



## DECEMBER 2010 NEWSLETTER

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### VIEWPOINT: THE NEW FRONTIER

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Recently I attended a forum in Prescott on recharging treated effluent put on by the Verde Watershed Alliance and the Citizens Water Advocacy Group. One of the organizers was our former Corporate Board President, Peter Kroopnick. They did a good job; it was an

interesting Saturday.

The information presented was not about recharge techniques, but about containments of emerging concern, particularly chemicals which disrupt the endocrine system in vertebrates. Researchers from UA, NAU, and UC Irvine outlined their recent work, each focusing on some aspect of a wide range of emerging contaminants. Estrogenic compounds often survive treatment in wastewater plants to enter the reclaimed water supply, although lengthened treatment times may cut down on the concentrations (UA). Very low concentrations of emerging contaminants can adversely affect health in animals, especially aquatic species. Bullfrog populations in northern Arizona exposed to surface water containing effluent demonstrated a skewed sex ratio and elevated levels of hermaphroditism, possibly from disruption of the endocrine system affecting the reproductive organs (NAU). In humans, endocrine disrupting compounds at low concentrations appear to be causally related to over-production of hormones that inappropriately produce fat storage, and thus elevated levels of obesity and diabetes (UC Irvine).

I walked away with the message that compounds don't have to be carcinogenic to cause adverse health effects, and some of the chemicals now under investigation can trigger consequences at very low levels. We already know this. The forum was meant, I think, to be a bit alarmist. But I admit—the message was a little disturbing. And it indicates a shift now underway in the water quality paradigm that has dictated environmental work for decades.

For years we have focused on anthropogenic compounds in the environment, like trichloroethylene and other VOCs, where toxicity was measured in terms of elevated risk to cancer (the extra one in a million chance). But I think the new frontier in environmental water quality lies in these investigations of contaminants that do their dirty work at very low levels, in ways we are only beginning to understand. These three researchers aren't alone; more research is going on elsewhere. The more research that is done, the more causal relationships to adverse health effects are shown. And the regulatory world is years behind: EPA is only just starting to look at some of these emerging contaminants, and ADEQ won't go where EPA hasn't gone first. But if this forum was an indicator, then change is coming.

Alan Dulaney,

AHS Corporate Board President, 2010

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## GOVERNMENT GOINGS-ON

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Several initiatives are proceeding at the Federal and State level that deal with water.

The Governor's Blue-Ribbon Panel on Water Sustainability is wrapping up its work, and has produced an interim report. The work of this large panel was focused on the use of reclaimed water. A series of subcommittees produced papers on various topics. The working committee on regulatory obstacles to reclaimed water use did not come up with consensus on many of the issues that it faced. The Conservation Recycling/ Efficiency/ Energy Nexus Working Group, or CREEN, drafted suggestions on increasing conservation and efficiency as well as recommendations on stormwater and another waters not usually considered reclaimed water, such as harvested rainwater. They also offered suggestions on the energy-water interaction, particularly in the areas of planning

and public education. The public perception working group worked on ideas to increase acceptance of reclaimed water. The infrastructure/retrofit working group focused on conveyances, additional classifications of reclaimed water, and technical standards for indirect potable reuse.

The Water Resources Development Committee, created by HB 2661 in the last session, has begun its deliberations. This diverse group will examine water supply and demand and the ability to match both county by county for the next 50 years. A report is due to the Legislature in 2011. ADWR's new Water Atlas will be the source of much of the information used. The focus of this group is on the rural areas of the state.

There is also a study underway by the Bureau of Reclamation that is looking at demand and water supply amongst the states sharing Colorado River water. For Arizona, this too began with the ADWR Water Atlas.

And the ADD Water group continues to meet at CAP. The ADD Water process is looking how to acquire, develop, and deliver additional non-Project water via the CAP canal. It represents the next bucket of water, maybe the last one. Many issues have surfaced during the process, and discussions can be animated.

These initiatives are running somewhat parallel to one another, each emphasizing a different aspect of the problem of water supply. Many of the people on one committee also sit at another panel. The fact that all of these initiatives are underway may indicate a growing awareness and anxiety over just how precious water will become over the next decade.

Alan Dulaney,

AHS Corporate Board President, 2010

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## **AHS FOUNDATION NEEDS YOUR CHARITABLE DONATION!**

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2011 is nearly upon us, which means that this is the time many of us make year-end donations to our favorite charities. This year, please consider making a donation to support the Arizona Hydrological Society Foundation.

