



September 2009 Newsletter

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## **Viewpoint: Gathering Together**

The Annual Symposium has come and gone, and I hope you were able to make it. I managed to hear several exciting talks, and regretted having to miss others that occurred at the same time. But simultaneous good talks occur every year for everyone, and you just have to make a choice. The plenary sessions were excellent, with information to chew on for several months to come. The exhibits got a lot of traffic. All in all, it was a good symposium.

At the Annual Meeting we talked about cost-saving measures that could be implemented in 2010. For example, our interim Executive Director, Matt Beversdorf, will be stepping down after December, and members of the Corporate Board can parse out his duties and handle the job collectively. We will miss Matt, who has been a stalwart supporter of the Society for many years, and helped bring our Website back to life.

Between now and the next Symposium in Tucson in 2010 are the meetings of each Chapter. Chapter meetings offer good talks and important networking opportunities. Being active in your Chapter insures your own professional success and the success of the Society as a whole. I look forward to seeing you all at Chapter meetings for the next year.

Alan Dulaney,

AHS Corporate Board President, 2009

## Symposium Thank You

We want to thank everyone who helped make this Symposium possible this year!

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## Phoenix Chapter

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## **October Dinner Meeting**

There will be no chapter dinner meetings in September due to the Annual Symposium activities.

Our next dinner meeting will be held Tuesday, October 13th, at the Sun Up Brewing Co. and Brewhouse (Formerly Sonora Brewhouse) near 3rd Street east of Central Avenue on Camelback Road in Phoenix. Our speaker will be Brian Conway, Arizona Department of Water Resources (ADWR), who will give us an update on subsidence issues in Arizona.

<b>Location:</b>	Sun Up Brewing Co. and Brewhouse (Formerly Sonora Brewhouse) 322 E Camelback Rd Phoenix, AZ 85012
<b>Event:</b>	Brian Conway, Arizona Department of Water Resources, "ADWR Land Subsidence Monitoring Program"
<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
<b>Cost:</b>	\$15 member, \$20 non-member, \$5 student

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

## **Plea for 2010 Chapter Board Nominees**

The Phoenix Chapter is seeking nominations for the chapter board for 2010. We have only one continuing Corporate Board member, Lee-Anna Walker. Otherwise all the chapter board positions are open and need a willing and eager volunteer. Ted Lehman will be stepping down as Chapter President after a great five year tenure.

Offices on the Board include President, Vice President, Treasurer, Secretary, two Chapter Board positions, and one open Corporate Board position. There are no special requirements of board membership except you must be an AHS member (if you're not, that's easily rectified!) and have a willingness to provide input and give something back to the Society.

The Chapter Board normally meets monthly except Aug. & Sept. in advance of the chapter dinner meetings. Board members can expect to spend about 4 to 8 hours a month preparing for and participating in board meetings and other chapter activities. The Chapter President and Corporate Board members also meet quarterly with the Corporate Board members from Tucson and Flagstaff. Those meetings are held for four hours on Saturdays – once in Flagstaff (July), once in Tucson (Jan.) and twice in Phoenix (April & Oct.). Participation in the Chapter Board is a great way to learn more about the Society and help chart our path forward.

Nominations can be made to current Chapter President, Ted Lehman, at [ted@jefuller.com](mailto:ted@jefuller.com) or 480-222-5709. I look forward to hearing from you!

Chapter Board nominations will be the primary focus of the October chapter board meeting which precedes happy hour at the 'formerly known as' Sonora Brewhouse. If you are interested in learning more about the various board positions, you're encouraged to join us at 4:30 pm Oct. 13th.

**Symposium Planning Wrap-up Meeting, at Macayos, Depot Cantina, Tempe.**

The 2009 Symposium Planning Committee is meeting one last time to finalize and summarize this year's event.

The meeting will be held at Macayos, Depot Cantina, 300 S Ash Ave, Tempe. [Get directions](#)

If you are interested in attending, please contact Keith Ross at [keithr@hgcinc.com](mailto:keithr@hgcinc.com) or 480-421-1501.

