

# Water Resources

NEWS BULLETIN NO. 86-1

WINTER 1986

## Water Conservation Program WOWWs Phoenix

In May, the City of Phoenix officially launched a residential water conservation program called the War on Water Waste (WOWW). The program began with the delivery of water-saving devices, consisting of showerheads and toilet dams, to 44,000 homes in north-central Phoenix.

WOWW is reported to be the largest hardware retrofit program ever implemented in the United States and has been planned as part of the solution to a wastewater flow emergency. Phoenix Mayor Terry Goddard projects that, with installation and use of the water-saving devices, sewer flows could be reduced more than 1 million gallons daily.

By installing toilet dams, more than 1,200 gallons of water will be saved per person annually (at the rate of 2 gallons per flush). The adjustable showerheads slow the rate of water flow to 1.75 to 2.5 gallons per minute in comparison to 7 to 8 gallons per minute to an average showerhead.

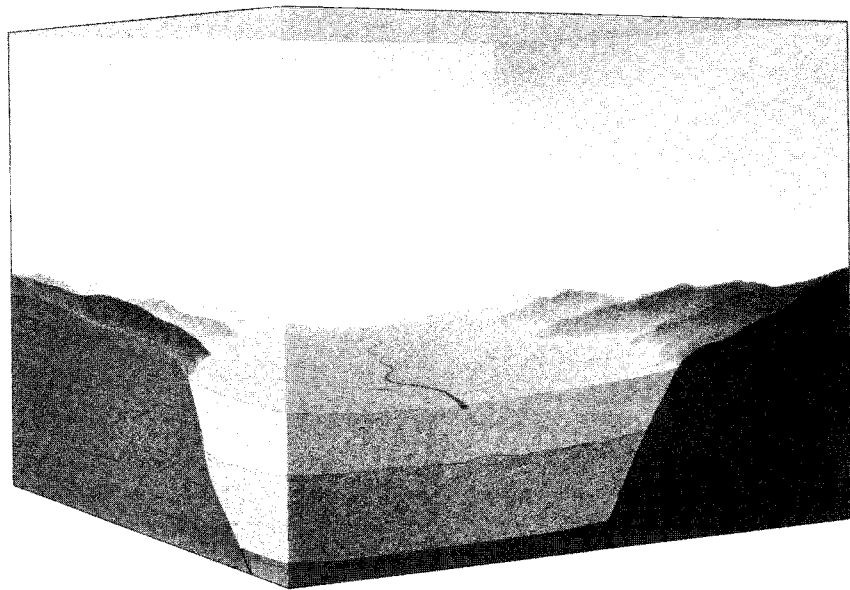
For more information write to Barbara Jordan, Water Conservation Office, Plaza Municipal Building, 125 East Washington, Phoenix, Arizona 85004.

## Legislature Funds Water Research

Bill Lord  
 IT MIGHT BE GOOD  
 TO USE THE FULL  
 NAME OF THE COLLEGE.  
 Bill Lord

**T**he University of Arizona has been granted funds by the Arizona State Legislature for water-related research, instruction and information services. The four-part program will be conducted by the colleges of Agriculture and Engineering and the Faculty of Science.

The program will combine the expertise of these various units to define the groundwater resource reserves in the state through a comprehensive study of Arizona's groundwater systems. Researchers will study water chemistry related to wastewater treatment and reuse and will work to increase and improve professional education in urban watershed management. A Water Information Center also will be established to provide a central location for information on water-related issues in Arizona.



**GROUNDWATER RESOURCES** research will provide quantitative information on the amount, quality, location, accessibility and replenishment rate of groundwater in Arizona. To help understand our current and long-term groundwater reserves, Faculty of Science researchers will attempt to measure the size and shape of groundwater basins, the nature and structure of the basins and the groundwater source regions, the chemical reactions that occur between water and rocks and the dynamics of water flow through rock systems in Arizona.

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**WASTEWATER TREATMENT AND REUSE** research, which will be performed by the College of Engineering, will attempt to determine the best possible use of our water supply. Urban, industrial and agricultural use of water all result in chemical and biological contamination. Some of this water may be reusable with appropriate treatment. Research in this area will focus on understanding the nature of contamination and determining the best and least costly method of treatment.

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**EDUCATION IN URBAN WATERSHED MANAGEMENT** within the College of Agriculture will be expanded to include courses that comprehensively address urban water issues. Topics of runoff management, floodplain management, landfill pollution, water conservation in landscaping, urban water harvesting and reuse, and conjunctive water management will be addressed.

**THE WATER INFORMATION CENTER** will be established to provide a central repository of water information for public planners, government decision makers and the general public. The Center will be jointly administered by the Office of Arid Lands Studies and the Water Resources Research Center in cooperation with the Arizona Department of Water Resources. Educational materials, referral services, extension personnel and publications, computerized information systems and workshops and conferences will be organized through the Water Information Center. In addition, the Center will bring water interests and professionals together to consider better ways to resolve problems and to plan future water policies and programs.

## AMA Groundwater Withdrawal Fees Set

The 1986 groundwater withdrawal fee has been set by the director of the Arizona Department of Water Resources. The fee, \$1 per each acre-foot of water pumped, applies to groundwater pumped from non-exempt wells in an Active Management Area (AMA).

Two special withdrawal fees will be imposed for the first time in 1986. In the Phoenix AMA, an additional \$.50 per acre-foot will be required from persons withdrawing groundwater for irrigation use on land within the bound-

aries of the Arlington Canal Company, the Buckeye Water Conservation and Drainage District, or the St. John's Irrigation District. The money generated from this fee will be used for a waterlogging study approved in 1985 by the Arizona Legislature.

