding example of the importance of citizen involvement in the protection and improvement of water quality. At the 11th Anniversary celebration of the Grand Lake Water Watch Chapter, Cliff was recognized and credited by Board member Glenn Sharp and Senator Rick Littlefield as the driving force behind a program that is used nationwide as a model for volunteer monitoring.

Mark Coleman, whose award was accepted by Steve Thompson, Director of the Oklahoma Department of Environmental Quality (ODEQ), began his career in public service by establishing the State Environmental Laboratory in 1970. He directed water quality programs for many years at the Oklahoma State Department of Health, and later played an instrumental role in the creation of the ODEQ in 1993, serving as its first director. He was a frequent advisor to the EPA in forming national environmental laws and policies, and served in leadership positions in numerous organizations including the American Water Works Association, the Association of State and Interstate Water Pollution Control Administrators, the Conference of State Sanitary Engineers, and the Environmental Council of the States. Upon his retirement, both the House and Senate adopted resolutions commending Mr. Coleman for his many years of service to the State of Oklahoma.



Board member Glenn Sharp with Wes Watkins, 2003 Oklahoma Water Pioneer Award recipient



Glenn Sharp with Cliff Younger, 2003 Oklahoma Water Pioneer Award recipient

Oklahoma Drought Monitor

Reservoir Storage

Lakes in southwest Oklahoma continue to suffer from critically low levels. Lake storage elsewhere remains generally good, despite a continued gradual decline statewide. As of December 2, the combined normal conservation pools of 31 selected major federal reservoirs across Oklahoma (see below) are approximately 87.2 percent full, a 0.3 percent decrease from that recorded on November 12, according to information from the U.S. Army Corps of Engineers (Tulsa District). Fifteen reservoirs have experienced lake level decreases since that time. Twenty-three reservoirs are currently operating at less than full capacity (compared to 24 three weeks ago). Two reservoirs—Lugert-Altus, 15.4 percent; and Tom Steed, only 54.6 percent—are below 80 percent capacity.

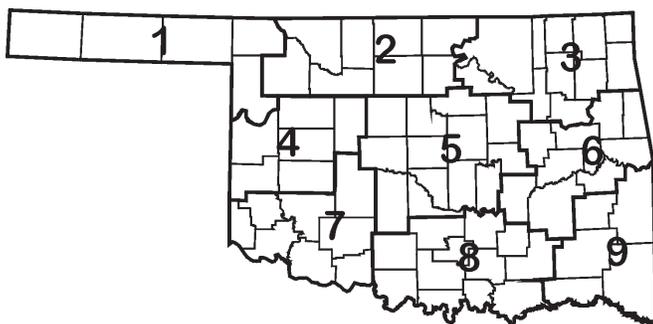
Storage in Selected Oklahoma Lakes & Reservoirs

As of December 2, 2003

Climate Division	Conservation Storage (acre-feet)	Present Storage (acre-feet)	Percent of Conservation Storage
North Central	460,745	455,973	99.0
Northeast	3,710,194	3,499,412	94.3
West Central	276,790	242,331	87.6
Central	154,225	140,930	91.4
East Central	2,915,043	2,406,414	82.6
Southwest	301,810	141,773	47.0
South Central	3,078,236	2,587,139	84.0
Southeast	1,491,229	1,331,763	89.3
State Totals	12,388,272	10,805,735	87.2

Drought Indices

According to the latest Palmer Drought Severity Index (November 29, below), one region in Oklahoma, the West Central climate division, is currently experiencing drought conditions. Six of Oklahoma's nine climate divisions have undergone PDSI moisture decreases since November 8. The greatest decrease occurred in the West Central climate division.



The latest monthly Standardized Precipitation Index (through November, below) indicates continued long-term dryness in all but northern Oklahoma. Among the *selected* time periods (3-, 6-, 9- and 12-month SPIs), "very dry" conditions are indicated in the Southwest climate division throughout the last 3 months. "Moderately dry" conditions are indicated in the Southeast, South Central, West Central, East Central, and Central regions at various times during the past 9- and 12-month periods. Considering longer periods (through six years), various regions, primarily in southern and eastern Oklahoma, are "moderately dry" during the past 15-, 18-, 24-, and 30-month periods.

