

THE AQUAHOMAN

Winter 2006

VOLUME 2 NUMBER 1

A PUBLICATION OF THE OKLAHOMA WATER RESOURCES RESEARCH INSTITUTE

In This Issue

Perspectives on Water Research 2
Letter from the Director 3
Conferences and Events 4

THE **AQUAHOMAN** is published four times a year by the Oklahoma Water Resources Research Institute (OWRRI) at Oklahoma State University. It is available online at <http://environ.okstate.edu/owrri/aquahoman/>

To receive this free newsletter or inquire about available resources, contact OWRRI.



Director: Dr. Will Focht
Asst Director/Managing Editor: Mike Langston
Writer/Editor: Lacey Vertrees
003 Life Sciences East
Stillwater, OK 74078-3011

PHONE: 405-744-9994
FAX: 405-744-7673
E-MAIL: environ@okstate.edu
WEBSITE:
<http://environ.okstate.edu/owrri>

OWRRI funds projects for 2006-07

The Oklahoma Water Resources Research Institute selected the winners of its annual funding competition in January at the inaugural meeting of its Water Research Advisory Board. This was the culmination of a two-month process that included receiving proposals in November and peer reviews in December. In selecting four projects for funding, the Board considered whether they met high-priority state needs, the peer reviews, and the past performance of the researchers.

Each year the OWRRI funds three projects for approximately \$25,000 each, which must be matched 2:1 with non-federal dollars. This year because one proposal requested substantially less money, we were able to fund four projects. A list of the successful proposals and a brief summary of each are listed on page 3.

Dr. Steve McKeever, Vice President of Research and Technology Transfer, welcomed the WRAB members to OSU and commented on how important water research is to the state of Oklahoma.

Will Focht, Ph.D., Director of the OWRRI, gave a brief overview of the OWRRI and the role of WRAB.

A summary was presented of the 2005-06 research projects funded by the OWRRI. The presenters were:



Dr. Art Stoecker presents research currently funded by OWRRI to the Water Research Advisory Board on January 11, 2006. The water research priorities set for the 2007 competition are listed on page 2. For more information about the 2006-07 grantees and a brief summary of the successful projects, See OKLA. PROFESSORS page 3.

Art Stoecker, Associate Professor, Department of Ag Economics at OSU, presented on his project with Dr. Brian Adam entitled: *Optimal Selection of Management Practices, Policies, and Technological Alternatives for Phosphorus Abatement: Using GIS and Economic Methodology to Model a Watershed*;

Beth Caniglia, Assistant Professor, Department of Sociology at OSU, presented her work with Dr. Mark Krien entitled: *Science, Development, and Public Opinion: Adjudication of Groundwater Policy for the Arbuckle*

Simpson Aquifer:

Todd Halihan, Assistant Professor, Department of Geology at OSU, presented on his work with Dr. Surinder Sahai (OSU) and Dr. Roger Young (OU) entitled: *Estimating the Orientation and Intensity of Fractures in Sedimentary Rocks Using Multi-Component 3-D Ground Penetrating Radar*; and

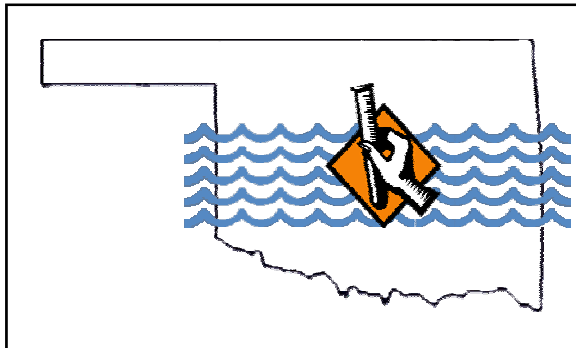
Joseph Zume, Graduate Research Assistant, Department of Geography at OU, presented on the work of Drs. Andover Tarhule and Elizabeth Bergey (OU) entitled: *Springs in Time: Comparison of Present and Historical Flows*.

