

Water Resources Research Center

College of Agriculture and Life Sciences, The University of Arizona

The Water Resources Research Center and the TRIF Water Sustainability Program

**UA Extension Water Summit
May 1, 2008**

**Sharon B. Megdal, Director
Water Resources Research Center
350 N. Campbell
Tucson, AZ 85721
520-792-9591, ext 21
fax 520-792-8518**

**email smegdal@cals.arizona.edu
web site: www.cals.arizona.edu/azwater/**



WRRC is a Research and Extension Unit in CALS

- ***The University of Arizona's Water Resources Research Center (WRRC) promotes understanding of critical state and regional water management and policy issues through research, community outreach and public education.***
- The WRRC is committed to:
 - assisting communities in water management and policy;
 - educating teachers, students and the public about water; and
 - encouraging scientific research on state water issues.

We do this in a variety of ways...

- Publications
- Conferences and other gatherings
- Web Site
- Applied Research
- Federal 104b Program
- Educational programs
- Involvement in UA-wide Water Sustainability Program and other cross-college or interdisciplinary programs
- We try to be networked!

Arizona Water

Prepared by the Water Education Foundation and
The University of Arizona Water Resources Research Center



Volume 16, Number 3

January

Questions Arise as Water Park Plans to Let the Good Times I

Water in the West is pretty serious business, with a whiskey-for-drinking/water-for-fighting beverage that favors regional water affairs. If this spirited, feisty attitude sets the tone for many water dealings, the deciding factor determining water use is beneficial use. Got water? Use it beneficially — or else.

This raises a question: Is the recreational use of water beneficial? A multi-featured waterpark called Watersand that is in the works for Mesa is bringing that question to the forefront in a rather lavish manner. The project promises an extravaganza of water recreational activities including surfing, rafting, kayaking, snorkeling, scuba diving and wakeboarding. Water delights and diversions aplenty are offered, but do the benefits derived from such activities justify the use of as much as 100 million gallons of groundwater per year? Or, is it, as some critics contend, an unjustified water indulgence in an arid environment?

Those of us conditioned by the ubiquitous precepts of water conservation — that includes just about everyone living in semi-arid Arizona — might well feel squeamish about these water spectacles. We have been taught that not all water uses are equal, some

Continued on page 4



Prescott Valley's Effluent Water-Rights Auction is Innovative, Profitable

Town learns strategy as it plans, researches, and conducts

Prescott Valley town officials are pleased with the results of an acre-feet of effluent water rights that could net the town over \$67 m town will use to acquire needed water supplies for the rapidly growing

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Winter 2007

Water Resources Research Center College of Agriculture and Life Sciences The University of Arizona

ARTIFICIAL RECHARGE: A Multi-Purpose Water Management Tool



The first line of water reaches the New River - Agua Fria River Underground Storage Project, shown in perspective in the Cardinal stadium and Central arena. After a small amount of water delivery for recharge, such a quarter of a third of the basin was central. The surface water shown is a regional aquifer in the basin of the New River Project, which is a partnership with the cities of Ansonia, Chandler, Gilbert and Phoenix, is the first recharge project in Arizona capable of storing water from the Salt, Verde, and Colorado rivers and regional water from Gilbert and Phoenix. The pattern was taken Oct. 10, 2006. Photo: Salt River Project, Media Relations.

Overstuffed, overbuilt and in various states of depletion, Arizona's aquifers have suffered the consequences of past failure to manage the vital resource. Meeting a rapidly growing demand for water in the

desert southwest has never been easy, but advances in groundwater pumping technology in the first half of the 20th century made satisfying water demand easier than ever before. It is little wonder that the state of Arizona came to be addressed to groundwater. But with time, Arizona came to understand that unlimited groundwater use was indeed "too good to be true." By the 1940s, statewide groundwater assessments were reporting gross overdrafts in many of the state's aquifers, resulting in rapidly falling water tables, reduced water quality,

and subsidence of the land surface. While the 1980 Groundwater Management Act was a critical step in the right direction, Arizona's groundwater habits "have should not be curbed overnight, nor would the damage wrought on us acquire be quickly undone." Even today, groundwater accounts for roughly 40 percent of Arizona's water use. But what the Act did do was provide a framework for more effectively manage Arizona's water supplies.