The [AHS Foundation](#) was established to support the Society by providing long-term assured funding for annual scholarships including the Bouwer and Halpenny Internships, three university scholarships, and other programs intended to assist outstanding and deserving students.

The economic situation since last year has changed little. It continues to be difficult to maintain, much less expand, funding for the AHS Foundation's highly successful educational programs. The Foundation has managed its endowment funds very conservatively, weathering out much of the storm in this economic downturn, although low interest rates have stymied forward progress. In bad times as well as good, though, we have a duty to support those bright students who will become the young professionals solving the critical water problems of the future. For this reason, your charitable contribution is especially important this year. It will provide vital dollars to sustain and enhance the Foundation's efforts to provide these unique educational opportunities to our future leaders in the hydrological sciences.

You can easily donate online using the [Secure Online Payment Form](#), or by sending a check payable to the Arizona Hydrological Society Foundation to:

**AHS Foundation**  
**P.O. Box 65690**  
**Tucson, AZ 85728**

Any amount from \$10 to \$250 or more will help the Foundation support Arizona's best and brightest students into becoming its next water leaders.

*The Arizona Hydrological Society Foundation is a 501(c)(3) organization. All donations qualify for a 100% charitable deduction on personal or business income tax returns. Foundation Directors are all volunteers and are not paid for their time, support or work for the Foundation.*

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## **AHS MEMBERSHIP RENEWAL REMINDER**

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For all AHS members who were not able to attend this year's annual symposium, membership dues can to be renewed online at:

[http://www.azhydrosoc.org/join\\_ahs.html](http://www.azhydrosoc.org/join_ahs.html)

Or by mail to:

**Arizona Hydrological Society**  
**P.O. Box 1882**  
**Higley, AZ 85236**

Thank you for your continued support of the Arizona Hydrological Society!

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## **PHOENIX CHAPTER NEWS**

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Our next dinner meeting will be **December 7<sup>th</sup>**, 2010, at the SunUp Brewery near downtown Phoenix to have a beverage, share business cards, and talk water. Please note that this is the first Tuesday, not the traditional second Tuesday of the month.

<b>Location:</b>	<a href="#">SunUp Brewery</a> 322 E. Camelback Road Phoenix, AZ 85012
<b>Event:</b>	<i>Governor's Blue Ribbon Panel on Water Sustainability: Work Finished, Work Ahead</i> , Chuck Graf, Senior Hydrologist, Arizona Department of Environmental Quality
<b>Chapter Board Meeting:</b>	4:30 PM – 5:30 PM
<b>Happy Hour &amp; Dinner:</b>	5:30 PM – 7:00 PM
<b>Presentation:</b>	7:00 PM – 8:00 PM

**Cost:** \$15 member, \$20 non-member, \$5 student

RSVP with Kirk Creswick at [kcreswick@eecphx.com](mailto:kcreswick@eecphx.com) or 602-248-7702.

Hope to see you there!

### **Governor's Blue Ribbon Panel on Water Sustainability: Work Finished, Work Ahead**

By the time you read this, the Blue Ribbon Panel on Water Sustainability will have completed its work and delivered its final report to Governor Jan Brewer. The Panel, which consisted of 40 individuals representing a diverse group of water interests in Arizona, was challenged to identify and overcome obstacles to increased water sustainability in Arizona. It was asked to provide advice to ADEQ, ADWR, and the Arizona Corporation Commission on the technical, legal, and policy means of promoting conservation and recycling of all sources of water.

In its final report, the Panel provided 18 sets of recommendations in five categories: education/outreach, standards, information development and research agenda, regulatory improvements, and incentives. The 18 sets of recommendations actually encompassed a total of 63 separate sub-recommendations. So, while the work of the Panel may be done, the work of accomplishing the recommendations just begins. Chuck Graf, who served as staff support to the Panel, will summarize the recommendations and speculate on the next steps toward implementing them.

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#### **Future Event Calendar (see also calendar on [www.azhydrosoc.org](http://www.azhydrosoc.org))**

- January 2011 Kick-off meeting – Join the Phoenix chapter annual planning meeting and help shape the direction of your society! Date and location to be announced.
- February 2011 and beyond – Anyone with a suggestion for a monthly meeting topic please contact [Keith Ross](#), Phoenix Chapter Vice President.

