

Oklahoma

Water  
News

MONTHLY NEWSLETTER OF THE OKLAHOMA WATER RESOURCES BOARD

## Wetlands Policy Theme of Tenth State Water Conference Dec. 13

The Tenth Annual Water Conference will focus on the nation's rapidly diminishing wetlands with the theme "Oklahoma Water—from Dust Bowl to Wetlands." Water Resources Board conference planners announce a program well balanced in its ban-or-boon discussion of the wetlands of the state and the nation. Wetlands are regarded by many as a nuisance—wastelands to be reclaimed and developed. They are seen by others as a precious natural resource and priceless wildlife habitat.

The Oklahoma City Marriott Hotel will again host the conference, with activities on December 13 beginning with registration at 8 a.m. and closing early afternoon with Governor Bellmon's presentation of 1989 Oklahoma Pioneer Awards.

Robert S. Kerr, Jr., OWRB chairman will open the program at 9 a.m. with introduction for conference keynoter Dennis Underwood, Commissioner (designate) of the Bureau of Reclamation. Prior to his appointment as Commissioner, Underwood was executive director of the Colorado River Board of California. He is a graduate of Northwich University in Northfield, Vermont, and has previously served the California Water Resources Board and the U.S. Army Corps of Engineers. As a consultant to Massachusetts Institute of Technology and the United Nations, Underwood



Governor Henry Bellmon

trained a team of engineers from Spain.

In his address to the Oklahoma Water Conference, Underwood will describe current Bureau planning studies in the state, region and nation.

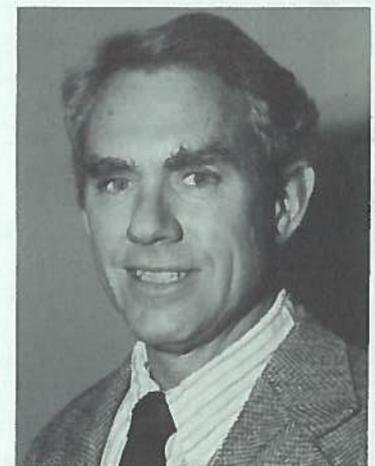
Representatives of other federal agencies involved in water issues will follow Underwood on the morning agenda. Dan Mauldin, Deputy Director of Civil Works for the U.S. Army Corps of Engineers, will discuss Corps activities; followed by Robert E. Layton, Jr., Administrator, Environmental Protection Agency Region VI; Gary Margheim, Associate Deputy Chief for Programs of the Soil Conservation Service; and John R. George, Assistant Regional Hydrologist of the U.S. Geological Survey.

Ross Swimmer, Coordinator of the Governor's Environmental Concerns Council, will recap for conferees the findings and recommendations emerging from the council's recent efforts.

### **What are wetlands worth? Trash or treasures?**

"Are Wetlands Worth the Cost?" will be the topic debated by a panel moderated by Michael Spear, Regional Director of the U.S. Fish and Wildlife Service. Pros and cons of wetlands protection will be presented by Russ Rhoades, Director, Environmental Services Division, EPA Region VI; Donald McCrory, Port Director of the Memphis and Shelby County (Tennessee) Port Commission; Ken McFall, President, Oklahoma Farm Bureau; Barry Rought, Chief of Planning for the Corps' Southwest Division; and Mike Luzier, Director of

*Continued on page 2*



Michael Spear

*Conference, continued from page 1*

Environmental Regulation for the National Association of Homebuilders. Spear, as moderator, and each of the panelists will describe how the controversial federal policy protecting and preserving wetlands would impact his interest or industry in a positive or negative way.

According to OWRB Executive Director Jim Barnett, the wetlands theme was chosen for the 1989 water conference because it is the hottest issue of the decade in water and environmental circles. Barnett pointed out that wetlands have always been the bane of farmers and land developers. "Reclaiming" such lands was encouraged by federal Swamp Land Acts of the mid-1800s which gave 65 million acres of federal wetlands to 15 states for drainage and development.

