



Billboard promoting native species by the Southern Arizona Water Resources Association. Source: SAWARA

## Contents

News Briefs .....	3
Special Feature .....	5
Student Spotlight .....	6
Public Policy Review .....	7

## Student Spotlight

Ling-Yee Huang is a second year master's degree student in the Water, Society, and Policy program of the School of Natural Resources and the Environment.

*More on page 6*

## Publications

The Water Resources Research Center produces research reports, outreach materials, and regular publications, including the Weekly Wave e-news digest, the quarterly Arizona Water Resource newsletter and the Arroyo, an annual publication focusing on a single water topic of timely concern in Arizona. **Sign up online to receive WRRRC newsletters, event updates and more at: [wrrc.arizona.edu/subscribe](http://wrrc.arizona.edu/subscribe).**



[wrrc.arizona.edu](http://wrrc.arizona.edu)



## Carlile/SAWARA Left Water Management Legacy

The Southern Arizona Water Resources Association, SAWARA, was an important force in water management for the Tucson region at a key time in its history. Marybeth Carlile, SAWARA's founding Executive Director, was an important force in shaping SAWARA and extending its influence for the benefit of the region. Carlile passed away this spring, and presenting the story of SAWARA and its accomplishments seems a fitting way to commemorate her passing. The WRRRC hosted an event in her honor on October 28, 2014, and the material for this history was assembled for that event.

As a participatory organization, SAWARA brought the public voice into discussions about water resources in the Tucson region. Its activities raised the level of awareness and engagement over water issues in the community, and in the process directed the future of the region toward water savings and water security. At the October 28 event, James J. Riley, retired University of Arizona professor said, "SAWARA is a great example of what a well-organized and lead community group can do. What we can learn from SAWARA is that the effort must be well-focused and planned, and it must be inclusive of all sectors of the community. Marybeth Carlile was responsible for providing selfless leadership, and it should be emulated if a new organization is needed to improve local water management in the future."

*SAWARA continues on page 2*

## Drought Diminishes Hydropower Capacity in Western U.S.

by Mary Ann Capehart, WRRRC Graduate Outreach Assistant

Hydropower production is taking a hit in river basins in the U.S. West, where prolonged drought has reduced water volumes available for power production. The generation of hydroelectricity depends on the funneling of large quantities of water from elevated heights through power plants typically found inside dam structures. When the water levels at lakes and reservoirs held back by these dams drop below benchmark elevations, the force of water pressure needed to turn the blades of hydro turbines is lessened, affecting productivity. As a result, electricity production on these dams has been curtailed or even discontinued.

Hydropower represents 19 percent of total electricity produced globally. It is one of the cleanest forms of energy production and the most widely-used renewable source of energy in the world. It is also one of the cheapest forms of energy, outside of the considerable initial costs of dam infrastructure, which

*Hydropower continues on page 4*

Before the arrival of the Central Arizona Project, the CAP, which brings Colorado River water to Maricopa, Pinal and Pima Counties, Tucson was the largest city in the United States solely dependent on a diminishing supply of groundwater. By 1980, for many the handwriting was on the wall; Tucson would have to gain access to a renewable supply of water, and at that time this meant the CAP. Carlile led SAWARA, the non-profit, public participation association founded in 1982, in fulfillment of its primary goal: to make sure the CAP came to Tucson. In the early 1980s, the CAP canal extended only as far as Phoenix. With the Arizona congressional delegation and others in positions to influence events, Carlile worked to overcome all obstacles in the way of bringing the CAP to Tucson.

Born in Los Angeles, California, in 1931, Carlile grew up in the San Joaquin Valley and attended Pomona College and San Jose State University. She and her husband moved in 1963 to Tucson, Arizona, where she became active in the American Association of University Women. She served a term as the Tucson Branch president and as president of the Arizona Division between 1973 and 1980. Bruce Babbitt, then governor of Arizona, appointed her to the Arizona Water Commission in 1978, the first woman to serve in that capacity. She was one of 30 people who formed SAWARA, meaning to unify the community around bringing the CAP canal to Tucson. Carlile was its first Executive Director and served in that role for thirteen years. A two-term member of the elected CAP Board of Directors, she represented Pima County on the Board from 1990 to 2002.