#### **PHOENIX CHAPTER OFFICER ELECTIONS**

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Here are the candidates for the Phoenix Chapter officers. Please vote by December 15 at <http://www.surveymonkey.com/s/C5NVSWT>. Election results will be sent by email and in the January newsletter.

President: **Keith Ross**, Atwell, LLC

Vice-President: **Tom Walker**, Fleet-Fisher Engineering, Inc

Treasurer: **Kirk Creswick**, Engineering and Environmental Consultants, Inc.

Secretary: **Angela Bond**, Salt River Project

Phoenix Chapter Board Member (2)

**Mike Hulst**, Engineering and Environmental Consultants, Inc.

**Rich Siegel**, Salt River Project

## TUCSON CHAPTER NEWS

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### November Meeting Announcement

The Tucson Chapter of AHS will be holding its November monthly meeting in conjunction with the regular monthly meeting of the [Pima Association of Governments' Watershed Planning Subcommittee](#). The meeting will be held on November 29 at 1:30 p.m., in PAG's main conference room (501), 177 N Church Ave in Tucson. The agenda is under development and will be e-mailed to all AHS members approximately one week prior to the meeting. For more information, contact [Greg Hess](#) at (520) 622-3222.

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### OCTOBER 2010 MEETING SUMMARY

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- Write up provided by Shane T Clark, Tucson Chapter Secretary (2010): U.A Watershed Hydrology

#### "Scientific Results of the Phoenix Mission"

On Friday, October 15th the Tucson Chapter hosted a special guest lecture by Peter Smith, Phoenix Principal Investigator, University of Arizona Lunar and Planetary Lab. This talk was attended by 9 people and was held at the Marshall Building on the University of Arizona campus in Tucson, AZ 85719

Here is a brief summary of his lecture for those AHS members unable to attend.

On May 25, 2008 the Phoenix Mission performed the scary entry, descent, and landing onto the plains of northern Mars. Thus began a scientific exploration of the icy soil uncovered by the robotic arm on the spacecraft. Analyzing samples delivered to the wet chemistry lab on the deck, a major discovery was made that is changing the way that we perceive Mars. We now know that the soil at our landing site contains about 0.5% perchlorate. A description of this interesting salt and the consequences of its distribution across vast areas of Mars will be discussed.

Peter Smith gave the audience a historical perspective of both his personal interest in space exploration as well as that of the various past attempts to explore Mars. The most notable mission to Mars was the Viking undertaken in 1976. Two Landers 1,000 miles apart conducted experiments. The result was that no noticeable life or water was present and neither Lander found organics. However C-H-CL, typical of cleaning products, was found and gave rise to the idea of powerful oxidants being on the planet.

The Phoenix Mars Mission was birthed from the residual equipment of the 2001 surveyor mission that was cancelled in 1999. The equipment had been housed in a clean room and left for years until NASA decided to offer this equipment up for use on a new worthy mission. Peter Smith then jumped at the chance to utilize this equipment thereby significantly reducing the operational costs of a Mars landing mission. Smith knew there was water present at the North Pole based upon high energy protons (cosmic rays), and by measuring neutron (gamma rays) frequencies emitted from the planet's surface.

On May 25th 2008 the successful entry, descent, and landing was accomplished. The Phoenix Landers payload had LIDAR, Surface stereo imager, MET mast, MECA (microscope electrochemistry), TEGA (Thermal & Evolved Gas Analyzer), an RA camera, and a Robotic arm to conduct the physical experiments. Upon landing Ice was exposed by the rocket boosters. Gammometer equipment analysis estimates that the ice extends at least to 30-40 m thick. The

Phoenix Mars Mission results concluded that ancient Mars had lots of water.

For more information about the results or to find out more about future Mars missions please visit <http://phoenix.lpl.arizona.edu/index.php>

The AHS Tucson Chapter extends a very warm thanks to Peter Smith, for his informative presentation!

Additionally, the Tucson Chapter would like to thank [SAHRA](#) for providing the space so that this monthly talk could be held!

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## **TUCSON CHAPTER OFFICER ELECTIONS**

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Here are the candidates for the Tucson Chapter officers. Please vote by December 15 at <http://www.surveymonkey.com/s/C53HRCD>. Election results will be sent by email and in the January newsletter.