"Today wetlands are better understood and their value appreciated," said Barnett. He pointed out that wetlands possess a sponge-like ability to filter some impurities from water, trap sediments and store floodwaters. "These transitional areas between water and land also support unique and diverse plant and wildlife."

Barnett estimates that between 1950 and 1980, the nation has lost 11 million acres of wetlands, not including areas so degraded by pollution that they can no longer serve their ecological functions.

The conference segment preceding lunch has been reserved for members

of the Oklahoma Congressional Delegation, who have been invited to share their Washington perspective.

The first topic on the luncheon program will be "Prospects for the State-wide Water Development Revolving Fund." It will be addressed by Rep. Cal Hobson, Chairman of the House Appropriations and Budget Committee and Sen. Ben Brown, Chairman of the Senate Natural Resources and Regulatory Subcommittee of the Appropriations and Budget Committee.

Gov. Bellmon will be the featured luncheon speaker. Then he and Secretary of Natural Resources Glenn Sullivan will collaborate in presenting the 1989 Oklahoma Water Pioneer Awards. The award was initiated in 1985 by Water Conference sponsors to recognize men and women who have made exceptional contributions to the development of Oklahoma's water resources. Each year, the Oklahoma Water Pioneer plaque is inscribed with the names of new honorees and displayed at the conference.

Registration for the Tenth Oklahoma Water Conference costs \$25. Register today to ensure accommodation at the conference on December 13. Complete the registration form in this issue and mail it with your check, money order or purchase order.

For additional information, call Conference Coordinators Mary Whitlow or Brian Vance at (405) 271-2523.



**GMDA Meets Here Dec. 6-8**

The OWRB will host the Groundwater Management Districts Association Technical Seminar on December 6-8 in Oklahoma City at the Lincoln Plaza Hotel and Conference Center. According to GMDA Oklahoma Director Duane Smith of the OWRB, who is coordinating the meeting, it will attract members from Colorado, Kansas, Nebraska, Oklahoma and Texas.

Registration costs \$100 for GMDA members, \$120 for non-members, and includes Thursday luncheon and banquet. The program for spouses on Thursday costs \$10. For further information or to register by phone, call Duane Smith at the Oklahoma Water Resources Board at (405) 271-2576.

**New Commissioner Appointed**

Roy Lawrence, of Pawnee, has been appointed by Governor Bellmon as commissioner to the Kansas-Oklahoma Arkansas River Compact Commission. He succeeds Dr. Tracy Norwood, of Tahlequah.

Lawrence, who will serve a four-year term, joins OWRB Executive Director James R. Barnett and Lew Meibergen, Enid, as the Oklahoma compact commissioners. Tulsa's Paul Thornbrugh is federal commissioner. The Commission meets yearly to address pollution issues, future development, and apportionment of waters shared by Kansas and Oklahoma in the Arkansas River Basin.

**FEMA Makes Maps Available**

Harold Springer, OWRB Engineering Division Chief, announced that flood insurance maps are available from substate planning districts or the Federal Emergency Management Agency's Flood Map Distribution Center. He said the FEMA map sets include Flood Insurance Rate Maps, Flood Boundary and Floodway Maps and Flood Boundary Maps. To order

*Continued on page 4*

**Oklahoma Water Conference**  
**c/o Oklahoma Water Resources Board**  
**P.O. Box 53585**  
**Oklahoma City, OK 73152**

Please make \$25 check, money order or purchase order payable to the OKLAHOMA WATER CONFERENCE. No refunds considered after December 6. Registration includes luncheon.

Name \_\_\_\_\_

Representing \_\_\_\_\_

Address \_\_\_\_\_

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

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

## Board, Bureau to Begin Second Groundwater Recharge Project

A second groundwater recharge demonstration project, near Woodward in northwest Oklahoma, has been selected as part of an upcoming Bureau of Reclamation study of techniques to recharge declining aquifers in the western U.S. The two projects, which will be guided by the OWRB's Groundwater Division, are among 21 sites in 12 states included in the High Plains States Groundwater Demonstration Program.