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### **Brown Bag Water Speaker Series**

**Date:** September 23, 2009  
Noon - 1:30 PM

**Speaker :** David Christiana, a UA alumnus with the Arizona Department of Water Resources and World Water Corps volunteer

**Presentation:** "World Water Corps: Adventures in Volunteerism"

**Location:** The University of Arizona Cooperative Extension, Maricopa County, Palo Verde Room at 4341 E. Broadway, Phoenix.

Free and open to the public. Bring your lunch. There will be time for questions and answers. Please RSVP to Nancy Crocker at 602-827-8200 ext. 335 or [NCrocker@cals.arizona.edu](mailto:NCrocker@cals.arizona.edu).

Future Brown Bag WSS Events can be found on this [Calendar](#).

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### **Lunch Bunch at the Capitol Museum**

**Date:** September 16, 2009  
12:15 - 1:00 PM

**Speaker :** Grady Gammage Jr., former president of the CAP of directors.

**Presentation:** "Sustainability, Water, and Development, The Central Arizona Project"

**Location:** Arizona Capitol Museum  
1700 West Washington  
Phoenix, AZ 85007

**Description:** The Central Arizona Project (CAP) is a 336 mile canal that brings over 1.5 million acre feet of water from the Colorado River to central and southern Arizona. Grady Gammage Jr. former president of the CAP board of directors, will relate the events leading to the construction of the canal, and discuss issues pertinent to the CAP today.

[Lunch Bunch Flyer](#)

[Other Museum Events](#)

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**Event Calendar (you may also see AHS calendar events at <http://www.azhydrosoc.org>)**

- October 13 - Oktoberfest meeting at Sonora Brewhouse! - Dinner Speaker: Brian Conway, ADWR. "Arizona Department of Water Resources Land Subsidence Monitoring Program"
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# Tucson Chapter

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## September Meeting Announcement

Sorry for the confusion the newsletter that went out earlier this Month. No meeting was held in September. Thanks.

## October Meeting Announcement

The next chapter meeting will be held on Tuesday October 13th, 2009.

**Location:** Offices of Montgomery and Associates, Inc  
1550 E Prince Rd  
Tucson, AZ 85719

**Event:** To Be Announced

**Social half-hour :** 6:00 PM

**Presentation:** 6:30 PM

**Speakers:** Wally Wilson and Dick Thompson, Tucson Water

Wally Wilson has over 20 years experience as a hydrogeologist performing all levels of environmental investigations and remediation involving groundwater, surface water and soils. Mr. Wilson combines extensive experience in regulatory compliance in half a dozen western states with strong knowledge of Arizona environmental laws and permits. He has been an integral part of Tucson Water's long-range planning process and water resources development for the past 6 years. Mr. Wilson is currently the Lead Hydrologist overseeing the Recharge and Special Projects Unit. This group of hydrologists monitors and optimizes the Utilities four major recharge and recovery projects which provide the City with both renewable drinking water and reclaimed water.

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## Field Trip Announcement

Join us on Saturday, October 24th 2009 for a tour of the Southern Avra Valley Storage and Recovery Project (SAVSARP).

We will be meeting at 8:00 am on Saturday, October 24th east of the State Parking Garage (See map.)