President: **Damien Gosch**, Masters Student, Department of Hydrology

Vice-President **Greg Hess**, Clear Creek Associates

Treasurer: **Dan Guido**, Montgomery & Associates.

Secretary: **Shane Clark**, Student, Watershed Hydrology and Management

Tucson Chapter Board Member (1): Vacant

Tucson Chapter Corporate Board Member (1): **Brittney Bates**

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## **FLAGSTAFF CHAPTER NEWS**

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The next Flagstaff chapter meeting will be Wednesday, December 15, 2010 at Casa Bonita. Please check the [Flagstaff chapter web page](#) or contact [Brad Hill](#) for details.

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A big thank you to **Mike Tomlinson**, with the [School of Ocean and Earth Science and Technology \(SOEST\)](#) at University of Hawaii at Manoa, for his presentation on Monitoring in the Ahupuaa. Mike presented area hydrology and geochemistry, various monitoring techniques and equipment used, and results from these efforts. His presentation and handouts can be downloaded off the Flagstaff Chapter website. Mike has lived in Flagstaff for the last 2 years, where he has worked remotely with the data and continues to collaborate on project work and manuscripts.

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The Flagstaff Chapter is currently focusing on planning for the AHS 2011 Symposium. The symposium will be held again at the High Country Conference Center at the north end the NAU campus **September 11-13, 2011**. If anyone would like to participate in the planning stages, the “small but mighty” Flagstaff Chapter would love to hear from you. Please contact [Brad Hill](#) or [Erin Young](#).

## FLAGSTAFF CHAPTER OFFICER ELECTIONS

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Here are the candidates for the Flagstaff Chapter officers. Please vote by December 15 at <http://www.surveymonkey.com/s/CPB3N52>. Election results will be sent by email and in the January newsletter.

President: **Brad Hill**, City of Flagstaff

Vice-President: **Paul Whitefield**, National Park Service

Treasurer: **Dana Downs-Heimes**, CH2M Hill

Secretary: **John Cochran**, Peabody Investments Corporation

Flagstaff Chapter Board Member (1): **Erin Young**, Fluid Solutions

Flagstaff Chapter Corporate Board Member (1): **Charlie Ester**, Salt River Project

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## HYDRO-NEWS

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### WATER BATTLE IN CENTRAL ARIZONA TOWNS NOT OVER

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By FELICIA FONSECA - Saturday, November 28, 2009 11:00 pm  
Associated Press Writer

PRESCOTT — Two small central Arizona cities have spent tens of millions of dollars to buy remote ranch land where they plan to sink wells that would ensure a water supply for their burgeoning populations.

But the effort has raised the ire of the huge Salt River Project public water agency, which is worried that the pumping would cut flows into a river that supplies more than one-third of the water to its reservoir systems north of Phoenix.

Similar scenarios play out often across the West, where multiple claims are staked for the same water source and years long battles ensue. Prescott and Prescott Valley are pitted against SRP in this battle that doesn't appear to be ending any time soon.

The plan by Prescott and Prescott Valley to pipe water from 30 miles away is on a smaller scale than other proposed pipelines in the West. The Southern Nevada Water Authority, for example, wants to pump water from a sparsely populated watershed on the Nevada-Utah border about 300 miles to feed Las Vegas.

Read more: [http://azdailysun.com/news/local/article\\_32de3cc7-8b39-5249-b32e-b9c7497f1bcb.html](http://azdailysun.com/news/local/article_32de3cc7-8b39-5249-b32e-b9c7497f1bcb.html)

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### NEW YUMA RESERVOIR IS A WATER SAVER

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#### Structure helps make the most of Colo. River runoff

by **Shaun McKinnon** - Nov. 26, 2010 12:00 AM  
The Arizona Republic



GORDONS WELL, Calif. - Twenty-eight days after water filled the Warren H. Brock Reservoir for the first time, the project's builders got the news they wanted: It didn't leak.

So, they pulled the plug and let all the water out.

Emptying the reservoir, dug out of the sand dunes about 25 miles west of Yuma, was as much a part of the final construction test as filling it and watching for leaks. This reservoir was built to be in motion: Get the water in, wait a few days, get the water out.

The \$172 million project is an attempt to seal decades-old leaks in the Colorado River's water-delivery system by capturing the dribbles lost downstream to Mexico when farmers in Arizona and California don't take water they ordered, usually because rain filled the need.