ARIZONA LAW REVIEW

VOLUME 49 NUMBER 2

James E. Rogers College of Law
The University of Arizona

ARTICLE

GOOD INTENTIONS, UNINTENDED CONSEQUENCES:
THE CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT

Chris Avery, Carla Consoli, Robert Glenmon & Sharon Megdal

Conserve to Enhance—voluntary municipal water conservation support environmental restoration

BY ANDREW BERNHARD AND SHARON MEGDAL

As the public's view of the value of water in its natural setting is changing, a growing awareness of the value of water as a resource is also emerging. This article introduces Conserve to Enhance, an innovative municipal water conservation program that aims to develop a source of water for environmental restoration projects by connecting residential water conservation and environmental enhancement. Residential water consumers who reduce their water consumption are given the option of agreeing to continue to pay for water at their previous, higher rate of consumption. The money paid for conserved water is then used to purchase water to meet the needs of environmental enhancement projects. In this way, the proposed mechanism attempts to create a direct connection between individual water use behavior and environmental concerns. Although most municipal water utilities have some type of conservation program, few programs, if any, fully activate environmental motivations. At least anecdotally, there seems to be a perception that in most cases municipal water conservation does not directly benefit the environment. This study attempted to address this issue, making a direct connection between water conservation and water for environmental purposes. In the authors' knowledge, no mechanism like the proposed Conserve to Enhance program has been implemented in the United States. This article considers the formation of and potential effect of such a program.

CONSERVE TO ENHANCE TO BE ENVIRONMENTAL

Development laboratories and basic program laboratories in areas of state watersheds of Tucson. The city in Tucson, elected mayor Tucson. Water multiple departments the employment water conservation projects. Representatives, both a then considered environmental those of it. In July and later would in other water rights experts in industrial environment and the local water was considered by the state. The state program has been implemented in the United States. This article

Publications!

Annual Conference

Water Resources Research Center
2008 Annual Conference

June 24, 2008 - Arizona Biltmore Resort & Spa, Phoenix



The Importance of the Colorado River
to Arizona's Future

THE UNIVERSITY OF ARIZONA



**Special Pool of
Scholarships
Available to County
Extension Personnel
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www.cals.arizona.edu/azwater

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College of Agriculture and Life Sciences

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WRRC Features

TUCSON COMMUNITY CONVERSATION ON WATER

2008 Annual Conference

Recent Publications

River Restoration: Arizona's Oft Neglected Waterways Get Overdue Attention
Urbanization, channelization, ground-water depletion, irrigated agriculture ... read more
- Authors: Susanna Eden, Joe Gelt, Melissa Lambertson

WRRC Newsletter

search the AWR submit

Current Feature:
Plan to Protect San Pedro River Offers Option for Rural Water Management
July-August 2007

WRRC Search


Upcoming Events

June 24 - WRRC Annual Conference - earlybird registration ends May 15 -

"The Importance of the Colorado River ... [read more](#)

[MORE UPCOMING EVENTS](#)

WRRC News



Some Current/Recent Research Projects

- Recharge as a Tool for Meeting Policy Objectives (Hatch Project) (Several Papers)
- Evaluation of AMA Management Plans
- Water Resource Availability Study; Tucson Regional Water Planning Perspectives Study
- Cochise County Water Use Study
- Lead author for CAST Paper on Freshwater Availability
- Conserve to Enhance
- Water Re-use

Newer Programs/Initiatives

- Congressionally authorized Transboundary Aquifer Assessment Program (AZ, NM and TX)
- Summer Research/Writing Internship
- Writing Contest
- Revision to Arizona Water Map
- GIS Capabilities
- International Conference on Best Practices in Water Policy

Other

- Brown Bag Seminar Series
- Additional conference (Tucson Community Conversation on Water) in 2007
- Many presentations to diverse audiences
- WRRC hosts Megdal's graduate seminar, Arizona Water Policy, every Spring
- NEMO
- Arizona Project WET
- WSP

Work Collaboratively with...