WRAB sets Water Research Priorities for 2007 to help meet State needs

In addition to selecting this year's grantees, the Water Research Advisory Board set water research priorities for 2007, based on water research needs for the state of Oklahoma. These priorities will be used to evaluate next years proposals. The priority water research topics for 2007 are:

- Risk assessments in support of the development of TMDLs for bacteria, emerging contaminants, or sediment
- Quantification of the effectiveness of riparian areas to remove nutrients, sediment, and pathogens from runoff
- Evaluation of policies and technologies for drought mitigation, preparedness, and response, including water conservation
- Hydrologic and ecologic modeling of ground-surface water interactions to support water allocation and standard-setting decisions
- Conflict assessment, including analysis of both scientific knowledge and value differences, related to the sustainability of public water supplies (e.g., interbasin water transfers, aquifer decline, and water quality-quantity relationships)
- Conflict management, including the efficacy of science-education strategies and value-based deliberations designed to reach consensus, concerning the sustainability of public water supplies

The Water Research Advisory Board logo. The WRAB will have annual meetings to establish new water research priorities each year for OWRRI funded research projects.



WRAB members announced

The OWRRI recently established the Water Research Advisory Board. The Board's 1st annual meeting was held Wednesday, January 11, 2006, at Oklahoma State University in Stillwater. The WRAB includes:

James R. Barnett, President
Environmental Federation of Oklahoma

Jerry Brabander, Field Supervisor
U.S. Fish and Wildlife Service

Jeff Cloud, Chairman
Oklahoma Corporation Commission

Jon Craig, Director, Water Division
Oklahoma Department of Environmental Quality

Cheryl M. Dorrance, Director of Research
Oklahoma Municipal League

Ed Fite, Administrator
Oklahoma Scenic Rivers Commission

Michael Fuhr, State Director
The Nature Conservancy

Stephen L. Nolen, Chief, Environmental Analysis and Compliance Branch
U.S. Army Corps of Engineers

Quang Pham, Professional Engineer
Oklahoma Department of Agriculture, Food, and Forestry

Bill Porter, Assistant State Conservationist
Natural Resources Conservation Service

Stephen Schmelling, Ph.D., Director
Environmental Protection Agency - Kerr Lab

Seneca Scott, President
Oklahoma Sustainability Network

Duane Smith, Executive Director
Oklahoma Water Resources Board

Mike Thralls, Executive Director
Oklahoma Conservation Commission

Gene Whatley, Executive Director
Oklahoma Rural Water Association

Kim Winton, Ph.D., Director, Oklahoma Water Science Center
U.S. Geological Survey

Mark Your Calendars

Environmental Awards Banquet
April 19, 7 to 9pm, Meditations in Stillwater

For more information visit:
<http://environ.okstate.edu>

Okla. professors receive funding for 2007

WRAB hopes projects help identify areas of critical environmental need for future funding

Professors from the University of Tulsa and Oklahoma State University will receive funding from the OWRRI for water research projects for 2007. The projects being funded are:

■ Art Stoecker, Associate Professor, Dept. of Agricultural and Resource Economics at OSU, ***Decision Support System for Long-Term Planning of Rural and Urban Water Supply System Costs in Oklahoma.***

This project will develop a decision support system to determine the optimal number, location, and size of drinking water treatments plants and distribution lines in a selected planning area. The essential research question is whether it is more efficient to serve a large area with a few centralized treatment systems or a group of small decentralized systems.

■ Berton Fisher, Assistant Professor, Dept. of Geosciences, Bryan Tapp, Chair, Dept. of Geosciences, Ken Roberts, Assistant Professor, Dept. of Chemistry, Bill Potter, Professor, Dept. of Biochemistry, and Harrington Wells, Associate Professor, Dept. of Biological Sciences, The University of Tulsa, ***Historical, Ecological, and Geochemical Analysis of Lakes Eucha and Spavinaw.***

This project will create a model linking land use with chemical and algal changes in the Eucha-Spavinaw reservoirs. This will be used to investigate possible catastrophic shifts in eutrophic state and whether there are significant lag-times between land use changes and changes in water quality.