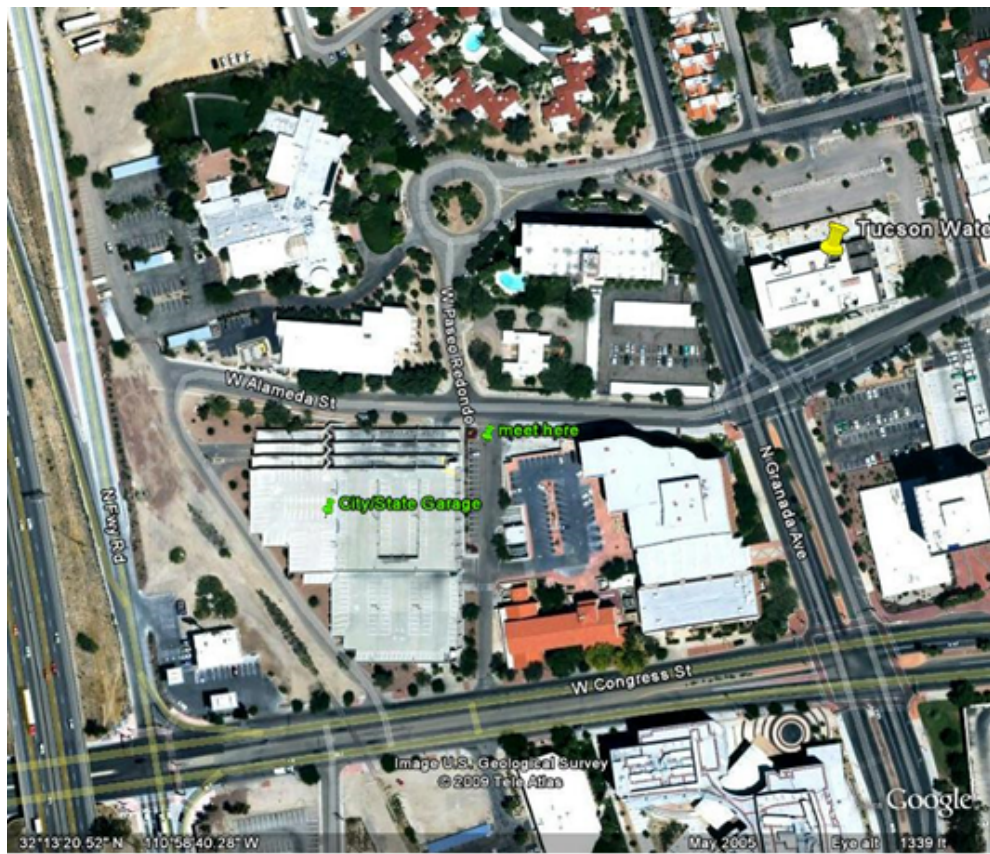
We will visit a recharge basin filling next to a dry basin, a piezometers nest, a monitor well, and a RF base station for our remote data system as well as a remote weather station.

Cost: Free

Transportation: Provided by Tucson Water

Reservations: Please contact Jeff Gawad ([jgawad@elmontgomery.com](mailto:jgawad@elmontgomery.com)) to reserve your space. Space is limited to the first 20 respondents.





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### **Call for Officer/Corporate Board Nominees**

The Tucson Chapter is seeking nominees for all positions on the Chapter Board, including President, Vice President, Secretary, and Treasurer for 2010. Voting for these positions will take place in November of 2009. We are also seeking nominations for two open positions on the Corporate Board. One position is vacant, and could be filled immediately. The other will be available beginning in January, 2010. Please send any nominations to Jeff Gawad ([jgawad@elmontgomery.com](mailto:jgawad@elmontgomery.com)).

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### **2010 Symposium Planning Committee**

Planning for the 2010 symposium is underway. If you would like to get involved with planning, please contact Kate Duke of Montgomery and Associates ([kduke@elmontgomery.com](mailto:kduke@elmontgomery.com)) or Jeff Gawad of Montgomery and Associates ([jgawad@elmontgomery.com](mailto:jgawad@elmontgomery.com)). Any help is greatly appreciated! Thanks!

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### **WRRC Brown Bag Seminars**

"Achieving True Water Sustainability: A Case Study of Chino Valley's efforts within the Prescott AMA"

**Date:** Friday, October 2nd, 2009

**Time:** Noon to 1:30

**Speaker:** Mark Holmes, Town of Chino Valley

The word sustainability is mentioned in virtually every presentation pertaining to water resources, but what is true water resource sustainability? It means different things to different people. How can we agree on a definition and what strategies will achieve it? Chino Valley is at the tipping point; it must come up with a water resource sustainability plan for the community's current and future health, welfare, and quality of life. Chino Valley recognizes that one size does not fit all regarding the dynamic and critical management of water resources throughout the State, but we would like to share our sustainability strategies and lessons-

learned as one of the most critically water challenged communities in the State. We hope that others may find specific ideas useful in their current or future water resource planning.