Under Carlile, SAWARA actively promoted the speedy completion of the CAP to Tucson. The Groundwater Management Act of 1980 had modified existing law, establishing the goal of balancing water recharge and withdrawal. Active Management Areas, AMAs, were established in regions where water table declines were severe, so that strategies for reducing groundwater overdraft could be planned. The Tucson region was one such AMA. SAWARA capitalized on the new groundwater law to argue that the Tucson Basin needed the CAP as its source of renewable water.

Carlile worked tirelessly with community and business leaders to put together a united regional front on the need for the CAP. SAWARA was an effective promoter and advocate of dialogue and debate, seeking consensus solutions that could turn conflict into cooperation. Kathy Jacobs, former Tucson AMA director during Carlile's tenure at SAWARA, noted that Carlile "was one of those exceptional people who could convene people from all walks of life and help them work together to polish all of the rough edges from their multiple perspectives into a coherent whole." Thus SAWARA could speak for the Tucson region when advocating in Washington D.C. for continued funding for the CAP.

In its primary goal, SAWARA was successful. Since the completion of the canal to Tucson in 1993, Colorado River water has been augmenting and replenishing Tucson's groundwater supplies. Groundwater wells underneath the center of the city were shut down, reducing the threat of land subsidence, and in some areas groundwater levels continue to

rise. The City has saved major water supplies underground as a hedge against future shortages.

While primary, the CAP was not SAWARA's only goal. Its mission included fostering public awareness of water resources management in Southern Arizona through education, community outreach, and regional coalition building, and it aimed to give the Tucson community a voice in water matters. By interacting with the technical, political, regulatory, and private water experts, SAWARA was looked to as a source of accurate and impartial information. Carlile contributed to this reputation with rigorous attention to facts. Cornelius Steelink, former UA Chemistry Professor observed. "One of [Carlile's] signature talents was to be able to get to the heart of an issue. ... [Following] prolonged discussions on a water problem, she could distill the data and write a cohesive summary report for the water community."

SAWARA's membership included representation from government, business, mining, agriculture, and the University. Carlile and her staff worked closely with its membership and other agencies, organizations, and individuals. SAWARA had a small staff of only three to five members and depended on community support to carry out its mission. The Ganett Foundation provided initial funding, and later Tucson businesses supported the organization. For a period, the City of Tucson and Pima County were major supporters. Grants and contributions were augmented with consistent in-kind participation.

Most active between 1982 and 1994, SAWARA championed water conservation, publishing an effective and informative bimonthly newsletter, *Waterwords*. It also created billboards, brochures, technical notes, and newspaper columns to spread its message. It made water conservation a regional norm and set in motion the cultural change that made xeriscaping not only acceptable, but the preferred landscaping option for home owners and builders. It worked with the landscape industry to implement identification tagging of low-water-use plants and to promote their use in yards and gardens. It also completed the Xeriscape and Solar Demonstration Garden at the Tucson Botanical Gardens. It educated the public about water through the production and distribution of educational materials for K-12 classrooms, informative forums, and media programs. It created water conservation programs for homeowners and worked with the City and County to change rules governing the use of xeriscape plants and water efficient plumbing fixtures. The organization also worked in collaboration with the University of Arizona's Office of Arid Lands Studies, Tucson Water and others on Casa Del Agua, a demonstration house that was used to study residential water use and to demonstrate alternative water and energy conservation methods.

