



Well Said

SUMMER 2017 • Newsletter of Arizona Water Well Association for our Members and Friends

The AzWWA Annual Golf Tournament, Membership Meeting, Picnic and Chili Cook-Off will be held Friday and Saturday,

June 16 and 17, 2017

Agenda

Friday June 16, 2017

Golf Tournament
Quailwood Greens Golf Course
Dewey, AZ
9am Shotgun start

Membership Meeting Steak Fry
Goldwater Lake, Prescott, AZ
5:30pm



Jesse Richardson, Jr., Policy & Research Advisor for the Water Systems Council, will be discussing legal and legislative issues impacting Arizona water wells.

Saturday, June 17, 2017

Picnic, Horse Shoe Tournament (starting at 8am), Chili Cook-Off and Live Auction
Goldwater Lake, Prescott AZ

Please join us for this fun event!

Any questions, email admin@azwwa.org or call 480-609-3999

REGISTRATION

Name: _____
Company Name _____
Address: _____
City: _____ State: _____ Zip: _____ Phone: _____
Email: _____

Number of people attending : _____

____ Fax registration to 480-609-3939 or mail to:
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Presidents’s Message

Hello AzWWA Members;

It looks like 2017 is going to be another good year. Sadly we lost two good contractor’s this year. We send our condolences to their families.

Some things will be coming up this year that will be of interest to our members so please try to join us at the Membership Meeting Steak Fry at Goldwater Lake in Prescott on Friday night June 16. (See the cover for more details). Jesse Richardson Jr, Policy & Research Advisor for the Water Systems Council will be our featured speaker again this year. Come learn about what is going on with water wells and groundwater in Arizona and the entire country.

The picnic, horse shoe tournament, chili-cookoff and live auction will be Saturday, June 17 at Goldwater Lake, starting at 8am.

Hope to see you there!

David Williams
AzWWA President

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BJ Drilling..... 15
Clear Creek Associates 20
EMC 33
Flint & Walling..... 18
Flomatic 14
GEFCO 15
Gicon Pumps & Equipment..... 32
In2Wells, LLC 13
Jentech Drilling Supply, Inc. 26
Karam Pump & Supply 21
Kelly Pipe 26
Mitchell Lewis & Staver 27
National Pump Co..... 24
Northern Arizona Pump 15
Roscoe Moss..... 30
Southwest Waterworks 10
Way’s Drilling 10
Well Guard 16

One View: Bad Bill Undermines Arizona's Good Water Law

By: Editorial board, The Republic | azcentral.com

Editorial: The Groundwater Management Act is smart water policy. Why let Pinal County skirt it?

Arizona's Groundwater Management Act mandates the kind of careful planning an arid and fast-growing state needs for sustainable economic progress. Any changes made to reflect the urbanization of rural areas need to be done carefully to avoid 1) undermining this law, 2) depleting ground water supplies and/or 3) creating unsustainable developments. A measure in the Legislature fails all three tests.

SB 1309 is not smart water policy

Senate Bill 1309 limits how the Arizona Department of Water Resources can make rules in Pinal County when agricultural water rights are transferred for non-agricultural uses. In other words, when water for farming becomes water for a subdivision.

Kathleen Ferris, Phoenix water attorney and a former director of the ADWR, says it is a "terrible bill."

Sarah Porter, director of the Kyl Center for Water Policy at Arizona State University's Morrison Institute for Public Policy, said: "If we are going to make changes, we need to do it carefully with the goals of the active management area and the Groundwater Management Act in mind."

This bill is careless and oblivious to the larger goals of smart water management.

How Active Management Areas work

Because the goal for the Pinal Active Management Area was to preserve farming and the rural economy, agricultural uses get favored treatment. Farmers using grandfathered irrigation rights can continue to do so in perpetuity. But new non-agricultural developments have to show a 100-year water supply.

Farmers who want to convert their groundwater rights for development or sell those rights can do so by transferring them to water credits. The law anticipates that the resulting subdivisions will work toward using sustainable non-groundwater sources.

2016: Gov. Ducey vetoes two groundwater bills

To encourage that – and in recognition that groundwater resources are being depleted – rules for the Prescott, Phoenix and Tucson Active Management Areas systematically reduce the amount of water credits given when grandfathered irrigation rights are retired. That's because groundwater could not sustain the level of use if agricultural rights were simply transferred to subdivisions.

Why does Pinal County get a pass?

SB 1309 would ban such rules for Pinal County – despite the fact that local leaders had asked ADWR to help assure that groundwater would be available for future use. Despite the fact that ADWR was created by state statute and given the mandate to implement the Groundwater Management Act. Promulgating rules is how that is done.

Warren Tenney, executive director of the Arizona Municipal Water Users Association, said it is "critical for ADWR to have that authority."

PARCHED: Arizona's shrinking aquifers

A similar measure to circumvent needed groundwater rules was introduced in the Senate earlier this year, where it died. SB 1309 is a strike-everything amendment being pushed in the late days of the session.

It should die, too.

This is not about farmers' rights

It requires a one-for-one transfer of water rights to non-agricultural uses -- even though there may not actually be enough groundwater to sustain that level of use for the long term. It means subdivisions could be built with water that exists only on paper.

(Continued on page 4)

(Continued from page 3)

SB 1309 is being presented as a way to protect the water rights of farmers. It's not. Tenney explained why his group opposes the bill in a letter to House Speaker J.D. Mesnard, saying SB 1309 would "have a severe impact on remaining agricultural users by depleting groundwater supplies." The bill "sets a dangerous precedent of interfering with the goals of the Groundwater Management Act to the detriment of the state," Tenney writes.

It's a bad bill.