## "Urban Heat Island and Residential Outdoor Water Demand"

**Date:** Wednesday, October 21st, 2009

**Time:** Noon to 1:30

**Speakers:** Christopher A. Scott, Stephen Yool, Eve B. Halper, and Andrew Comrie, School of Geography and Development, University of Arizona

Urban water demand in the Southwest is influenced by the type, age, and structure of residential and public landscaping. Urban heat island (UHI) coupled with regional climate change have important impacts on urban water demand. This brownbag seminar focuses on Tucson, Arizona and presents the results of research supported by a 104B grant from the Water Resources Research Center and the U.S. Geological Survey. We characterize Tucson's UHI in temporal terms based on climate station data, and spatially using Landsat Thematic Mapper satellite imagery. We relate the UHI to residential outdoor water use and discuss the implications of urban landscaping for UHI mitigation.

*All seminars and events are held at the Sol Resnick Conference Room, Water Resources Research Center, 350 N. Campbell Ave.*

*Information for additional seminars can be found on the WRRC web site: [www.cals.arizona.edu/azwater](http://www.cals.arizona.edu/azwater)*

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### **Tucson HydroNews**

#### **City revisits Marana plan to acquire water system**

By Tony Davis  
Arizona Daily Star  
Tucson, Arizona | Published: 09.13.2009

An old idea has resurfaced in the water world: the possible sale to the town of Marana of Tucson Water's pipes, wells, reservoirs and other water infrastructure lying within town boundaries.

City and town officials are proposing a joint appraisal — at Marana's expense — of the value of that water system plumbing. If the appraisal leads to a price acceptable to both governments, then the city may sell the equipment to Marana.

Then, the two sides could debate the question that all parties agree is ultimately more significant — where Marana would get the water to put into the pipes and tanks.

<http://www.azstarnet.com/allheadlines/308834.php>

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#### **Showerheads pose potential bacteria danger**

By Randolph E. Schmid  
The Associated Press  
09.14.2009

WASHINGTON - In what may be the scariest shower news since Alfred Hitchcock's "Psycho," a study says showerheads can harbor tiny bacteria that come spraying into your face when you wash.

People with normal immune systems have little to fear, but these microbes could be a concern for folks with cystic fibrosis or AIDS, people who are undergoing cancer treatment or those who have had a recent organ transplant.

Researchers at the University of Colorado tested 45 showers in five states as part of a larger study of the

microbiology of air and water in homes, schools and public buildings. They report their shower findings in Tuesday's edition of Proceedings of the National Academy of Sciences.

<http://www.azcentral.com/business/consumer/articles/2009/09/14/20090914shower-bacteria-0914-ON.html>

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## **Pinal County utility finishes large solar project Water firm installed photovoltaic panels to run wastewater plant**

By Lindsey Collom  
The Arizona Republic  
Published: Sept. 3, 2009 12:00 AM

A private utility in Pinal County recently completed one of the largest commercial solar projects to date in Arizona. Johnson Utilities installed more than 5,400 photovoltaic panels on 6 acres of property surrounding its wastewater plant in Anthem at Merrill Ranch, a master-planned community north of Florence. The project will generate 1.1 megawatts of electricity, enough to meet the plant's power needs and add surplus energy to the grid.

This is Johnson Utilities' second solar endeavor. It also uses solar on an adjacent site to power a well and water plant that provides water to roughly 10,000 homes. The installations account for about 10 percent of the solar energy generated in Arizona.

<http://www.azcentral.com/business/news/articles/2009/09/03/20090903biz-solar0903.html>

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## **Concise vision needed for water**

By Sharon B. Megdal  
Special for the Republic  
Aug. 25, 2009 12:00 AM

I am often called upon to educate audiences on Arizona water management. In my presentations, I include my "Issues and Challenges" slide. I've recently added a graphic of a water glass that might either be half-full or half-empty. Contributing to the impression it is half-full are the many positive aspects to our water-management framework in Arizona, particularly our groundwater management in the Active Management Areas.

Notable achievements half-filling the glass include our assured and adequate water-supply program, our water-recharge and -banking programs, and our reliance on local groups to consider drought and watershed-based water supply-and-quality matters.

I am concerned, however, about our lack of a comprehensive vision, a deficiency that reflects both lack of a mandate for a statewide water plan and the limited resources to support coordinated water-planning efforts.