By 2001, many of the water issues appeared to have been resolved, and the perceived need for sustained support of SAWARA's public education mission had substantially diminished. In 2002, after 20 years of service to the community, SAWARA closed for lack of funding. The widespread impact on conservation that SAWARA developed continues to this day. 🏡



Marybeth Carlile, SAWARA cofounder and community leader. Source: R. Carlile

## Phoenix to Store Water in Tucson

In October, the Cities of Phoenix and Tucson announced an agreement for Phoenix to divert some of its share of Colorado River water to Tucson to be stored underground there for future use. Because Phoenix uses only about 70 percent of the amount of water it subcontracts from the Central Arizona Project, it proposes to send excess to Tucson for storage as a hedge against likely future shortages on the Colorado River. Shortage is possible by 2016 or 2017, according to CAP. A Phase One pilot will store 850 acre-feet of water at the Southern Avra Valley Storage and Recovery Project. Based on the results of the pilot, Phoenix may store up to 40,000 acre-feet in Phase Two. When shortages occur, Tucson can pump up and use the stored water while directing an equivalent amount to Phoenix from the CAP. The advantage for Tucson is reduced pumping costs because the water storage will raise groundwater levels near Tucson's pumps. An added benefit for Phoenix is the ability to avoid expansion of infrastructure to pump and store the water locally. The pilot agreement may be a model for other cities that do not currently use their full CAP allocations.

## EPA Pours \$45 Million into Arizona for Water, Environment

The Environmental Protection Agency has directed nearly \$45 million to Arizona for water, wastewater, and environmental programs. The Water Infrastructure Finance Authority of Arizona, WIFA, was awarded \$25 million for water and wastewater projects on non-tribal lands. WIFA will use the funds to provide low-cost loans for safe drinking water and wastewater infrastructure improvements. EPA has awarded more than \$585 million in federal funding for Arizona's clean water and drinking water revolving funds since their inception in 1988. In addition the agency awarded \$19.5 million for programs on tribal lands. Funds are intended to support environmental programs, water infrastructure development, community education, and capacity building for Arizona tribes. Most of that money will be used for water projects on reservations around the state. Environmental programs are allocated the remaining \$2.7 million for projects such as cleaning up open dumps and running community outreach and education projects.

## New Forest Fund Supports Two Watershed Projects

The Salt River Project and the National Forest Foundation recently partnered in the creation of the Northern Arizona Forest Fund, NAFF, to support high-priority restoration projects on National Forests in the Salt and Verde River watersheds. The National Forest Foundation is the nonprofit partner of the U.S. Forest Service, formed in 1993 and chartered by Congress. The newly created NAFF provides businesses and residents an opportunity to invest in activities that protect and restore watersheds vital to their water supplies. The first two priority projects identified by the NAFF are the

Upper Beaver Creek Forest Health Project and the Oak Creek Erosion Control Project. As a first step in the Upper Beaver Creek project, vegetation management techniques will be employed on a small portion of the 48,000-acre project area to create conditions that reduce the risk of high-intensity fires in the forest. Erosion control on Oak Creek is a project that local stakeholders and the Coconino National Forest developed for the protection and improvement of Oak Creek's water quality and the quality of downstream rivers and reservoirs. Long term, they hope to improve drainage and rehabilitate ecosystems along nearly 20 miles of forest roads within the Oak Creek watershed.

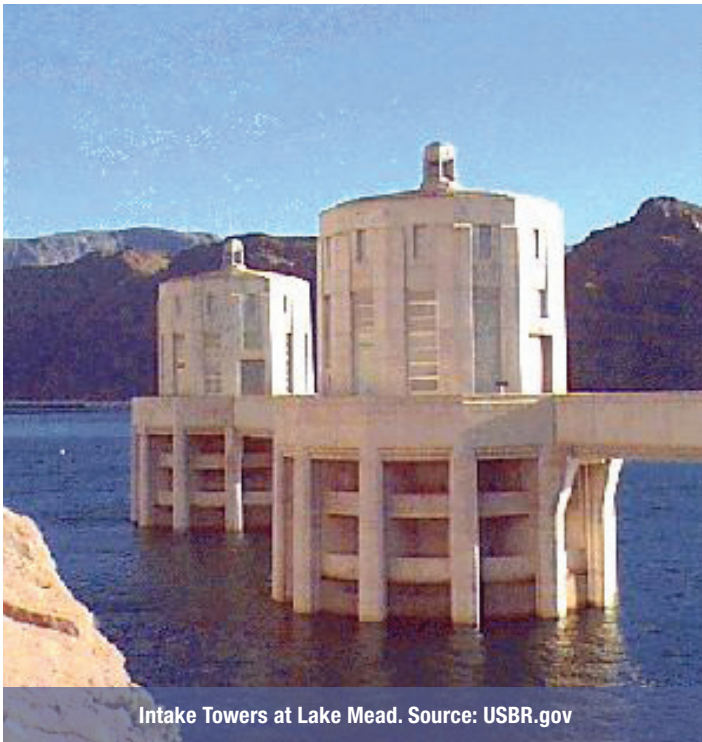
## First Public-Private Recharge Project to Be Built