Prescott Pumping Water, Residents Need to Save It

Reprinted from the Daily Courier; By FRED OSWALD, Special to the Courier



The Prescott area is pumping water from the Little Chino aquifer about four times as fast as it is being replenished. The impact of this overdraft includes declining water levels in the aquifer and wells drying up in the western part of Chino Valley.

Some people claim that a pipeline to bring groundwater from the Big Chino aquifer up north at the headwaters of the upper Verde River will solve our water problems. However, the cost will be enormous and pumping will reduce the flow of the Verde unless we spend millions more to mitigate the impact. The U.S. Geological Survey computer model shows that this groundwater pumping will result in dry sections of the river and impair water rights held by downstream users.

Conservation can play a major role in achieving a sustainable water supply, especially by using less water outdoors. Homeowners can use captured rainwater and attractive drought-tolerant plants to save both water and money.

On average, each Prescott single-family home uses approximately 150 gallons of water per day. With a little care, water use can be reduced by at least one-third — that is the amount of water used for landscaping, where it evaporates and cannot be reused. We can save most of this drinking-quality water by replacing thirsty vegetation with drought-tolerant plants and by irrigating with rainwater collected and stored (harvested) in rain barrels or larger tanks.

Drought-tolerant plants can survive with little or no watering. Many of these plants are quite attractive, and these are the plants that belong here. You can see examples at the Granite Peak Unitarian Universalist Congregation building, 882 Sunset Avenue (where the Citizens Water Advocacy Group (CWAG) meets), two blocks behind the True Value Hardware store, or see the Low Water Use Drought Tolerant Plant List at prescott-az.gov/_d/plant_list.pdf.

Rainwater doesn't contain chlorine, lime or calcium, which makes it ideal for watering flowers and vegetable gardens. Using stored rain will lower your water bill. You can supplement harvested rain by saving water used to wash fruits and vegetables: catch it in a bowl and then pour it on your plants.

Rain barrels come in various sizes, from about 50 to over 1,000 gallons. Smaller barrels can be "daisy chained" to provide more storage. Barrels can be purchased from stores or online, or low-cost barrels can be made from used 50-gallon plastic food-grade drums. For larger containers, consider Intermediate Bulk Containers in 175- or 275-gallon size. You can see a large rainwater harvesting system at the Adult Center of Prescott, 1280 E Rosser St. The CWAG website, cwagaz.org, has links to much helpful information. With a little care, we can save significant water in our homes, protect the aquifer and save money on our water bills.

On April 8th, Daniel Higgins presented "From Valley of the Sun to Sun Corridor: Broadening the Discussion on Arizona's Water Future." See cwagaz.org for details.

Fred Oswald is a CWAG board member and a retired NASA engineer.

AZWWA Spring Meeting April 15th
Coco's Restaurant, Phoenix, AZ



Norm Howard with Cotey Chemical gave a great presentation about Water Well Rehabilitation. Left, is David Williams, President, presenting Norm with one of AZWWA's engraved glass cups as a "Thank You". After the presentation, Dave began the meeting with introductions.

Our business meeting followed Norm's presentation and it was great to hear that everyone is busier than they were at this time last year. One of the topics brought up during our meeting was raising funds for our Association. Several opportunities were discussed, particularly AZWWA hosting various classes or events that would be open to the public or other types of attendees, depending on the programs offered. There were a lot of good ideas and several members volunteered to organize some of these and let us know as these go forward.

Thank You

Bill Johnson Equipment Company

for sponsoring the Continental Breakfast at our April Meeting!!

Correction to the 2017 Spring Issue of the Well Said

In the article, ***'Myers -Three Generations of Arizona Licensed Water Well Drillers'*** located on page 5 of the Spring issue of the *Well Said*, we inadvertently omitted:

KM Drilling, Inc. #394 - Kenneth Myers, 1985-present.

We sincerely apologize for this omission.

Preferred Pump-Phoenix Open House





In Memoriam



Dan McGee – We were very saddened to hear Dan, Owner of McGee’s Well Drilling & Pump in Chino Valley and long-time supporter of the Arizona Water Well Association, recently passed away after a long illness. He held Arizona Drillers License #91. However, were glad to hear that Dan’s son, Mitch, is taking over the business so it is still going to be around.

Dan will be missed by many - his family, friends and associates who have known him through the water well industry.

A celebration of life is being held June 3rd at the Prescott Adult Center. Please contact the family at 928-636-4576 if you have any questions. Our thoughts and prayers go with them during this transition.



It was with great sadness that Robert Mortell, President of **Eastern Drillers Manufacturing Co., Inc.** announced that **Mike Mulligan** has passed away. He was not only a valued employee but a very good friend to many. His loyalty to his customers and EDM never failed, even while he battled health issues over the past few years. Mr. Mortell stated that Mike’s enormous laugh and personality, his love of family and friends, will be greatly missed.

A memorial service will be held in Sacramento June 17 on his behalf. For more information, please contact EDM at 800-233-0173 or 717-684-3070

WELCOME NEW MEMBER!



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In Memoriam



J.T. Black

CASA GRANDE — J.T. Black, 83, died on May 17, 2017, in Casa Grande.

Mr. Black was born on May 31, 1933, in Spiro, Oklahoma, to John and Martha Black. He was a true cowboy who enjoyed making his own spurs.

Survivors include his wife, Violet; three daughters and a son, Ladonna Gaunt, Susan Castellano, Tim Black and Heather Waite; 13 grandchildren; and 14 great-grandchildren. He was preceded in death by four brothers; four sisters and a son, Leslie S. Black who recently passed away Jan. 19, 2017.

Memorial services were held Monday, May 22, at J. Warren Funeral Services, The Gardens Chapel, with Pastor Andy Combs officiating.

The following is from an article published in the Casa Grande Dispatch on October 14, 2003.