- Other WSP Centers and programs
- SWES, AREC, LAW, SBS Departments, Engineering, Udall Center, ISPE
- Local, State and Federal Government Agencies
- Private Sector
- Other Cooperative Extension Units

NEMO* in Arizona

*Nonpoint
Education for
Municipal
Officials ...

and other Land Use Decision Makers



The University of Ar

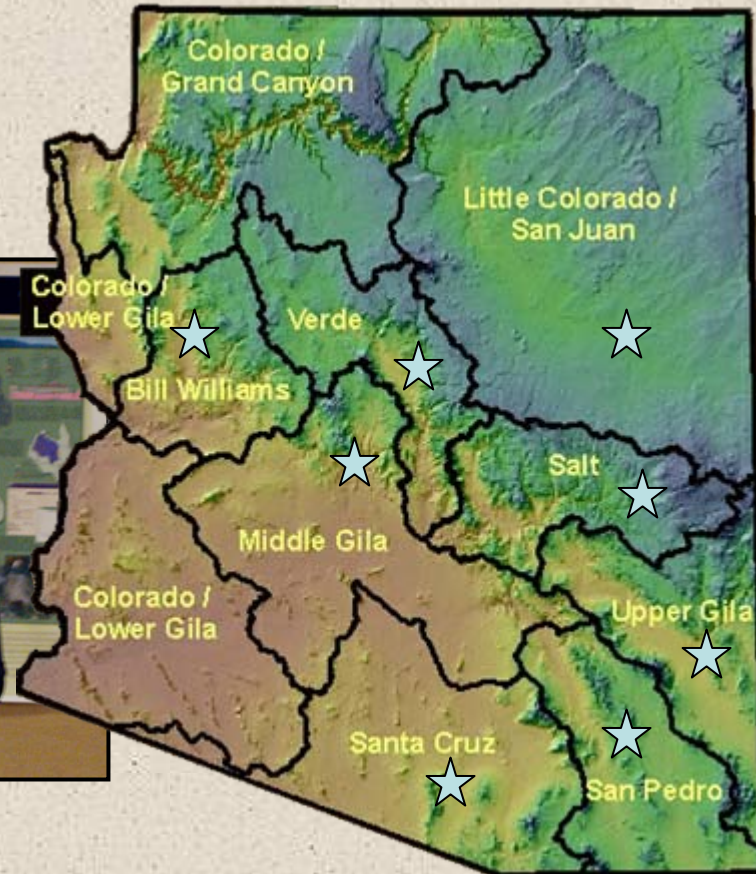


The NEMO Program

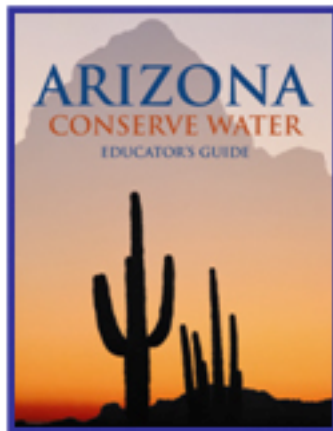


5 Key Elements:

1. Land Use Impacts on Natural Resources → Water Quality
2. Natural Resource Based Planning
3. Land Use Decision Makers
4. Unbiased Research-Based Science
5. GIS Technology



Effective Water Education through partnerships that work



Arizona Project WET Statewide Partnerships

- Examples of effective partnerships that have leveraged staff positions and programs in the counties:
 - Five year, \$1million dollar contract with the City of Phoenix (multiple positions)
 - Two year grant with the Arizona Department of Water Resources (program coordinator)
 - Strong Partnership with Yavapai Co.
 - Developing Partnership with Pinal Co; Abbott Fund director for Ross Nutritional Products in Casa Grande and beyond found out about Arizona project WET from the web site.

www.cals.arizona.edu/azwater

Arizona Project WET - Windows Internet Explorer

http://ag.arizona.edu/arizonawet/

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Arizona Project WET

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ARIZONA wet

Arizona Project WET
Water Education for Teachers

[We're Having a Party!](#)

Promoting responsible water stewardship through excellent and effective water education.

Thanks to the generosity of our [Sponsors and Partners](#), Arizona Project WET (APW) offers teacher-tested, water-related curriculum at no cost to teachers via hands-on, motivating workshops.