On November 20, 2014, the Central Arizona Project reported that the state's first ever public-private reclaimed water recharge facility will be built through a partnership between the Central Arizona Groundwater Replenishment District (CAGR) and Liberty Utilities. Liberty Utilities provides water service to communities around Arizona. The CAGR is responsible for replenishing excess groundwater withdrawn by its members in the Phoenix, Pinal County and Tucson areas. The new recharge facility will be located in the City of Goodyear where Liberty Utilities has 12 wells pumping from the same aquifer that this project will recharge. At the recharge facility, the water will be delivered to large, shallow basins where it will percolate into the ground and help restore water levels that have declined due to past pumping. At the same time, it will help the CAGR meet its replenishment obligations by an arrangement that gives the District ownership of stored water. The water supply will come from Liberty Utilities' Palm Valley Water Reclamation Plant, which produces approximately 3.5 million gallons per day of A+ reclaimed water—the highest quality of reclaimed water on the scale defined by the Arizona Department of Environmental Quality. The recharge facility will receive the water that is surplus after delivery of the reclaimed water now sold for park and golf course irrigation.

## Megdal Honored by Morrison Institute, Joins Board of New Kyl Center

On November 14, WRRD Director Sharon B. Megdal was named Morrison Institute Distinguished Fellow at the Institute's annual State of Our State Conference. The title of Distinguished Fellow was created in 2012 to not only recognize Arizona's best and brightest in public policy, but also tap into their knowledge and expertise for their insights on certain policy-relevant issues. Dr. Megdal has also joined the Advisory Board Executive Committee for the new Kyl Center for Water Policy at the Morrison Institute. The center, officially launched at this year's SOS Conference, seeks to ensure sound water stewardship in Arizona through research, collaboration, analysis, and open dialogue.

*News Briefs continues on page 6*



are primarily government financed. The United States is one of the largest producers of hydroelectricity, along with China, Canada, and Brazil.

Water levels on Lake Mead on the Colorado River, the largest reservoir in the U.S., are managed through releases from Lake Powell found 370 miles upriver behind the Glen Canyon Dam. For more than a decade, the flow of water to Lake Powell from key tributaries in the river basin has been decreasing due to drought-related drops in overall precipitation, less snowpack and earlier snow melt. The current 14 year-long drought is the most extreme drought since measurements began in the 1900s. And with less water in Lake Powell, there is less water for Lake Mead.

Since 1999, the water level at Lake Mead has plunged 130 feet to a low of 1081 feet above sea level in July 2014. Levels below 1,084 feet have not been recorded since a period of sustained drought in 1956. With low water levels at Lake Mead, Hoover Dam's electricity output has been significantly curtailed. In July, the facility was derated from 2,074 megawatts to 1,592 megawatts. Going forward, the U.S. Bureau of Reclamation projects that Hoover Dam power production will fall again to 1,120 megawatts by May 2015.

Future shortages loom on the horizon for the Colorado River basin. The Department of Interior issued its December 2007 Record of Decision on the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations of Lake Powell and Lake Mead. In the guidelines, shortage criteria basically state that at certain Lake Mead elevations, as downstream water demands are curtailed, power production will be concurrently curtailed. A first-tier shortage is declared at 1075 feet above sea level at Lake Mead. For the first time since 2007, in November 2010, the Hoover Dam elevation came within 7 feet of triggering shortage. Drought conditions may also cause extraordinary demand for electricity,

which can lead to adverse effects on communities as power generation fails to meet demand.