Read more at:

<http://www.azcentral.com/arizonarepublic/opinions/articles/2009/08/24/20090824megdal25.html>

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## **Havasupai reborn year after disastrous flash flood**

By Dennis Wagner  
The Arizona Republic  
Aug. 16, 2009 12:00 AM

SUPAI, Ariz. - John Luttman gingerly steps through whitewater to a rock outcrop and leaps off the 30-foot cliff, merging with a waterfall that did not exist one year ago, splashing into the surrealistically cyan-colored waters of Havasu Creek.

"It's just exhilarating," the 33-year-old Tucson resident says. "It's the reason you come down here."



One year after a devastating flood hit this world-renowned Grand Canyon destination, the Havasupai tribe has reopened its spectacular falls and idyllic pools to visitors - even as restoration work continues.

About 100 tourists are allowed daily during monsoon season, arriving on foot, by horseback and in helicopters to see what Life magazine once described as the best swimming hole in North America. Here, in a chasm surrounded by massive red walls, 450 tribal members rely on tourist dollars as a primary source of income. For 10 months after the deluge of Aug. 16-17, 2008, the campground was closed to outsiders as tribal members and volunteers worked to repair millions of dollars in damage, fortify stream banks and install early-warning systems.

Despite the lingering flood damage and altered landscape, guests are uniformly spellbound. "I come down almost every year," Ruth McDaniel, 53, of San Diego, said this month. "I love it so much. And I don't love it any less now."

<http://www.azcentral.com/travel/features/articles/2009/08/16/20090816havasupai.html>

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## Flagstaff Chapter

### **Next Meeting: September**

The next chapter meeting will be held on Tuesday September 23th, 2009 at 6PM.

Details will be posted later this month on the [Flagstaff Chapter website](#).

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### **NAU Ground Water Lecture**

On October 1, at 4:00PM, Peter Cook of CSIRO Land and Water (Australia) will present the 2009 National Ground Water Association Henry Darcy Distinguished Lecturer.

Location: Room 103 of the Geology Building (building 12) at NAU.

There will be a reception after the presentation at a location to be determined.

#### ENVIRONMENTAL TRACERS IN MODERN HYDROGEOLOGY

**Abstract:** Groundwater flow rates are most frequently determined as the product of measured hydraulic gradients and hydraulic conductivities, the latter determined using aquifer tests. However, estimation of aquifer hydraulic conductivity remains a significant source of uncertainty, particularly in heterogeneous environments. Within the past few decades, environmental tracer methods which can provide independent estimates of groundwater flow rates have been developed. Because environmental tracers integrate over the entire groundwater flow path, they may be less sensitive to heterogeneity than hydraulic methods. However, when water of different ages mixes, the apparent age of the mixture is not necessarily equal to the mean age of the components forming the mixture. This complicates interpretation of environmental tracers in heterogeneous systems. Fractured rocks represent one of the most complex aquifer systems, and here diffusive mixing occurs between young water moving through the fractures and old water stored in the matrix. In these systems, joint interpretation of hydraulic and environmental tracer data may allow us to correct for the effects of matrix diffusion on apparent tracer ages. Environmental tracers thus may be able to provide estimates of groundwater flow in systems that cannot be reliably characterized hydraulically.

Please contact Abe Springer at [abe.springer@nau.edu](mailto:abe.springer@nau.edu) for more information.

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### **Flagstaff, Arizona Water Supplies – what is sustainable?**

By Bradley M. Hill  
City of Flagstaff  
Utilities Department, Water Resources

The City of Flagstaff, Arizona located on the Coconino Plateau of northern Arizona has relied upon transported water from outside its incorporated limits for over 100 years. The first transported water supplies were surface water from 9,500 feet within the Inner Basin of the San Francisco Peaks in 1898 and then Upper Lake Mary in 1941. Due to drought in the early 1950s, the City began developing and transporting groundwater from the Woody Mountain well field in 1954 and Lake Mary well field in 1962. It's only been within the last 10 years that wells have been located within the City limits due to the increased knowledge of Flagstaff's subsurface hydrogeology.

Even with this diverse water resource portfolio, surface waters from the both Inner Basin and Upper Lake Mary are extremely susceptible to drought. While groundwater from deep aquifers has been a very reliable source of water, it is expensive to pump, drilling and well construction are risky and City's two oldest well fields have experienced water level declines approaching an average of 100 to 200 feet, respectively.