On the days I use lessons from Project WET, my classroom becomes alive with curiosity and discovery. These are the days I experience the most joy as a



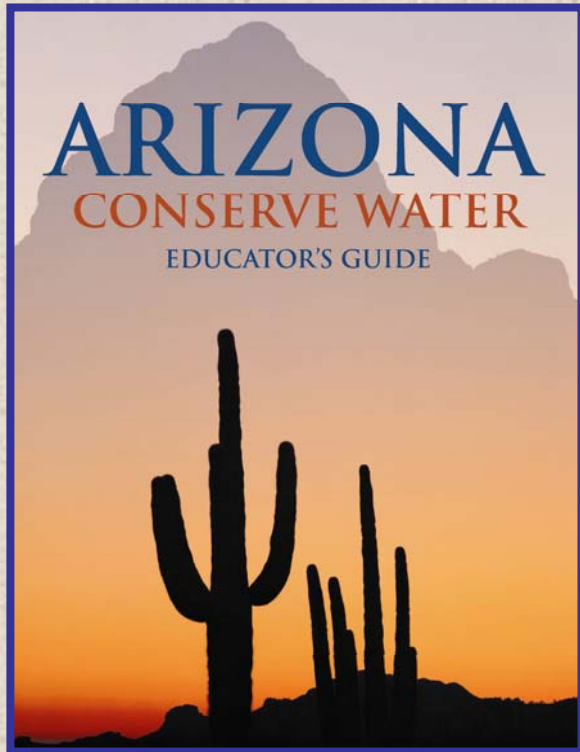
Arizona Project WET supports these curricula:

- [Project WET Curriculum](#)
- [Arizona Conserve Water](#)
- [Healthy Water Healthy People](#)
- [Discover a Watershed: The Colorado River](#)
- [WOW! The Wonders of Wetlands](#)

GETTING WET IN ARIZONA

start Arizona Project WET ... 6:44 PM

Arizona Project WET Publications



The Conserve Water Arizona Educators Guide was named as a finalist in the Distinguished Achievement Awards competition of the Association of Educational Publishers (AEP), the nonprofit professional organization for educational publishers and content developers. (Science Instruction Category)

The winners will be announced in June.



Water Sustainability

THE UNIVERSITY OF ARIZONA[®]

Water Sustainability Program Coordinating Water Centers



The SRC/Sematech **Engineering Research Center (ERC)** for Environmentally Benign Semiconductor Manufacturing develops science, technology and educational methods to lead the semiconductor industry on environmental issues.



The NSF **Water Quality Center (WQC)** conducts research that evaluates physical, chemical, and microbial processes that affect the quality of surface and subsurface waters utilized for potable supplies.



The NSF Science and Technology Center for **Sustainability of semi-Arid Hydrology and Riparian Areas (SAHRA)** focuses on developing integrated, multidisciplinary understanding of the hydrology of semi-arid regions.



The **Water Resources Research Center (WRRC)** promotes understanding of critical state and regional water management and policy issues through research, community outreach and public education.



The **Superfund Basic Research Program (SBRP)** advances science and applies biomedical and environmental research for improvement of human health and the environment.

WSP Components

- **Competitive Grants Program**
 - Has funded many outreach/education projects and applied research, including Arizona Know Your Water
- **Recruitment & Research Initiatives**
 - Water Quality Specialist (SWES)
 - FY09 funding for Maricopa County Agent
- **Student Fellowships**
- **Education & Outreach**
 - Staff position, extend programs in Maricopa Co.
 - Several Projects
- **Water Center Activities and Directed Initiatives**
 - WRRC has funded Extension programs/projects

ArizonaWater.org

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ArizonaWater

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- Expertise
- Degrees
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Submit Search >

Ask the Water Wizard

(This section is under construction)

What is your 5-digit zip code?

Who are you?

(please select user type)

What is your direct water source?

(select a water source)

What do you need to know?

keywords:

Ask the wizard >>

Roll your mouse over the tabs above to see a brief summary about each section.



Arizona Water is your one-stop information center for water in Arizona. This integrated network of searchable databases includes water expertise, degree programs, and research efforts at all three state universities, and local, state, federal, and tribal organizations and associations and partnerships with responsibilities for water. You can also search for reports and data on water information for specific areas of the state.

In addition, Arizona Water provides links to [other services and tools](#). You can subscribe to [Southwest Hydrology](#) or [Arizona Water Resource](#), search for water modeling software and algorithms with [HydroArchive](#), scan summaries of international water news translated from 8 languages with [Water News Watch](#), and more.

Whether you are a homeowner, water manager, or research scientist, Arizona Water is designed to get you to the information you need quickly and easily. Select and search one database, or perform a QuickSearch on several. Try using the Ask the Water Wizard for answers to Frequently Asked Questions. You can also email your questions to email@arizonawater.org, or call us at 520-626-0592.

This website was created by the [Water Sustainability Program \(WSP\)](#) of the University of Arizona. [click here](#) for more

[Edit data \(admin website\)](#)



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