That water can now be shunted into the reservoir and held until the farmers ask for it again. The U.S. Bureau of Reclamation estimates the project could save as much as 70,000 acre-feet of water a year, water that can remain in Lake Mead as a hedge against drought.

With testing complete, the reservoir could begin operating any time, although officials plan to inspect the two structure's two basins and the site to be certain no hidden problems emerge. The water used in the test was returned to the system and used by farmers.

Read more: <http://www.azcentral.com/arizonarepublic/news/articles/2010/11/26/20101126yuma-reservoir-water.html#ixzz16cSialC0>

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## ICEBERG WATER: THE NEXT DESIGNER DRINK?

### Entrepreneur seeks fortune in Greenland

by **Andrew Zajac** - Nov. 25, 2010 12:00 AM  
Tribune Washington Bureau

WASHINGTON - Sometime soon, a converted fishing boat called the Sikuk is due to sail from St. John's, in Canada's Newfoundland province, bound for a fjord in Greenland and a rendezvous with an iceberg.

Where most vessels give icebergs a wide berth, the Sikuk intends to sidle up close and, using a giant mechanical claw, begin ripping 1,500-pound bites of ice from floating bergs and depositing them into tanks below deck.

The product of this bizarre harvest is destined to become something called Glace Rare Iceberg Water, and it represents the latest turn in the lifelong obsession of a native Newfoundlander named Ron Stamp. Where others saw hazards to navigation, Stamp has long seen icebergs as objects of wonder and, eventually, as the key to his fortune.

Read more: <http://www.azcentral.com/arizonarepublic/news/articles/2010/11/25/20101125iceberg-water1125.html#ixzz16cVoGnQf>

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## SOME MESA RESIDENTS MAY SEE CHANGES IN TAP WATER

by **Kate Jacobs** - Nov. 24, 2010 01:33 PM  
The Arizona Republic

Some Mesa residents may notice a difference in the taste and appearance of their tap water because of a switch from surface water to well water while the Salt River Project undergoes routine yearly maintenance.

The scheduled maintenance is being preformed on the South Canal, which supplies water to one of Mesa's surface water treatment plants, according to the City's website.

The conversion, which began November 15, affects water customers west of Lindsay Road and is expected to continue through mid January.

Customers may notice a cloudy or milky appearance that is caused by millions of air bubbles, Water Resource Department spokesman Ian Satter said.

Read more: <http://www.azcentral.com/community/mesa/articles/2010/11/24/20101124mesa-well-water-switch-abrk.html#ixzz16cUuuFQb>

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## **RECLAIMED WATER WASHES VEHICLES IN PEORIA**

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Nov. 22, 2010 09:06 AM

The Arizona Republic

With the completion of a pipe from the adjacent Butler Water Reclamation Facility, Peoria is using reclaimed water to wash city vehicles at Peoria's Municipal Operations Center near 79th and Olive avenues. Using reclaimed water preserves drinking-water supplies and can meet the majority of outdoor water demands. It's also cheaper than potable water.

Read more: <http://www.azcentral.com/community/peoria/articles/2010/11/22/20101122peoria-reclaimed-water-washes-vehicles.html#ixzz16cUTE141>

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## **U.S. SENATE OKS TRIBE WATER SETTLEMENT**

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by **Shaun McKinnon** - Nov. 21, 2010 08:25 PM

The Arizona Republic

The U.S. Senate has approved a water settlement with the White Mountain Apache Tribe in Arizona and authorized spending more than \$126 million on infrastructure to deliver the water.

The measure, which passed on a unanimous vote Friday, sets aside 52,000 acre-feet of water to settle claims with the tribe. Under terms of the deal, the tribe can lease as much as half the water to cities in the metro Phoenix area.

An acre-foot is 325,851 gallons, enough to serve two average households for one year.

A little over half the water - 27,000 acre-feet - will be come from the Salt and Little Colorado river watersheds. Both rivers originate on or near the Fort Apache Reservation. The rest of the water will come from the state's share of the Colorado River, delivered by the Central Arizona Project Canal.

Read more: <http://www.azcentral.com/news/articles/2010/11/21/20101121water-apaches->

## TOP NAVAJO OKS WATER PACT

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Friday, November 19, 2010 12:00 am

Arizona Daily Star

WINDOW ROCK - Navajo President Joe Shirley Jr. has approved an agreement that quantifies the tribe's water rights in the lower Colorado River basin.