J.T. Black has a clipping from when he was featured in a previous Tri-Valley Dispatch special edition about 40 years ago. He and son Tim stand among pump motors in the yard.

J.T. Black, 72, still goes to a job he has worked for over 50 years at Tri-Valley Pump Co., 700 E. Main St. in Casa Grande. Black is semi-retired but he finds it hard to stay at home. Years ago as a young, newly married man, he was looking for a better-paying job than the one he had working on a farm near Eleven Mile Corner.

A friend suggested Black try for a job at the shop now known as Tri-Valley Pump. He hesitated because of a total lack of knowledge about the irrigation pump business. The 19-year-old man went to a Casa Grande interview with Dusty Owens, the pump company owner and a horse rancher.

They talked for a while and Owens told Black to report the next morning and see how he fit into the job. Black brought a lunch and a pair of gloves with him and traveled to the shop, which is still being used today. "I worked two weeks and told my wife this job is not for me but I am still here. The part I like the best is the machine shop. I can still do the work."

Some years later, Black bought into the business with three others. In 1976, the owners voted to give him more shares as a bonus for doing a good job as manager. Eventually Black owned one-quarter of the business, which he sold two years ago. His son, Tim, is manager of the business now.

When he started, the pump company had three drilling rigs and three pump rigs. "I mostly worked with pump pulling and installation," Black said. By 1963 he was working in the shop on lathes and drill presses when not in the field after learning how to use the shop equipment. "I ended up running the shop myself for 12 years. I also did the welding."

The larger machines in the shop are the same ones Black used when he started. A lathe and drill have a long life. "We've overhauled them a time or two. The big lathe was bought in 1937. I know because I had to have some parts made for it."

(Continued on page 10)

Some of the other shop equipment also dates back to the 1930s. The drill press still uses a leather belt in the power drive similar to what was used in a blacksmith shop. "Around the shop there was something going on all of the time because the boys like to clown a lot. New generations can't clown like that. They are too serious."

The drilling rigs in the early days were pulled to the farm pump site on a trailer. Pump rigs were located on trucks. Since few wells are being drilled today, the company no longer sinks new wells.

The method the company uses for working on pumps is basically the same as it was in the 1950s. The main difference now is that less labor is used because machines do much of what was done by hand. "A guy had to be pretty stout to work on rigs," Black said.

Rig trucks are changed out every 10 to 12 years because they do not travel much. The boom trucks, which travel to a site every day, are replaced more frequently. The latest of the trucks is a 1997 model. "We've done a lot of hard work and most of the original guys are gone or have passed away," Black said. The business opened its doors in 1926. Son Tim says, "There are not many people in agriculture that don't know my father."

Instead of working with individual farmers, the company now does much of its work for irrigation districts. But some farmers have had accounts for 40 to 50 years with Tri-Valley, Tim said. The company currently has one crane, two boom and two pump rig trucks and has 11 people on the payroll. In the drilling days, it would take Tri-Valley four to five days to drill a hole from 700 feet down to as much as 2,000. Tim said the aquifers are rising because not as much water is being pumped and Colorado River water is being imported.

There are fewer small farms today while most farms are large operations. Most wells being used today were drilled at least 30 years ago. The rigs use a three-man crew. "We usually pull the old stuff out (pipes, pumps, etc.) and see what needs to be replaced. Whatever is wrong is fixed and the pipes and pump are put back in the ground." Tim said one of the major problems is sand being sucked along with water, damaging pump parts. "Anywhere you drill, you're going to hit some sand." Ideally a hole will be drilled where there is gravel rather than sand. "Some of these old wells are sand pumpers. They always were and always will be." Tim said his father is valuable to the business in a special way - he has the books memorized, which saves time of somebody else looking up information.



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A “Smarter” Way to Heat and Cool

Arizona Homeowners Demand for Geothermal Systems on the Rise



What if there was an abundant source of free, renewable energy that could be used to heat a house in winter, cool it in summer and provide hot water at the tap all year round? Well, a growing number of home owners say there is: the sun. While most people already have a basic understanding of solar panels, these homeowners are actually talking about geothermal.

46% of homeowners' bills in Arizona are directly attributed to heating, cooling and hot water. Geothermal offers the largest opportunity to cut monthly bills. It taps into the renewable solar energy from the sun's rays that's stored in the ground and provides savings from 40%-70% on utility bills. The secret to a geothermal heat pump's amazing efficiency is that, although it operates similarly to a standard heat pump, it exchanges heat with the ground instead of the outdoor air.

The temperature of the outdoor air can vary greatly from day to night and more than 100°F from the coldest winter night to the hottest summer day. In contrast, the temperature just a few feet below the earth's surface stays an average 55°-70°F year-round.

In the winter, a geothermal heat pump can produce over five dollars worth of heat for each dollar spent on electricity. Meanwhile, the most efficient traditional furnace returns less than 98¢ of heat for each dollar spent on expensive, polluting fossil fuel. And unlike ordinary heat pumps that struggle to pull heat from the air as the outdoor temperature drops, the efficiency and heat output from a geothermal heat pump remains constant. During the summer, a regular heat pump or central air conditioner loses efficiency and cooling output when the outdoor temperature rises. Unfortunately, this is when your house requires the greatest cooling capacity.

To capture the heat energy from the ground in winter or disperse heat during summer, pipes are usually buried or drilled in the ground. An environmentally friendly water solution, running through the pipe, acts as the heat transfer medium. More geothermal installs directly increases drilling opportunities throughout the State.

Geothermal systems are extremely quiet because there's no outdoor equipment to bother neighbors or your family at night. This also reduces wear and tear from constant exposure to outdoor weather.

The Environmental Protection Agency has called geothermal heat pumps—also known as ground-source heat pumps or geoexchange—the most energy-efficient, environmentally clean and cost-effective heating and air conditioning systems available.