Improved technology can reduce some of the loss. In response to reduced volume in Lake Mead, the first of five wide-head turbines, designed to work efficiently with less flow, were installed last year. The final turbine is scheduled to be installed in 2016. Previously, a minimal level of 1,050 feet above sea level in Lake Mead served as the benchmark to guarantee safe power generation, but the new turbines will make it possible to revise the minimum water level to 950 feet.

The iconic Hoover Dam, the largest concrete structure ever built and the largest hydro plant in the world when it came on line in 1936, has been corralling water for flood control, Southwest agricultural, tribal, and municipal needs, and supplying renewable, carbon-free energy for more than 77 years. The hydro plant was installed to finance the production costs of the dam as well as produce electricity for a burgeoning region. Hoover Dam satisfies peak-demand electricity for Las Vegas, Los Angeles and other southwestern cities.

Glen Canyon Dam, at the southern tip of Lake Powell, is the largest hydropower producer in Reclamation's Colorado River Storage Project. As a result of lower water levels, power production there is also expected to drop by 8 percent in 2014 from 2013 levels. At Lake Powell, when the water level drops below 3,490 feet above sea level, 100 feet below its August 2013 level, vortex action would draw air into the turbines and damage them, according to Jane Blair, Upper Colorado power manager at Reclamation. If the situation does not improve, power generation at Glen Canyon Dam would have to cease. Currently, engineers at Glen Canyon are not planning to install any wide-head turbines like those at Hoover Dam.

There are more than 53 dams on the Colorado River and its tributaries. Twelve of these produce hydropower.

In response to lower hydropower on the Colorado River, electricity must be purchased from other sources to supply demand. The Western Area Power Administration, one of four power marketing administrations within the U.S. Department of Energy, whose mandate is to market and transmit wholesale electricity from multi-use water projects, sells power from four dams on the Lower Colorado River: Davis, Glen Canyon, Hoover and Parker dams. As the drought has lowered hydropower generation, Western Power has purchased more power to meet its commitments to customers primarily from thermoelectric power plants in the region. For more than ten years, Western has seen higher expenses for power purchases.

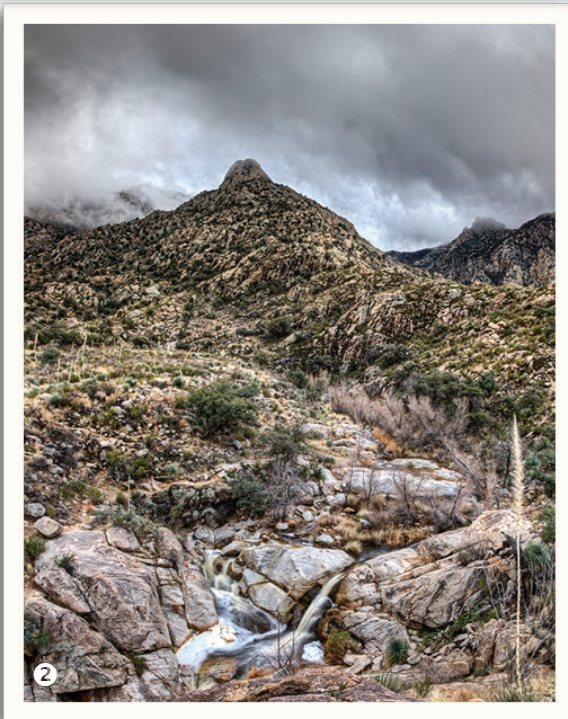
Battling a three-year drought, California is also experiencing the impacts of lower total rainfall, less snowpack in the mountains and earlier snowmelt. As a result, three of the state's largest hydroelectric dams have been forced to reduce production due to lower water levels: Lake Shasta, Folsom Lake and Lake Oroville. In Fall 2014, the water levels on these lakes were 41 percent, 62 percent and 47 percent, respectively, of their storage capacity. Four hundred hydropower plants in California have the capacity to satisfy up to 20 percent of California's electrical demand. Between 2004 and 2013, hydropower accounted for 20 percent of California's total energy generation during the first six months of each of those years. However, in the first six months of 2014, that capacity fell to 10 percent. 📊



## 2014 “Catch the Rain” Photo Contest Winners

Congratulations to the top three winners, 17 runners-up, and all of you who explored Arizona’s spectacular skies, desert lands, muddy washes and active built features—or the folks who watch when the rains start falling.