Tribal lawmakers voted in favor of the settlement earlier this month.

It gives the tribe 31,000 acre-feet of water a year from the basin, any unclaimed flows from the Little Colorado River, and nearly unlimited access to two aquifers beneath the reservation.

Critics had lobbied Shirley to veto the settlement, saying the tribe shouldn't waive future claims to the water and should demand more.

Shirley spokesman George Hardeen said Thursday that the president has confidence in those who negotiated the settlement on behalf of the tribe.

The settlement still needs approval from the Hopi Tribe, the state of Arizona and Congress.

Read: [http://azstarnet.com/news/state-and-regional/article\\_ed13ddc6-27da-598a-898f-c1010201d9fa.html](http://azstarnet.com/news/state-and-regional/article_ed13ddc6-27da-598a-898f-c1010201d9fa.html)

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## CAP DESCRIBES COSTLY FUTURE WATER OPTIONS

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[Tony Davis Arizona Daily Star](#) Arizona Daily Star

Posted: Thursday, November 18, 2010 12:00 am

PHOENIX - High-cost desalinated brackish groundwater, Western Arizona groundwater and Colorado River water owned by farmers surfaced on Wednesday as the state's next potential watering holes.

Central Arizona Project officials laid out these options as ways to provide more water in case CAP supplies run short and to serve population growth.

In a meeting with a host of water-interest leaders, including a Tucson Water official, the CAP proposed buying about a total of 300,000 acre-feet of additional water over the next 30 years.

That's one-fifth of the CAP's current supply of 1.5 million acre-feet, enough to provide about 4.5 million families a year's worth of water. To carry the extra water, the CAP's concrete canal, which carries the water uphill from the Colorado River to Tucson and Phoenix, would need upgrading at an estimated \$100 million cost, officials said.

If the demand outstripped the supply at any point, the three-county agency that runs the water project would auction the water to the highest bidder, CAP officials said. In short, the proposal amounts to water marketing, a method long proposed by many water experts to ensure that as water becomes more scarce, it is sold on the open market so it achieves its economically highest and best use.

Read more: [http://azstarnet.com/news/local/govt-and-politics/article\\_6fd949b0-229c-5077-9485-5a9ebf56d6b4.html](http://azstarnet.com/news/local/govt-and-politics/article_6fd949b0-229c-5077-9485-5a9ebf56d6b4.html)

## DEADLINE FOR TEACHER WATER WORKSHOP NEARS

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Kerry Fehr-Snyder, [kerry.fehr-snyder@arizonarepublic.com](mailto:kerry.fehr-snyder@arizonarepublic.com)

Tuesday, November 16, 2010

Teachers can learn about the role of water in Arizona's past, present and future as part of an academy next year called "Celebrating Freshwater in Arizona."

The academy is sponsored by Salt River Project, the City of Phoenix, Project WET and the Arizona Geographic Alliance as part of SRP's upcoming "Together We Conserve" water-conservation and education campaign and the Roosevelt Dam centennial celebration in March.

Fourth- through 12th-grade [educators](#) chosen to participate can attend either the Spring Academy (Jan. 15, Feb. 12, March 12 and 18) or the Summer Academy (June 27-30). Teachers participating in the Spring Academy's curriculum workshops will also take part in the Roosevelt Dam centennial, including a trip to Roosevelt Lake and a tour on top of the dam.

Teachers can receive [professional development](#) and more than \$250 in resources and materials for their classrooms pertaining to water in Arizona. Educators chosen will also receive a \$250 stipend upon completion of the academy requirements. Eligible participants are those [teaching](#) within SRP's service and impact areas, including Maricopa, Gila, Yavapai and Pinal counties and the cities of Page and St. Johns.

Applications for the spring academy are due by Dec. 1; the deadline to apply for the summer academy is May 1. They are located at [www.srpnet.com/education](http://www.srpnet.com/education) or by calling (602) 236-2798.

SRP delivers about 1 million acre-feet to municipal, agricultural and urban water users. SRP also is the largest provider of power to the metropolitan area, providing electric service to more than 940,000 customers.