Currently seeking contractors in the state of Arizona to install geothermal systems! Homeowners throughout the State have shown increased interest in these types of systems. For more information, please contact Jim Zwar at 231-627-2411 or via Email at jzwar43@gmail.com .

More information about geothermal is available at the GeoExchange (geoexchange.org) website or at the WaterFurnace homepage (waterfurnace.com).

Geothermal Drillers and Installers Needed!!!!

Geothermal work in the Southwestern U.S. is really picking up and Drillers/Installers are needed for Arizona, New Mexico, Nevada, Colorado and Utah. If you're interested in drilling the wells and installing these units or finding out more about available projects, please contact Jim Zwar at jzwar43@gmail.com or via phone at 231-627-2411. He can give you information about these projects and/or put you in touch with the appropriate contact for the area(s) you're interested in.



Checking Dimensions the Hard Way

By Gary Hix

AZCA Drilling & Pump was advancing 24-inch diameter steel casing using their Foremost DR-24 drill rig to install 16-inch diameter stainless steel well screen and blank casing in an unconsolidated formation. I thought the inside diameter of the ring bit and casing needed to be checked carefully. This casing will be retrieved to expose the well screen. Two 16-inch diameter gravel packed wells were drilled and constructed for the injection and recovery of reclaimed water for Bullhead City in April, 2017.

IN²WELLS
Gary L. Hix, R.G., CWD/PI
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Safety Tip!

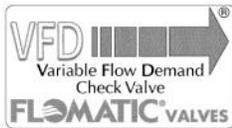
Submitted by Gary L. Hix, R.G., CWD/PI



My safety tip for the coming summer months in AZ is: When working in extreme temperatures, STOP and drink water to keep GOING. Because if you are not GOING, you are not STOPPING enough.

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Good News for Canyon Mine

Canyon Mine, courtesy of Energy Fuels Inc.

*Adapted from Information by the United States Department of Agriculture and Energy Fuels Inc.
Reprinted from E-News Flash by WorldWide Drilling Resource®*

The Canyon Mine is a uranium mine located about 6 miles southeast of the town of Tusayan, Arizona, on the Tusayan Ranger District. The entire mine site measures about 17 acres in size. Uranium ore production has never occurred at the site because the mine shaft has only been partially drilled to a depth of about 1450 feet.

Energy Fuels Resources intends to drill to about 1470 feet. Upon completion of the main shaft, additional preparatory work needs to be completed prior to any ore production occurring at the mine. Ore production could begin in June, at the earliest.

As cores are drilled, the company conducts a gamma analysis to estimate uranium content. The core material is sent to the company's laboratory for chemical analysis. Results appear to be expanding the zones of highgrade uranium mineralization, which confirms the company's belief in a larger uranium resource than was reported in the existing technical report.

The existing report details approximately 1,629,000 pounds of uranium compound at Canyon Mine, contained in 82,800 tons of inferred resource. Uranium deposits are located within northern Arizona breccia pipes, which are vertical cylindrical bodies of broken sedimentary rock. Over past decades, there has been plenty of interest in these uranium resources. Uranium is managed as a locatable mineral on federal land, including National Forests.

Stephen P. Antony, President and CEO of Energy Fuels stated: "Core drilling at the Canyon Mine continues to produce exciting and, in some cases, unexpected results for both uranium and copper. This is certainly a fascinating deposit that appears to be full of valuable metals in multiple zones. This is particularly exciting, as uranium prices are showing recent strength."

The U.S. Geological Survey intends to drill a monitoring well just outside the fenced area of Canyon Mine. The monitoring well will provide more information concerning perched aquifers in the Canyon Mine area and also for perched aquifers in general, which will inform monitoring of the Northern Arizona Mineral Withdrawal.

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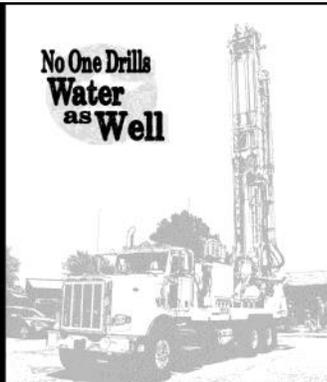
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- ✔ **Do you have coverage for items damaged while being permanently installed prior to the job completion?**

Eligibility

The WellGuard insurance program offers solutions to contractors & suppliers of the water well industry. Eligible businesses include water well contractors: water well drilling & servicing, geothermal as well as pump work & core sample drilling for water monitoring.

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WELCOME NEW MEMBERS!



Chris R. Catalano, R.G.

Education: M.S., 1997 Geology, University of Toledo, Ohio

B.S., 1995 Geology, University of Toledo, Ohio

Professional Registrations: Geologist – Arizona (41781)

Years in Profession: 20

Mr. Catalano graduated from the University of Toledo with a Master's Degree in geology, specializing in groundwater geology. He soon moved to Arizona and the Verde Valley where he has lived with his wife and kids for the past 20 years. In 1999 he joined Southwest Groundwater Consultants (SGC) as a staff geologist eager to learn the consulting business. After 18 years he continues to work, and learn, with SGC as a trained hydrogeologist. Mr. Catalano became an Arizona Registered Geologist in 2004. He has 20 years of professional experience performing numerous hydrogeologic investigations throughout Arizona, Nevada, and New Mexico.

In 2015 he started GeoLog, LLC, a borehole geophysics company that offers numerous downhole services. He has enjoyed the challenges of starting a new business and the rewards from learning new applications of geophysics to the groundwater profession.

Outside of work Mr. Catalano enjoys spending time with his family, running, biking, and snowboarding.