The two-phase, four-year project—recently recommended by the Bureau for partial funding—seeks to increase water supplies available in alluvium and terrace deposits of the North Canadian River near Woodward. The Board is currently cooperating with the Bureau in an artificial groundwater recharge demonstration project in southwest Oklahoma's Blaine Gypsum Aquifer.

The Blaine project, which began feasibility investigations last year, involves a five-year study of channeling runoff into natural gypsum sinkholes and man-made recharge wells to observe recharge and water quality effects on the groundwater formation.

While numerous towns and industries in Woodward County rely primarily on the Ogallala for its rich supply of water, the North Canadian's alluvium and terrace deposits remain vital to the area's growth. The aquifer has been highly developed because of its shallow depth, relatively high permeability and proximity to Woodward and Mooreland, the county's two principal cities. In Woodward County alone, the high terrace deposits store an estimated one million acre-feet of water, but recent declines in groundwater levels have caused concern in the region, especially by those who utilize the aquifer for irrigation purposes.

Phase I of the ambitious project, tagged with a \$50,000 funding proposal, involves extensive computer simulations to determine feasibility of the project and explore appropriate design features of a subsurface dam

which would capture and hold groundwater for later use. The OWRB and Bureau of Reclamation are awaiting headquarters' approval to begin the feasibility study.

If results of the initial study demonstrate the project's technical feasibility, Phase II will commence with construction of the underground barrier—possibly ¼ mile long and up to 30 feet high—below Woodward's existing well field. In addition, monitoring wells will be constructed to determine the barrier's effectiveness in holding water and raising the water table. Several years of data will be collected and analyzed following dam construction.

The shallow dam will actually consist of a series of densely spaced, bored columns injected into place by a portable drilling rig with a special mixture of concrete, clay and water

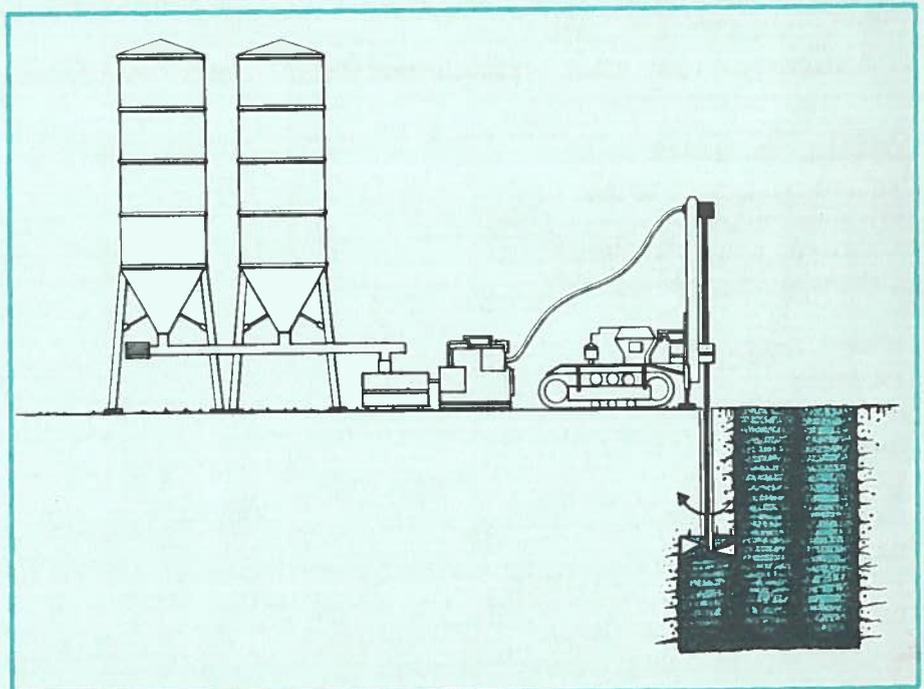
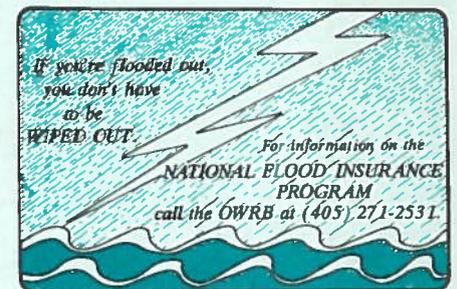
**The technique used for installation of the recharge dam involves placement of closely set, impermeable grout columns 48 inches in diameter. Once each hole is drilled, a grout slurry is forced out laterally through pressurized jets above the drill bit, leaving behind a cylindrical column. The process is repeated depending upon desired length of the dam.**

that dries into a semi-permeable curtain of grout.