Within the Tucson AMA, an additional \$.50 per acre-foot withdrawal fee will be charged for augmentation of the water supply of the AMA. A groundwater recharge facility will integrate recharge with flood control by diverting and recharging storm-water runoff.

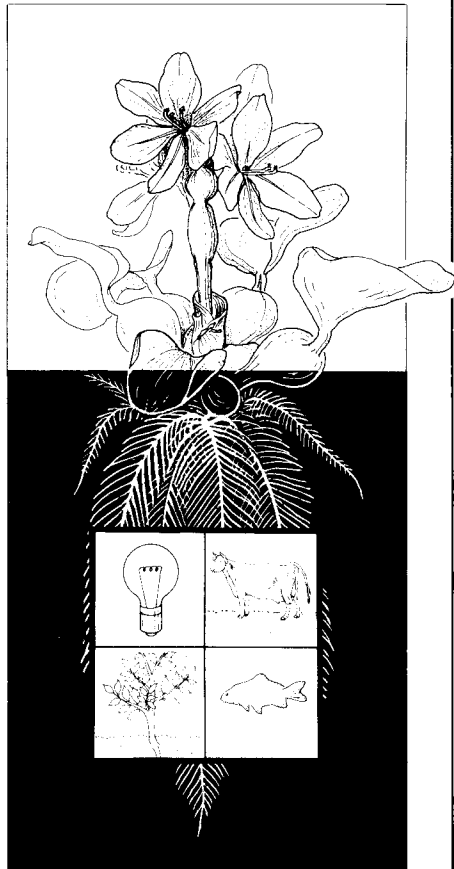
For more information contact: Arizona Department of Water Resources, 99 East Virginia, Phoenix, Arizona 85004.

## Tucson Hydrologic Group

A group with an interest in hydrologic and water resource issues meets regularly in Tucson. This organization, the Tucson Hydrologic Group, provides an informal forum for professionals with a common interest in water resources. The group is similar to the Phoenix-based Arizona Hydrological Society, which is comprised of water interests within the Phoenix area.

The Tucson Hydrologic Group invites participation by any water resources professional.

For more information on activities contact Floyd L. Marsh, University of Arizona, Water Resources Research Center, Tucson, Arizona 85721; telephone (602) 621-1009.



## Water Hyacinth Research

The University of Arizona's Office of Arid Lands Studies has contracted with Dewante and Stowell Consulting Engineers to develop blueprint specifications for a wastewater treatment facility using water hyacinths. The facility's specifications call for treating up to 45,000 gallons per day of primary feedwater and 60,000 gallons per day of secondary feedwater. The decision to go forward with specifications for this experimental research and development facility, in part, was based on the preliminary feasibility report prepared for the Pima County Wastewater Management Department, Tucson, (see News Bulletin No. 84-3, Fall 1984).

## Arizona Floodplain Management Association

The Arizona Floodplain Management Association (AFMA) was founded in 1983 by floodplain administrators representing communities with areas of flood hazard as defined by Arizona Revised Statutes. AFMA seeks participation of its members through permanent committees to study and provide recommendations in such areas as floodplain management, legislative issues, training, education and technical problems. For more information contact: Arizona Floodplain Management Association, 3335 West Durango Street, Phoenix, Arizona 85009; telephone (602) 262-1501.



San Ildefonso Indian Design: Clouds on the Mountain

## Publications

### *Water Scarcity: Impacts on Western Agriculture*

The University of California Press recently released the book titled *Water Scarcity: Impacts on Western Agriculture* edited by Ernest A. Engelbert with Ann Foley Scheuring. This volume is

based on materials presented by 71 specialists at the September 1982 interdisciplinary conference on Impacts of Limited Water for Agriculture in the Arid West, sponsored by the Directorate on Arid Zone Ecosystems of the United States Man and the Biosphere Program.

For information write: University of California Press, 2120 Berkeley Way, Berkeley, California 94720.

### *Saving Water: A Handbook for Community Water Conservation*

This 105-page handbook describes a short-term plan for establishing a community water conservation program. The handbook also features an extensive collection of sample program aids and informational brochures on water conservation. Funding for the handbook was provided by the New Mexico Interstate Stream Commission through the McKinley Area Council of Governments. Copies are available from the New Mexico Solar Energy Institute, Box 3SOL, Las Cruces, New Mexico 88003.

### *Hydrology and Water Resources in Arizona and the Southwest*

Volume 15 of *Hydrology and Water Resources in Arizona and the Southwest*, includes papers presented at the April 1985 meeting of the Arizona Section—American Water Resources Association and the Hydrology Section—Arizona-Nevada Academy of Science. Copies are available from: Arizona Section, American Water Resources Association, 845 North Park Avenue, Tucson, Arizona 85719, c/o Dale Wright.

*Scarce Water and Institutional Change and The Economic Value of Water*

In 1983, Resources for the Future undertook a project designed to provide a framework for understanding water values. These two books summarize an extensive literature survey on the value and demand for water in various uses and regions. By focusing attention on relative water values and the sensitivity of the quantities demanded to its price, this study offers strong evidence about the shortcomings of the tradition that assumes projected offstream water uses are to be met regardless of costs or effect on instream flows. Copies are available from Resources for the Future, Customer Services, P.O. Box 4852, Hampden Station, Baltimore, Maryland 21211.

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