Palmer Drought Severity Index

Climate Division (#)	Current Status 11/29/2003	Value 11/29	Value 11/8	Change In Value
NORTHWEST (1)	NEAR NORMAL	0.34	0.42	-0.08
NORTH CENTRAL (2)	NEAR NORMAL	-0.18	0.24	-0.42
NORTHEAST (3)	MOIST SPELL	1.01	0.91	0.10
WEST CENTRAL (4)	MILD DROUGHT	-1.29	-0.66	-0.63
CENTRAL (5)	NEAR NORMAL	-0.08	0.31	-0.39
EAST CENTRAL (6)	INCIPIENT MOIST SPELL	0.67	0.58	0.09
SOUTHWEST (7)	INCIPIENT DROUGHT	-0.98	-0.79	-0.19
SOUTH CENTRAL (8)	NEAR NORMAL	0.32	0.60	-0.28
SOUTHEAST (9)	NEAR NORMAL	0.17	0.01	0.16

Standardized Precipitation Index

Through November 2003

	3-Month	6-Month	9-Month	12-Month
NORTHWEST (1)	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NORTH CENTRAL (2)	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
NORTHEAST (3)	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
WEST CENTRAL (4)	MODERATELY DRY	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY
CENTRAL (5)	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY
EAST CENTRAL (6)	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	NEAR NORMAL
SOUTHWEST (7)	VERY DRY	NEAR NORMAL	NEAR NORMAL	NEAR NORMAL
SOUTH CENTRAL (8)	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY
SOUTHEAST (9)	NEAR NORMAL	NEAR NORMAL	MODERATELY DRY	MODERATELY DRY

Financial Assistance Program Update

Loans/Grants Approved as of December 9, 2003

FAP Loans—290 totaling \$492,190,000

The OWRB's Financial Assistance Program (FAP), created by the State Legislature in 1979, provides loans for water and wastewater system improvements in Oklahoma. The tremendous popularity of the bond loan program is due, in part, to extended payoff periods of up to 30 years at extremely competitive low-interest rates, averaging approximately 4.762 percent since 1986.

CWSRF Loans—151 totaling \$501,828,717

The Clean Water State Revolving Fund (CWSRF) loan program was created in 1988 to provide a renewable financing source for communities to draw upon for their wastewater infrastructure needs. The CWSRF program is Oklahoma's largest self-supporting wastewater financing effort, providing low-interest loans to communities in need.

DWSRF Loans—35 totaling \$91,734,595

The Drinking Water State Revolving Fund (DWSRF) loan program is an initiative of the OWRB and Oklahoma Department of Environmental Quality to assist municipalities and rural water districts in the construction and improvement of drinking water systems. These projects are often mandated for communities to obtain compliance with increasingly stringent federal standards related to the treatment of drinking water.

REAP Grants—386 totaling \$33,445,279

The Rural Economic Action Plan (REAP) Program was created by the State Legislature in 1996. REAP grants, used for water/wastewater system improvements, target primarily rural communities with populations of 7,000 or less, but priority is afforded to those with fewer than 1,750 inhabitants.

Emergency Grants—503 totaling \$29,438,702

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

Total Loans/Grants—1,365 totaling \$1,148,637,293

Applicants eligible for water/wastewater project financial assistance vary according to the specific program's purpose and requirements, but include towns and other municipalities with proper legal authority, various districts established under Title 82 of Oklahoma Statutes (rural water, master/water conservancy, rural sewage, and irrigation districts), counties, public works authorities, and/or school districts. Applications for agency financial assistance programs are evaluated individually by agency staff. Those meeting specific program requirements are recommended by staff for approval at monthly meetings of the nine-member Water Board.

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

Grady Grandstaff, *Chairman*; Glenn A. Sharp, *Vice Chairman*; Ervin Mitchell, *Secretary*

Harry Currie, Lonnie L. Farmer, Jack W. Keeley, Richard McDonald, Bill Secrest, Richard C. Sevenoaks

Brian Vance, *Writer/Editor* • Darla Whitley, *Writer/Layout* • Barry Fogerty, *Photography*

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