- 1 **Best of Show**  
- Joanne Toms
- 2 **Best of Category**  
“Water In Nature”  
- Luke Parsons
- 3 **Best of Category**  
“Catch and Reuse”  
- Jessica Driscoll



# Student Spotlight

## Ling-Yee Huang, Water, Society, and Policy



Ling-Yee Huang is a second year master's degree student in the Water, Society, and Policy program of the School of Natural Resources and the Environment. She graduated with a bachelor's degree in biology from Rice University and received a law degree

from the University of Florida. At the WRRC, Huang works as a Graduate Research Assistant for Director Sharon B. Megdal on groundwater governance.

Prior to moving to Tucson, Huang worked as a policy analyst at the Center for Progressive Reform, an environmental and natural resources law and policy think tank in Washington, D.C. Her work focused on the Environmental Protection Agency's Chesapeake Bay Program, in particular analyzing and developing metrics for the Bay states' plans to improve water

quality in the Bay watershed and to implement Total Maximum Daily Loads for local waterbodies. She also developed a legal framework for climate change adaptation activities and for protecting ecosystem services under current federal environmental and natural resources laws.

For Huang, this master's degree represents an opportunity to better understand the scientific aspects of her work in water law and policy. In D.C., she became aware of the boundaries between policymakers and scientists that hinder making informed decisions. By pursuing this degree, she seeks to facilitate better communication between these two groups.

Huang received a 2014 CLIMAS fellowship. (CLIMAS, Climate Assessment for the Southwest, is a regional NOAA climate center housed at the University.) She spent a year developing an integrated science and law curriculum, using climate change as the context to introduce law students to the nature and process of scientific inquiry and how the law and science intersect in practice. This class will be offered at the UA James E. Rogers College of Law in Spring 2015.

Working at the WRRC has given Huang great insight into the numerous innovative ways that Arizona handles water supply and demand imbalances, a problem common to many states. Her experience at the WRRC will inform her future work at the intersection of law, policy, and science. 🏗️

News Briefs continued from page 3

## WRRC Receives Outstanding Evaluation

The University of Arizona Water Resources Research Center, WRRC, was recognized for "performing at an outstanding level" during a recent evaluation by the U.S. Geological Survey, USGS. The Water Resources Research Act Program, administered by the USGS, requires that each state's Water Resources Research Institute/Center be evaluated periodically to determine its eligibility for continued support. Based on the review performed for the 2008 to 2010 period, the recognition put the WRRC in an elite rank among Water Resources Research Institutes. Among other findings, the review committee complimented the WRRC for the quality of its programs, its impact on public policy and water management, and for successfully addressing Arizona's water resources challenges. 🏗️

## SAVE THE DATE

### TRIBAL WATER MANAGEMENT

Water Resources Research Center  
Annual Conference 2015



**June 9-10, 2015**  
Wild Horse Pass  
Casino & Resort  
5040 West Wild Horse Pass Road  
Chandler, AZ 85226



Arizona Water Resource is published quarterly by the University of Arizona Water Resources Research Center. AWR accepts news, announcements, and other information from all organizations.