Chris can be reached at:

Office: 928.649.9993, Cell: 928.899.6491 or Email: ccatalano@swgroundwater.com

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Supervisors Send Letter to BOR about Scottsdale Groundwater Withdrawals

Reprinted from ParkerPioneer.net

By Chelsea Curtis Parker Pioneer

The La Paz County Board of Supervisors submitted a letter to the Bureau of Reclamation on April 3rd requesting that an environmental assessment of the proposed City of Scottsdale groundwater withdrawals from the Harquahala Valley include its impacts on the county.

“We want to make sure that [the residents’] natural resource is protected,” said District III Supervisor Holly Irwin.

According to Irwin, the board requested that the EA include negative impacts, if any, that the withdrawals from the restricted basin could have on the county, such as, loss of well water and degrading water quality, among others. They also requested information about the basin’s sustainability based on its withdrawals and how that can be further effected, if any, by climate change, she added.

“Hopefully they do take into consideration what is going on and the fact that we do have wells that are going dry,” said Irwin, who added that the Bureau of Reclamation does not have to include the board’s requests in an EA if they find it’s irrelevant.

If impacts on the county are included in the final EA – which could take one to two years to develop – mitigations for those impacts can be established, stated Irwin.

“If there are negative impacts that come from this, that gives us an avenue to get retribution for that, either on behalf of our residents, the county or it may raise the question of whether this is a good idea or not,” she stated.

The City of Scottsdale, backed by several golf course companies, purchased property from Vidler Water Company in La Paz County in 2013 after learning that there would be no excess water to use from the Central Arizona Project in 2016, stated District I Supervisor D.L. Wilson. According to Irwin, in the past, Vidler Water Company, which sits within the Harquahala basin, had recharged water from CAP into the basin, which they want to wheel out, along with water already existing in the basin, to the City of Scottsdale.

Wilson also explained that, during the EA process, the board of supervisors want to ensure that the county is collecting all the taxes necessary from the City of Scottsdale.

“I’m trying to work with the assessor to straighten out the amount of taxes they should be paying,” he said. “Not just for the county but for Arizona Western College, Wenden school district and tax amenities that cover that area.”

According to Wilson, how the property taxes were valued in the past is muddled and needs to be sorted out before groundwater can be pumped by the City of Scottsdale from the Harquahala basin.



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To Save Water, Some Arizona Farms Temporarily Cut Production

By Tony Davis; Reprinted from the Arizona Daily Star

For four Indian tribes that grow melons, wheat, cotton, onions and alfalfa near the Colorado River, fallowing cropland will bring extra money. It will also get the Colorado River Indian Tribes' name out as a water player, part of the solution to the Southwest's water shortages. And, says Tribal Councilwoman Amelia Flores, it's a way to get other cropland into production and to upgrade their irrigation equipment.

The tribes are starting a federally financed fallowing program this year to save water for Lake Mead. They are among many looking more closely at fallowing as a way of coping with tightening water supplies.

Farmers from the Colorado to the Rio Grande are temporarily leasing water to cities and in a few cases to the federal government. While some of the deals are highly complex, the basic principle is simple.

Farmers get money, often to upgrade drill rigs, irrigation works and other equipment. Agencies get water, sometimes for themselves, other times to store in Lake Mead — an important reservoir that serves water to Tucson and Phoenix. The practice is at least 20 years old in this region, but has gained steam recently as concerns have grown over the health of Mead due to drought and a long-term water deficit there.

Backers say fallowing is an alternative to “buy and dry,” in which farmland is permanently extinguished so thirsty cities can support future growth. But even temporary fallowing can be controversial. Some farming advocates say it should be done only to help those who buy or lease water rights through temporary shortfalls caused by droughts or other emergencies.

At a recent conference and workshop in Tucson, more than a half-dozen farmers, farming advocates and irrigation district officials shared stories, hopes and concerns about fallowing. Fallowing “has the potential to be a huge factor” in protecting Lake Mead, said Brad Udall, a Colorado State University water researcher who organized the Tucson workshop.

Practices also include replacing water-sucking alfalfa with less-thirsty fruits and vegetables and “deficit irrigation” that reduces or halts irrigation. During recent dry summers, these practices helped keep the Colorado River out of shortage, Udall said.

But Dan Keppen, director of the Family Farm Alliance, an advocacy group, said farmers often initially resist fallowing programs, though they're sometimes forced into them. “One of the program's biggest challenges is the divide that fallowing creates in a community. Certain individuals will benefit from the outside money. Those members of a community who rely on having acreage in production are the most affected and have the most anti-fallowing voices,” Keppen told a gathering of 375 at a University of Arizona Water Resources Research Center conference.

“By the same token, sometimes folks feel they've got to be realistic: ‘We cooperate and stay in business, or we fight and lose.’”

Some examples of fallowing include:

- The Imperial Irrigation District in Imperial County near El Centro, California, will finish a 15-year program in June in which the San Diego Water Authority has paid its farmers \$140 million to keep 50,000 acres out of production and save 1.6 million acre-feet of Colorado River water for urban use. That's what the Central Arizona Project delivers to Tucson and other Arizona cities and farms in a year. Imperial controls the biggest share of Colorado River water —about 3.1 million acre-feet a year.
- The Colorado River Indian Tribes, based near Parker, Arizona, are starting their three-year, pilot fallowing program financed by the Bureau of Reclamation later this year. It's part of what's called a regional “system conservation” program in which the feds pay farmers and other water users across the river basin. The four tribes, joint owners of a nearly 270,000-acre reservation, hope to conserve about 15,400 acre-feet per year by fallowing 1,590 acres.
- The Palo Verde Irrigation District near Blythe, California, is “the poster child” for farm-to-urban water transfers, said Jack Seiler, a district trustee. It's in the middle of a 35-year deal, ending in 2039, with Southern California's giant Metropolitan Water District to fallow up to nearly 26,000 acres a year. The Met has bought 7,300 acres of district land. It pays owners of the other fallowed lands \$3,170 an acre to enter the program and an annual, escalating fee now at about \$800 per acre.
- In southern New Mexico, the Elephant Butte Irrigation District along the Rio Grande is going through environmental reviews for a major fallowing program to start in 2018. As it's planned, farmers and cities in the lower Rio Grande in New Mexico and West Texas would ink forbearance agreements. Farmers wouldn't pump groundwater onto fallowed cropland and would use their surface water on other parcels or lease that surface water to other farmers to use to replace groundwater.