According to Bob Fabian, Board hydrologist, the shape and location of the dam are critical to the project's cost—and success.

"The dam must work in a way to deflect groundwater which would normally escape the existing well's zone of influence," he emphasized. "The distance from the well is vital because if the dam is too close, the down-gradient side of the well will receive little water. If the dam is too far away from the well, it will lose its effectiveness in deflecting groundwater to the well field where it is needed."

Financing for both recharge projects will involve joint federal-state funds with 20 percent coming from non-federal sources, according to Duane Smith, Groundwater Division chief.



*Mainstream, continued from page 2*  
up to five sets, call FEMA's toll-free number, 1-800-333-1363; for more than five sets, use the same phone number to request an order form.

Springer pointed out that whether

ordering by phone or letter, individuals will be asked to provide the map's six-digit community code number, available by calling the Oklahoma Water Resources Board, (405) 271-2533. Written requests for maps

should be addressed to Federal Emergency Management Agency, Flood Map Distribution Center, 6930 (A-F) San Thomas Road, Baltimore MD 21227-6227.

**ACTIVE CONSERVATION STORAGE IN SELECTED OKLAHOMA LAKES AND RESERVOIRS  
AS OF OCTOBER 23, 1989**

PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (AF)	PERCENT OF CAPACITY	PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (AF)	PERCENT OF CAPACITY
<b>SOUTHEAST</b>			Wister	57,202	90.4 <sup>2</sup>
Atoka	118,242	95.3	Sardis	295,672	97.7
Broken Bow	893,480	97.3	<b>NORTHEAST</b>		
Pine Creek	72,532	93.4 <sup>2</sup>	Eucha	74,000	93.0
Hugo	150,602	95.6 <sup>2</sup>	Grand	1,354,650	90.8
McGee Creek	107,618	98.0	Oologah	540,790	99.4
<b>CENTRAL</b>			Hulah	30,594	100.0
Thunderbird	105,325	99.4	Fort Gibson	364,639	99.9
Hefner	66,160	87.8	Heyburn	5,735	86.9
Overholser	15,782	99.2	Birch	18,380	95.7
Draper	74,553	95.3	Hudson	200,300	100.0
Arcadia	27,390	100.0	Spavinaw	30,000	100.0
<b>SOUTH CENTRAL</b>			Copan	43,400	100.0
Arbuckle	61,481	98.3	Skiatook	310,854	97.3
Texoma	2,546,400	96.5	<b>NORTH CENTRAL</b>		
Waurika	199,357	98.2	Kaw	428,600	100.0 <sup>2</sup>
<b>SOUTHWEST</b>			Keystone	616,000	100.0
Altus	96,333	72.5	<b>NORTHWEST</b>		
Fort Cobb	78,267	99.8	Canton	97,500	100.0
Foss	164,130	67.3 <sup>1</sup>	Fort Supply	13,900	100.0
Tom Steed	77,724	87.4	Great Salt Plains	31,400	100.0
<b>EAST CENTRAL</b>			<b>STATE TOTALS</b>	<b>12,293,593</b>	<b>97.0</b>
Eufaula	2,300,638	98.8			
Tenkiller	623,963	99.4			

1. Conservation storage lowered for project modification
2. Seasonal pool operation

Data courtesy of U.S. Army Corps of Engineers, Bureau of Reclamation, Oklahoma City Water Resources Department, and City of Tulsa Water Superintendent's Office.

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**OKLAHOMA WATER NEWS**

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Oklahoma Water Resources Board  
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... a year to rekindle pride, celebrate excellence in education and our communities and invite all former Oklahomans back for a visit.