**Editor:** Susanna Eden

**Designer:** John Polle

**Layout:** Mary Ann Capehart

**Newsletter Link:** [wrrc.arizona.edu/publications/awr](http://wrrc.arizona.edu/publications/awr)

**WRRC Website:** [wrrc.arizona.edu](http://wrrc.arizona.edu)

**WRRC Director:** Dr. Sharon B. Megdal

**Arizona Water Resource**

Water Resources Research Center  
College of Agriculture and Life Sciences  
The University of Arizona  
350 North Campbell Avenue  
Tucson, Arizona 85719 USA

520.621.9591 FAX: 520.792.8518 Email: [wrrc@cals.arizona.edu](mailto:wrrc@cals.arizona.edu)

WRRC is a Water Sustainability Program Affiliate



## 15 Water Wishes for 2015



by Sharon B. Megdal

I am writing this column after attending the annual conference of the Colorado River Water Users Association (CRWUA), held December 10-12, 2014 in Las Vegas. This year's conference focused on both the challenges facing the region and some great accomplishments. Despite these accomplishments, there is much to wish for the future.

In the end-of-year spirit, I thought I would use my column to put forward some water wishes for 2015. Not all center on the Colorado River, but I'll start out with a few that do.

1. I wish that people both inside and outside the professional water community would watch the movie shown at the CRWUA opening plenary session. Entitled "Challenged but Unbroken: Sustaining the Colorado River," this 9-minute movie effectively captures the essence of where we are with Colorado River supply and demand. It discusses the long-term drought, the structural deficit, and the growing demands associated with growth. The movie can be accessed at [CRWUA.org](http://CRWUA.org).

2. As I say frequently, I wish to see the general public get excited but not alarmed about water. Actions will be required in Arizona and the Colorado River Basin to close the gap between demand and supply. Some of the paths to addressing the gap are long-term and will be expensive. An informed public will assist decision makers in selecting among options.

3. I wish to see additional public information and education campaigns, including the new video-based project we are working on at the WRRC called ClipStack™.

4. I wish to explore developing an electronic billboard campaign that shows Lake Mead elevation levels and links to sources of information about what these levels mean for Central Arizona Project water deliveries. It could be an interesting way to engage the public.

5. I wish for good precipitation in Arizona and the Colorado River Basin so that Lake Mead and Lake Powell levels rise and our lands are not so parched.

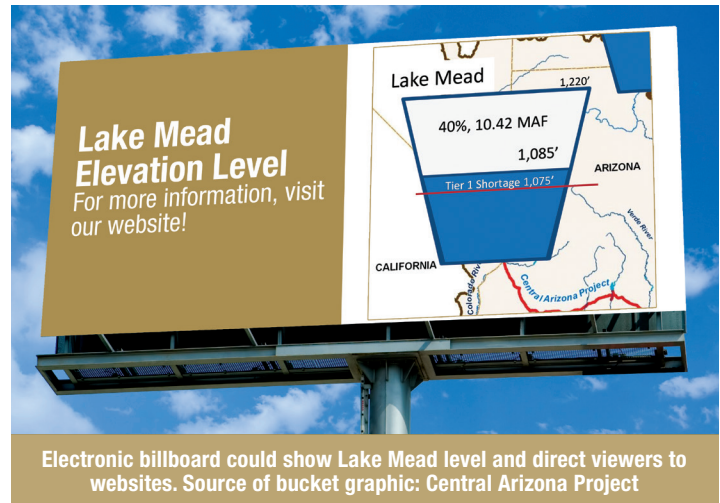
6. I wish to see continued efforts to publicize and build upon the great cooperation associated with the Minute 319 Colorado River Pulse Flow, because it demonstrated how the partners, working with the International Boundary and Water Commission, enabled something not thought doable just a few years ago. It showed the great power of binational collaboration across NGO and academic communities, water suppliers, and governments. I recommend people watch the Robert Redford narrated movie, *Renewal – A Reborn Colorado River Once Again Finds Her Path to the Sea*. It can be accessed at <http://youtu.be/TODV7FW746s>.

7. I wish that each and every water user, regardless of size and type of water use, conserves water. There is great opportunity to use water more efficiently. Conservation should be part of every region's approach to closing the gap between supply and demand.

8. I wish to build on the extensive engagement effort

involved in formulating the "Roadmap for Considering Water for Arizona's Natural Areas" (see insert to this issue). Developing pathways requires creativity and cooperation across water-using sectors. This WRRC project benefitted from extensive input and engagement of many, including our very dedicated project steering committee. We should keep putting our heads together to identify voluntary options for addressing the water needs of our state's natural areas.