Historically, the City has never directly quantified the sustainability of its long-term local water supplies or even defined what that means. During the past several years, many governmental, environmental and tribal agencies have collaborated together on several projects in order to determine the Coconino Plateau's future water needs, what groundwater supplies (aquifers, springs, etc) are potentially at risk and ultimately quantifying northern Arizona's sustainable water supplies. Flagstaff is developing its first comprehensive water resource plan which may result in recommended strategies to achieve a long-term sustainable water supply and recommended water policies for City Council consideration. Additionally, the City is evaluating the feasibility to transport groundwater from its Red Gap Ranch located 40 miles to the east of town.

### **Biography – Bradley M. Hill**

Brad has 20 years of professional hydrological experience, 11 in municipal government as Water Resources Manager. He is employed with the City of Flagstaff responsible for their water resources, water rights, water policy and water conservation programs. Prior experience includes the City of Peoria, Arizona; U.S. Environmental Protection Agency - Kerr Environmental Research Laboratory in Ada, Oklahoma; Arizona Department of Water Resources in Phoenix; CH2M Hill Engineering in Boise, Idaho. He obtained an M.S. degree in Hydrology from the University of Idaho, a B.S. degree in Geology from Northern Arizona University and he is a Registered Professional Geologist in Arizona.

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## **Public comment period for draft 2009 AZPDES De Minimis General Permit (DMGP)**

As you may know, the 2004 AZPDES De Minimis General Permit (DMGP) expired on March 17, 2009. ADEQ has drafted a new DMGP that is planned for issuance following public review and comment. The draft 2009 DMGP and the accompanying Fact Sheet are available on ADEQ's DMGP web page at <http://www.azdeq.gov/environ/water/permits/gen.html#demi>. A formal "Notice of Public Information" about the new DMGP can be found in the August 28, 2009 issue of the Arizona Administrative Register (Volume 15, issue 35), at [http://www.azsos.gov/public\\_services/Register/2009/35/pubinfo.pdf](http://www.azsos.gov/public_services/Register/2009/35/pubinfo.pdf).

As a cost savings, ADEQ is sending this notification by e-mail instead of postal mail where possible. If you would like to receive a printed notice by mail, please contact me. If you know of other interested parties who may not have received this e-mail, please feel free to forward it to them. New subscribers to this e-mail list may sign up at either of the following web addresses:

<http://www.azdeq.gov/subscribe.html>

<http://lists.azdeq.gov/mailman/listinfo/dmgrp>

The public comment period for the draft 2009 DMGP will extend through close of business on **Monday, September 28, 2009**. ADEQ will hold the following public meetings to present information and accept written and oral comments on the proposed general permit:

Tuesday, September 15, 2009

10 AM to 12 Noon

Arizona Department of Environmental Quality

Conference Room 3175 A & B

1110 West Washington Street  
Phoenix, Arizona 85007

Thursday, September 17, 2009  
10 AM to 12 Noon

Arizona Department of Environmental Quality, Southern Regional Office  
State of Arizona Building, Conference Room 444  
400 West Congress  
Tucson, Arizona 85701

Please submit any input you may have on the draft documents to ADEQ **no later than September 28, 2009**, by mail, fax, or e-mail to:

Attn: Lavinia Wright, Project Manager  
AZPDES De Minimis General Permit  
Surface Water Section, 5415A-1  
Arizona Department of Environmental Quality  
1110 W. Washington Street,  
Phoenix, AZ 85007  
FAX: (602) 771-4528  
e-mail: [wright.lavinia@azdeq.gov](mailto:wright.lavinia@azdeq.gov)

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

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

Your membership may be renewed for 2009 by credit card through the AHS website or by mailing a check to the Arizona Hydrological Society, c/o Matthew Beversdorf, 1753 East Broadway Road, Suite #101, Box 106 Tempe, Arizona 85282. Dues remain at \$45.00 year for regular membership and \$15.00 for students. Thank you all for a great 2009 and for your continuing support in 2010. For those who attended the 2009 Water Symposium, be reminded that membership dues for 2010 were included in the registration fee.