(Continued on page 23)

Just west of Yuma, Southern California's Bard Water District is in its second year of fallowing Colorado River water for the Metropolitan Water District. The Met pays farmers \$300 an acre and the water district another \$100 per acre. At this point, it's not known how much water the district has saved.

As the programs typically work, farmers can only fallow land that has been in production for a significant percentage of the previous few years before the fallowing starts. They typically don't fallow land every year; it's often fallowed two to four out of five years.

University of Arizona law professor Robert Glennon, who has written extensively about water issues, sees fallowing as one of many tools to save water. But in researching his 2009 book "Unquenchable" about water, he found both positives and negatives in fallowing programs.

The Imperial water deal with San Diego gave the district money to line many of its irrigation canals and fix the canals' headgates, he said. The idea was that once the improvements were made, the district could bring the 50,000 acres it had fallowed back into production.

"I think that's terrific. You have to have the endgame of keeping rural communities vibrant over the long term," Glennon said. He was less supportive, however, of the Palo Verde-Metropolitan Water District arrangement. The original fallowing deal "was a smoking deal" for farmers — "who wouldn't grab this opportunity?" — but that didn't mean it was good for the Blythe community, he said.

The money the district's farmers get each year from the Met "was way more than the farmers could make growing alfalfa," Glennon said. "But where the lands will be fallowed, the farmers not only lose their jobs, but the John Deere dealers won't have as much equipment to sell. The lawyers and accountants and restaurants lost money," he said.

Paula Hayden, the district's fallowing coordinator, said she doesn't think the fallowing has hurt the surrounding community's economy. The Met put \$6 million into a community fund to help the region cope with fallowing. For farms, the fallowing saved quite a few of them because of the \$3,170 monthly bonus they got, she said. "I'll tell you this," she said. "The valley farmers were pretty happy with it. The community overall is better off."

In Memoriam



Clark Hirschi passed away January 16, 2017. Clark was born in Rockville, UT on March 25, 1938 to LaNetta and Glenwood Hirschi. On November 16, 1956, he married Shirley Ann Leigh in the Rock Church in Cedar City, UT.

Clark worked for Boyles Bros. Drilling Company his entire career, starting as a driller and retiring as the Vice President. During this time, they had three children, lived in many towns throughout the west and were able to travel the world. After retirement, Clark and Shirley, with their beloved pets, traveled the United States in their motorhome and enjoyed time spent in Duck Creek, UT, Sun City, AZ and Beaver Dam, AZ.

Clark is survived by his wife Shirley, sons Kleigh C Hirschi (Sheryll) of Parowan, UT and Koal C Hirschi (Monica) of Glendale, AZ, daughter Glenna Hirschi Bethay (Arlen) of Gilbert, AZ, 7 grandchildren and 7 great-grandchildren. Clark was preceded in death by his father Glenwood, mother LaNetta, brother Gerald Macray Hirschi and sister Glenna Hirschi Elledge.

Funeral services were held at the Rock Church in Cedar City, Utah on Saturday, January 21, 2017. Interment was at the Cedar City Cemetery for immediate family only following the service. Arrangements were handled by Southern Utah Mortuary.



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Arizona Receives Additional Funds to Help Conserve Water

Reprinted from Arizona Daily Sun

PHOENIX (AP) — The Arizona Department of Water Resources has received an infusion of money in the state budget. ADWR will get \$2 million in the fiscal year 2018 budget, with \$2 million more expected in both 2019 and 2020, the Arizona Capitol Times reported (<http://bit.ly/2qEoCTt>) last week.

Tom Buschatze, director of the Arizona Department of Water Resources, said the money will go toward adding employees and keeping water from the Colorado River in Lake Mead rather than taking it out. If the water level in Lake Mead drops below 1,075 feet (327.66 meters), Arizona would start seeing cutbacks.

Buschatzke said keeping water in the lake has already prevented cuts. According to Buschatzke, Arizona, California, Nevada and Mexico all kept water in the lake, amounting to between 8 and 10 feet (2.44 and 3.05 meters). The lake stayed only a couple feet above 1,075 (327.66 meters), meaning the conserved water was crucial, Buschatzke said.

Despite the additional funding, staffing levels still remain well below the agency's levels before the Great Recession. The fiscal year 2018 budget gives Arizona's water department as many as 11 new employees, Buschatzke said. The department had 225 employees before major cutbacks to staffing across state government during the recession left it with 90, Buschatzke said. The department hasn't been cut in the past two years, though, and will be back up to about 150 employees during fiscal year 2018.

Buschatzke said the funding sends a signal to other cities, businesses or nonprofits that could create a "snowball effect" of people coming forward to contribute either water or money. "That's a strong message that's being sent," he said. "We're not going to rely on Mother Nature to solve our issues on the Colorado River."

AN EDITORIAL: Ducey thinks lawyers can solve water issues

This originally appeared in the Sierra Vista Herald.

It would be a mistake to assume Gov. Doug Ducey's decision to allocate more money and staff to the Arizona Department of Water Resources will result in more scientists in the field solving the state's daunting challenge of how to share the resource into the future.