9. I wish for a productive dialogue on Arizona's Strategic Vision for Water Supply Sustainability. The vision document released by Arizona Department of Water Resources in January



2014 can be accessed at [http://www.azwater.gov/AzDWR/Arizonas\\_Strategic\\_Vision/](http://www.azwater.gov/AzDWR/Arizonas_Strategic_Vision/).

10. I wish that we determine our solution paths here in Arizona and throughout the Colorado River Basin before a crisis develops. It might take some event(s), however, such as a shortage declaration on the Colorado River, to interest the general public and spur action. Although we do know a shortage declaration is likely, even without one, Arizona will voluntarily use less Colorado River water over the next three years pursuant to the recently signed Memorandum of Understanding to leave water in Lake Mead with the hopes of forestalling a shortage declaration.

11. I wish that the students enrolled in my graduate class in Arizona Water Policy are highly inquisitive and interested in water resources as a key component of their careers.

12. I wish for an informative and stimulating WRRC 2015 annual conference, which will focus on Tribal water management and be held June 9-10, 2015.

13. I wish to continue and expand WRRC partnerships in the coming year. Partnerships are essential to everything we do. Please look at the partnership metrics we compiled as part of our annual strategic planning metrics reporting. The WRRC's strategic plan and metrics, along with our Annual Reports, can be found at <https://wrrc.arizona.edu/about>.

14. I wish for continued success of the WRRC's many programs, projects, and activities. Please visit our web site or contact us to learn how you can become engaged.

15. And, of course, I wish every water stakeholder (everyone) a healthy and productive 2015!! 🏡



**Water Resources Research Center**  
**College of Agriculture and Life Sciences**  
 The University of Arizona  
 P.O. Box 210437  
 Tucson, AZ 85721-0437

---

NON-PROFIT ORG.  
 US POSTAGE  
 PAID  
 TUCSON, ARIZONA  
 PERMIT NO.190

---



**Address Service Requested**

# Resources

## Damned If We Don't! Ideas for Accelerating Change Around Water



*Christopher Peacock Editor, Water Anthology Press, 2015*

A new water anthology, *Damned If We Don't! Ideas for accelerating change around water*, available in pre-release from the Water Innovation Project, is for readers interested in changing the way we manage water. The editor, Christopher Peacock, founder of the Water Innovation Project and publisher of the book, characterizes the collection of essays as highlighting

“how collaboration and information sharing are the smartest ways that we can save, strengthen and rebuild our fractured water sector.” He envisions the book as a learning tool “to accelerate change in our behaviors around [our] management of and relationship to water...”

*Damned If We Don't* reflects the experiences of its more than 25 different authors with such topics as climate change, conservation, smart grid enhancements, and water innovations.

Thought leaders who contributed articles include water experts like Bob Sandford, EPCOR Chair of the Canadian Partnership Initiative in support of the United Nations “Water for Life” Decade; Karen Kun, Executive Director of Toronto-based Waterlution; and Renee M. Kayal, Program Director of Education & Training for the Water Environment Federation.

Among the authors are Director of the WRRC, Dr. Sharon B. Megdal, WRRC professionals Kelly Mott Lacroix and Brittany Xiu, and former WRRC Applied Programs Coordinator Candice Rupprecht. *Damned If We Don't* features two of the WRRC’s Water RAPIDS (Research and Planning Innovations for Dryland Systems) Programs: Conserve2Enhance (C2E) and the Upper Gila River Watershed Project. C2E is an innovative program that connects voluntary water conservation to environmental enhancement efforts and the Upper Gila River Watershed Project was a collaborative effort to develop effective decision-making tools for watershed planning in the Upper Gila River basin.

Written for members of the water sector by members of the water sector, this book represents a shared vision of the path forward for water. Two pre-release chapters are available at [www.wateranthology.com](http://www.wateranthology.com). Half the proceeds from pre-ordered copies of the book will be donated to Water For People, a Denver-based charity that focuses on water quality and sanitation throughout the world. 🏡