■ Joseph Bidwell, Assistant Professor, Dept. of Zoology at OSU, ***Occurrence of Pharmaceuticals, Hormones, and other Organic Wastewater Contaminants in Cave Water within the Lower Neosho and Illinois River Basins, Oklahoma.***

Recent studies indicate the presence of antibiotics, other pharmaceuticals, and residues of hormones (or hormone-mimicking compounds) in wastewater treatment plant and livestock facility's effluent. This study will investigate the presence of these compounds in the caves and their potential impacts on the cave fauna which includes threatened and endangered species.

■ Beth Caniglia, Assistant Professor, Dept. of Sociology at OSU, ***Science, Development & Public Opinion: The Adjudication of Groundwater Policy for the Arbuckle-Simpson Aquifer.***

This continuing project will follow the impact of the OWRB's Arbuckle-Simpson Hydrology study on public opinion, citizen activism, and legislative decision making over several years.

From the Director

The Water Resources Research Act of 1964 (WRRRA) authorized the creation and funding of the Nation's 54 Water Resources Research Institutes. These Institutes are located at land grant universities and colleges in every State, the District of Columbia, and the territories of Puerto Rico, Virgin Islands, and Guam. In Oklahoma, the Institute is located at Oklahoma State University and named the Oklahoma Water Resources Research Institute (OWRRI).

Annual appropriations to the Institutes are provided by Congress by March 1 each year through the U.S. Geological Survey. Each Institute receives the same level of funding – amounting to \$92,000 each of the last three years, though the funding historically has varied from year to year.

The WRRRA requires that each Institute competitively fund water research projects that address State priorities. In Oklahoma, priorities were traditionally determined by informal consultation with various State water management agencies. This year, the OWRRI formally established the Water Research Advisory Board (WRAB) comprised of the leaders of various Federal, State, Local, and Non-Profit agencies and organizations. A list of the current members of WRAB is included in this issue of *Aquahoman*.

WRAB has four purposes:

1. Hear presentations from principal investigators concerning last year's OWRRI-funded projects so as to stay abreast of OWRRI research findings
2. Rate how well each of current year's research proposals meets the State's research needs
3. Identify the research needs for next year's competition
4. Provide a forum for water management organization leaders to discuss water research priorities

The first meeting of WRAB was attended by 14 water leaders and managers. The results of that meeting are reported elsewhere in this newsletter. I am happy to report that the meeting was a success. Several attendees stated that they appreciate the opportunity to meet with their colleagues from other agencies and organizations.

The OWRRI stands ready to assist WRAB in any way it can to advance the water research agenda in Oklahoma. On behalf of OWRRI, I want to thank WRAB members for taking time out of their busy schedules to attend the meeting and look forward to our next meeting.

Dr. Will Focht



Oklahoma Floodplain Managers Association

Spring Technical Workshop

March 2, 2006, 9:15 am to 4:15 pm
Tulsa Technology Center - Alliance & Conference Center
891 E. 91st Street, Jenks, Oklahoma
For more information visit: www.okflood.org



National Rural Water Association

Rural Water Rally

April 2-4, 2006
Hyatt Regency Washington on Capitol Hill, 400 New Jersey Avenue NW, Washington DC, 20001
Reservations: 1.800.233.1234
Phone: 202.737.1234, Fax: 202.393.7927
Or visit: <http://www.nrwa.org/evRally.htm>



Oklahoma Clean Lakes & Watersheds Association

2006 OCLWA Conference

April 5-7, 2006
Western Hills Guest Ranch and Sequoyah State Park, Wagoner, Oklahoma
For reservations call: 1.800.368.1486
For more information regarding the conference contact Tony Clyde at 918.669.7556



Oklahoma Rural Water Association

36th Annual Meeting & Technical Conference

April 17-19, 2006, Oklahoma City, Oklahoma
For more information visit: <http://www.okruralwater.org>



National Hazard Center

National Weather Workshop 2006

March 2-4, 2006, Midwest City, Oklahoma
For more information contact Linda Crank at 405.579.0071 or visit <http://www.norman.noaa.gov/>

Information on the **Water Conference 2006** will be included in upcoming issues of **THE AQUAHOMAN**

Oklahoma Water Resources Research Institute
003 Life Sciences East
Stillwater, OK 74078-3011