The Arizona Capitol Times reports that the governor has boosted the agency's budget by adding \$2 million in non-lapsing funds and an additional \$2 million for the next two fiscal years. ADWR will increase its staff to about 150 by adding another 11 positions, with the bulk of the new hires working on federal water rights adjudication.

The state's hiring lawyers, not scientists.

Those attuned to Cochise County's efforts to intervene in the adjudication of federal water rights for the Gila and Little Colorado rivers will understand and appreciate the governor's decision. Supervisor Pat Call told a room full of contractors last week that the board has approved designating an attorney on the county's staff, who is experienced in water adjudication, to get involved in the case. Cochise County has also retained the services of two nationally prominent attorneys in its effort to prevent the Bureau of Land Management from securing more than 44,000 acre-feet of federal water rights in the San Pedro Subwatershed.

The case is scheduled for the first three weeks in November in a Maricopa County courtroom, where federal attorneys will represent the BLM request and state attorneys will make the case to lower the amount asked for by the agency.

Cochise County shares the same interests as that of the state of Arizona, which is one reason Gov. Ducey's decision to increase funding and staff at ADWR is good news for those who favor a reduction in BLM water rights.

Compared to the 7,600 acre-feet request that is pending for Fort Huachuca, local officials are convinced that awarding BLM the full amount it has petitioned for will effectively end all forms of economic development in the entire San Pedro Subwatershed, a region defined by its population of about 70,000 residents. Worse, there is concern that environmental organizations will sue the BLM if it does secure its annual 44,000 acre-feet request, ultimately prompting the agency to shut down private wells installed or rehabilitated since 1988.

State officials recognize that land without water rights is land without much value.

Keeping that in mind, news that Gov. Ducey has bolstered the financial and legal resources available to the ADWR is welcomed by all the parties tied to the outcome of the adjudication of federal water rights in the San Pedro Subwatershed.

Diverse interests came together in 1980 to pass Arizona's groundwater law Controversy continues over safe-yield, Big Chino, environment

Reprinted from Daily Courier; Photo & Article by Cindy Barks



Local resident William Gauslow makes a comment to a panel of water experts on May 17, after a screening of the documentary film "Groundwater, To Enact a Law for the Common Good."

Water — and its long and contentious history in Arizona — took center stage in Prescott this past week. About 275 people turned out at the Elks Theatre in downtown Prescott Wednesday evening, May 17, for the northern Arizona premier of "Groundwater, To Enact a Law for the Common Good" — a 26-minute film that documents the history of Arizona's 1980 Groundwater Management Act.

Through a series of candid interviews with the major players of the time — including former Arizona Gov. Bruce Babbitt, as well as lobbyists for the mining and agriculture industries and cities and towns — the film takes viewers through the tense negotiations that got underway after a water conflict arose in 1976. "The combative parties asked the legislature to resolve Arizona's unsolvable groundwater issues once and for all," the movie's narrator said.

'Dicey' negotiations

Among the controversial issues of the negotiations: The idea that new development would be required to show a 100-year "assured water supply" in order to get the go-ahead.

Kathleen Ferris, who as a young attorney supervised the drafting of the bill, notes in the film that she and former League of Arizona Cities and Towns Executive Director Jack DeBolske "cooked up the idea that we should require the new homes" to have a 100-year water supply."

At one point in the negotiations, however, that clause was dropped from the bill — a move that Ferris said caused her to feel betrayed by Babbitt, who had recommended that the notion of assured water supply be "put aside."

Ferris maintained that the assured water-supply requirement "mattered, because it said we are not going to have growth without water."

In an on-camera interview, Babbitt recalled that negotiations "got a little dicey when Kathy Ferris and the staff people started to feel like they were players at the table." But, he added, "At the same time, that's an important idea."

The narrator adds that "when the last points were hammered out, (staff members) took the complex deal and drafted a 176-page bill, with the assured water supply requirements right back in it."

The film makes the case that the state's diverse parties put aside their differences and came together to make the Groundwater Management Act happen. "In the end, everyone involved figured out that they would have to sacrifice personal interest to enact a law for the common good," the film's narrator stated.

Continued controversy

Still, questions that came from the audience during a question-and-answer session after a panel discussion showed that the contentiousness is far from over.

Prescott resident Leslie Hoy, a representative of the local Citizens Water Advocacy Group (CWAG), for instance, questioned the panel about a "mixed message" that she said governments were sending to residents. "Arizona governments at all levels promote population growth, while urging current residents to conserve water," Hoy said, adding that CWAG regularly hears the question: "Why should I conserve when so many new people are coming? Where is the water going to come from?"

Panelist Tom Buschatzke, the director of the Arizona Department of Water Resources, responded: "I'm not sure there is a mixed message, because I think part of what water conservation can do besides facilitating future growth is also create possibility for (those providing the water); they can do more things if water conservation is happening."

Local resident Howard Mechanic focused on the Prescott Active Management Area's (AMA) goal of "safe-yield" (the condition of balance between the amount of water being pumped from the ground and the amount being recharged back in).

(Continued on page 35)

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Franklin Electric (FELE) Acquires Controlling Interests in Three Distributors

Franklin Electric Co., Inc. (NASDAQ: FELE) announced that it has reached agreement to acquire controlling interests in three distributors in the U.S. professional groundwater market. Franklin Electric will acquire 2M Company Inc. of Billings, Montana; Western Hydro Holding Corporation of Hayward, California and Drillers Service, Inc. (DSI) of Hickory, North Carolina for approximately \$89 million in the aggregate, which includes assumed debt. The 2M and Western Hydro transactions have closed and the Company expected the DSI acquisition to close before the end of the second quarter 2017.