<http://www.azcentral.com/members/Blog/SchoolGrounds/106988>

## DROUGHT HAS LAKE MEAD AT HISTORIC LOW

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by **Shaun McKinnon** - Nov. 1, 2010 12:00 AM

The Arizona Republic

LAKE MEAD NATIONAL RECREATION AREA - The advice given to boaters here these days - "If you haven't been to Lake Mead lately, you haven't been to Lake Mead" - sounds like a marketing slogan dreamed up to lure return business.

Except in this case the advice is true.

[Low water levels at Lake Mead](#) The drought on the Colorado River has reshaped the huge reservoir so dramatically in the past 11 years that it bears little resemblance to the lake captured in snapshots just a few years ago. Water levels have dropped 133 feet. Islands have emerged and grown. Rocky outcroppings push through the surface, creating watery obstacle courses whose paths shift almost daily.

Five boat-launching sites and three marinas have closed since 2001 as the water recedes. The National Park Service has poured over a quarter-mile of concrete to maintain one boat ramp.

Marina operators repeatedly nudge boat docks farther into the lake; about 200 boat slips were towed 40 miles across the lake to a new location after the old site dried up.

Chasing the water, which is at its lowest level since the lake was first being filled 73 years ago, has cost the Park Service and the operators millions of dollars to rebuild or add infrastructure to compensate for the changing shoreline.

Read more: <http://www.azcentral.com/arizonarepublic/news/articles/2010/11/01/20101101lake-mead-water-level-down.html#ixzz16cY0MIXQ>

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## **WATERBLOGGED BY SHAUN MCKINNON, ARIZONA REPUBLIC**

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### **NO EASY FIX FOR LAKE MEAD LEVELS**

Late last month, I motored on up to **Lake Mead** to [report a story](#) on the effects of the receding water levels, which have sunk to historic lows.

The bathtub rings on the lake's edges are familiar images these days, but starker still are the wide expanses of dry land at the boat marinas. **Boulder Harbor** looks especially sad, abandoned now and all but empty, a fishing pier suspended high in the air.



The marina operators and the **National Park Service** chase the water for long stretches of the year now, pushing the docks farther into the reservoir and pouring more concrete for the boat ramps.

What has surprised me since the story was published is the response from some readers, who think we've either overblown the story or don't understand what's happening on the river.

One letter to the editor doubted that drought played much of a role in Mead's retreat, attributing it instead to a failure on someone's part to release water downstream from **Lake Powell**, where water levels have risen since the worst years of the drought.

Tuesday, November 9, 2010

Read more: <http://www.azcentral.com/members/Blog/ShawnMcKinnon/106017>

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### **Voters wary of change on enviro issues**

Amid the [rain](#) of incumbents flying off the ballot Tuesday night were some decisions by voters that poked at conventional wisdom on conservation issues. It's hard to pull a common thread without

exit polls, but environmental groups are trying to take some comfort.

...

**FINALLY, AN ATTEMPT** by tea party activists to create a majority on the **Central Arizona Project** board of directors fell short Tuesday night.

Voters elected two people from the smaller-government slate: incumbent **Mark Lewis** and **Cynthia Moulton**. The other three winners are incumbent **Tim Bray**, **Frank Fairbanks**, the former Phoenix city manager, **Jim Holway**, a former state water regulator and the head of a land and water conservation campaign.

The CAP board race is always hard to read because voters often know little about the candidates until the waning days of an election cycle. In 2006, a slate of smaller-government candidates won by visiting Republican precinct meetings and instructing the party faithful to "vote for all the women."

This year, the slate wasn't so easily recognized and the other candidates were prepared to counter any below-the-radar efforts with their own grass-roots campaign.

Wednesday, November 3, 2010

Read more: <http://www.azcentral.com/members/Blog/ShawnMcKinnon/106017>

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For associated links and other timely water blogs on Shaun McKinnon's Arizona Republic site – **Waterblogged** visit <http://www.azcentral.com/members/Blog/ShawnMcKinnon>.

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## ADDITIONAL INFORMATION

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*For more information about the Arizona Hydrological Society, or to view current job listings and announcements, please visit our regularly updated web site at:*

<http://www.azhydrosoc.org/>

*Membership may be renewed by credit card through the AHS website or by mailing a check to the Arizona Hydrological Society, P.O. Box 1882, Higley, AZ 85236. Dues remain at \$45.00 year for regular membership and \$15.00 for students. Please remember that your 2011 membership was included in the 2010 Symposium registration fee! For Members who could not attend this year's symposium, please renew online or by mail by December 31, 2010!*