Gregg Sengstack, Franklin Electric's Chairman and Chief Executive Officer, commented: "The specialized groundwater distribution channel in the U.S. through which we sell our products is an important element in the ultimate sale, support and specification to the installing contractors. Working in partnership with our distributors, Franklin Electric has developed a broad array of products and systems solutions that will only grow as regulatory and efficiency demands increase in North America after certain integration actions are complete.

Over the last several years, Franklin Electric has worked closely with the management of these three companies and the leadership of other strategic distribution partners. These relationships have provided us with insight into and appreciation for the value proposition offered by water systems distribution. By acquiring Western Hydro, 2M and DSI, including the stand-alone 2M/DSI joint venture, Franklin Electric is forward integrating into this channel with four strong, customer focused organizations competing in the market, increasing our commitment to the entire channel and the installing contractor base. Our new distribution entity, with a national footprint of sixty locations and nearly 500 employees, will be the largest in the industry."

Franklin Electric will operate the acquired distributors in an entity named Headwater Companies, LLC. The Company has named DeLancey W. Davis, a twenty-five-year industry veteran including the last eleven as an executive officer of Franklin Electric, as President of Headwater Companies, LLC. Mr. Davis will have overall leadership responsibility for the new Headwater Distribution segment and will begin to immediately integrate the three acquisitions into a single operating unit.

For financial reporting purposes, as of the second quarter, all the acquired entities will be wholly owned subsidiaries and included in the Company's consolidated results. The Headwater Distribution segment will be reported separately from the existing Water Systems segment, which will continue to report the results of the global water manufacturing business. The new segment is expected to have operating income margins of approximately 4 to 6 percent and pre-tax return on capital measures consistent with historical Franklin Electric returns

The new segment will have approximately \$275 million of consolidated annual sales and is expected to be neutral to the 2017 adjusted earnings per share guidance of \$1.77 to \$1.87 the Company has provided. The earnings from the acquired companies are expected to add twelve to fourteen cents to Franklin Electric's 2018 adjusted earnings per share.

Mr. Sengstack added; "By forward integrating into distribution in the U.S., Franklin Electric is taking a logical next step in our evolution as a groundwater pumping systems company. This action places Franklin Electric shoulder to shoulder with the key decision makers in this end market—distributors and the installing contractors. The Headwater companies will continue to operate as full line wholesale distributors with a focus on total water systems support, including products from all industry manufacturers. Headwater will maintain a laser focus on supporting the professional installing contractor."





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- Acceptance by aforementioned Arizona institution. The Committee will take into consideration any requests or attendance at schools outside of Arizona.
- Full time enrollment. The Committee will take into consideration requests for less than a full schedule.
- Maintain a 2.5 grade point average.

The above qualifications are in reference to university or junior college enrollment. However, the Committee will consider requests for trade school or other participation at reduced levels of financial support if such education is deemed beneficial to the family's business effort.

A completed Scholarship Application, including a resume, a letter of endorsement from the applicant's parents or employer and a transcript from the last educational institution attended is required.

The sum will be paid upon applicant's submittal of proof of registration at an Arizona institution.

For more information or questions, please contact our current Scholarship Chair or the AZWWA office. To request a Scholarship Application, please contact the AZWWA Administrative office directly.

Scholarship Chair
Fred Tregaskes
ftregaskes1@gmail.com
PH: 480-404-2788

AZWWA Office
Debbie Hanson Tripp
admin@azwwa.org
PH: 480-609-3999

The Prescott AMA — a 485-square-mile area that includes Prescott, Prescott Valley, Chino Valley, and portions of unincorporated Yavapai County — has been deemed to be in groundwater overdraft since about 1998, and has a goal of reaching safe-yield by 2025.

Mechanic maintained that the community already has failed at that goal. “Is the plan here still safe yield, or is the plan here planned depletion?” he asked. “This community set up a goal of safe yield, and failed. There is no plan for safe yield, and there’s no plan to plan for safe yield.”

Ferris, who co-produced the film (along with acclaimed filmmaker Michael Schiffer) and served as the panel moderator, responded: “They’re called goals for a reason; there’s no consequence if you fail to meet the goal.”

Noting that ADWR does not have the authority to make safe-yield happen, Ferris maintained that it would not be achieved until the State Legislature grants that authority.

Environmental concerns

Joe Trudeau, Southwest advocate for the Center for Biological Diversity, criticized the film for its lack of emphasis on the environment. While the movie included commentary from industry, agriculture, and cities and towns, Trudeau said, “Balance includes the environment.” That elicited a strong response from Schiffer, a member of the panel.

“That is a ridiculous accusation,” Schiffer said, maintaining that the compromise that was done in the passage of the bill “was done to protect the environment of Arizona.” He told Trudeau: “We’re on the same side, and until we realize we’re on the same side, it will be much harder to achieve your goals.” Along with Buschatzke and Schiffer, the panel also included: Greg Kornrumpf, manager of water rights for the Salt River Project; Sarah Porter, director of the Kyl Center for Water Policy; Tom Thurman, chairman of the Yavapai County Board of Supervisors; and Doug Von Gausig, mayor of the Town of Clarkdale, and director of the Verde River Institute.

Other issues that came up during the panel discussion and audience questions included: the dissolution of the Yavapai County Water Advisory Committee; proposed importation of water from the Big Chino aquifer and its impacts on the flow of the Verde River; and the status of the 43-year-old Gila River Adjudication.

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Events Calendar

June 16 & 17, 2017

AzWWA Golf Tournament, Picnic and Chili-Cook Off

October, 2017

**AzWWA Membership Meeting
Exact date and Location TBD**

December 5-7, 2017

**National Ground Water Convention
Nashville, TN For more information go to
<http://groundwaterweek.com/>**

February 8 & 9, 2018

**Mountain State Ground Water Expo
Aquarius Casino Resort
Laughlin, NV**