



Electricity and Water Do Mix



Turbidimeter replacements

During the District's November Board of Directors meeting, Damon Hoops and Josh Martin reported on a number of in-house upgrades accomplished over the last several months. "Electricity and water usually don't mix, but they do here!" said Damon Hoops.

After evaluating the situations and determining that the District staff was the best choice to do the upgrades, the projects got jump-started. New interface controls for filter backwash are now easier to operate and less expensive because of just one upgrade. Other upgrades included user friendly instrument panels for chlorine and fluoride

analysis and streaming current detectors, which sense chemical changes in the water.

A highlight was the turbidity meters. Turbidity meters measure the cloudiness of the water during separate phases of the water treatment process. "Forty units were replaced by our staff," said Josh Martin, "and these units use a lot less water." Josh went on to explain that the new meters are saving 60,000 gallons of water a year for their testing processes per unit. Across the forty units, the new meters are preventing 2.4 million gallons of water from going down the drain.

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Beaver Water District aerial view

This increased efficiency allows 2.4 million gallons to remain in the treatment process for sale to our customer cities each year.

With much of the equipment being in place since the treatment plants opened,

preventing potential equipment failures was also addressed by upgrades. One of the projects now uses infrared equipment for digital heat imaging to help avoid a breakdown and thus a facility shut down from happening. On-going equipment monitoring will help ensure a continuous, consistent supply of clean, safe drinking water from the District.

Electrical equipment upgrades are more than just efficiency concerns; they are also about employee safety. Easier to use access panels, infrared windows, and better placed monitoring equipment help keep our employees out of harm's way better. Taking care of the employees in a way that benefits and motivates them to establish long-term careers with the District is an achievement that cannot be expressed with a monetary value.

Retiring from



Beaver Water District



Congratulations Amy! Amy Wilson retired at the end of 2021 after 17 years of service. Amy served as the District's first Director of Public Affairs. She will be greatly missed.

Good Luck Roger! It is rare that someone stays with an organization for 36 years but the District is so glad he did. Thank you, Roger Huddleston, for all your years of service. Enjoy your well-earned retirement.





MESSAGE FROM THE CEO

M. Lane Crider P.E., LEED AP

Past, Present, and Future Synergies

We have all heard the age-old saying “water and electricity don’t mix.” This popular adage holds significant truth and is important to remember. Why? Because water is an extremely good conductor of electricity, which makes the risk of shock or electrocution in wet conditions or environments much greater than in dry conditions. They are words to live by, literally, but truth be told... sometimes water and electricity do mix for our benefit.

In the 1950s, a group of visionary leaders knew that the prospect of a dam construction near Eureka Springs would provide the opportunity for that beneficial “mixing” of water and electricity, for the benefit of Northwest Arkansas. Hydropower is one of the world’s most reliable sources of electricity, and, along with flood control, was one of the original benefits the U.S. Army Corp of Engineers (USACOE) considered when making the decision to build or not to build the majority of the dams and reservoirs in the United States, including those in the upper White River basin. Initially, however, the decision was made not to build the “Beaver” Dam. The future benefit of hydropower and flood control alone did not outweigh the cost of constructing a dam upstream of the Table Rock reservoir. Drinking water made the difference. Once the USACOE was required to consider the future benefit of drinking water for municipal and industrial purposes, the construction of Beaver Dam and the creation of a reservoir that would be the future drinking water source for Northwest Arkansas became a reality. Water and electricity mixed to support the economic growth and quality of life that we are blessed with today.

Speaking of today, it takes a tremendous amount of electricity to produce and deliver the amount of drinking water required by the businesses, industries, and residences served by Beaver Water District. On average, the District consumes the same amount of electricity each month as approximately 4,100 homes, while providing drinking water to the equivalent of approximately 151,000 homes. It is a synergy that we rely on every day. It also takes a great deal of talent, skill, and the dedication of our District staff to ensure the delivery of that clean, safe drinking water 24 hours a day, 365 days a year. Thousands of horsepower in motors and machinery must be installed and maintained to move billions of gallons of water every year from the Beaver reservoir to our customer cities tanks and distribution systems, and ultimately to our homes.

As Northwest Arkansas continues to grow, the demand for more water and more power will grow also. However, unlike the electricity providers that serve our region, Beaver Water District cannot diversify the source for our drinking water. The electric providers that serve us can utilize multiple sources for power generation, including water (hydropower), coal, natural gas, nuclear, wind, and solar. The drinking water providers on the Beaver Lake reservoir, including Beaver Water District, have only Beaver Lake as a source. Therefore, we must always be mindful that while the opportunities and quality of life we enjoy in Northwest Arkansas are because of the past synergy of water and electricity, our future will be primarily dependent on the preservation of our greatest natural resource...the water from Beaver Lake.

Congratulations James!



Congratulations goes out to Dr. James McCarty, Director of Environmental Quality at the District. James received a 2021 Early Career

Award from the University of Arkansas College of Engineering. James has a B.S. in Biological Engineering (2006), a M.S. in Biological Engineering (2015), and a Ph.D. (2020). College of Engineering alumni, faculty, staff, and guests gathered Saturday, Oct. 30, 2021, to induct four new members into the College of Engineering's Hall of Fame and recognize 34 alumni with Distinguished Alumni Awards and Early Career Awards. The black-tie event featured dinner and an awards ceremony led by Dean Needy and co-hosts Charles Zimmerman and John Miller, with remarks by U of A interim Provost Terry Martin. —(Source: [University of Arkansas News](#))

Patricia (Trish) Ouei Joins Beaver Water District as Director of Public Affairs

Beaver Water District (BWD) has hired Patricia (Trish) Ouei, CHES, of Rogers as Director of Public Affairs. Ouei replaces Amy Wilson of Fayetteville, who retired at the end of 2021 after 17 years of service. Ouei's responsibilities include developing and managing BWD's communication, education, and public outreach related to drinking water, Beaver Lake, and the lake's watershed. Ouei comes to the District from the University of Arkansas Cooperative Extension Service, where she has spent the past 14 years serving as an urban stormwater educator. She has an extensive background in public education and outreach, as well as public participation and involvement in pollution prevention, water quality, watershed, and stormwater issues. Ouei has worked with BWD for many years on events such as Secchi Day and various regional environmental education and outreach events. She previously served as Public Education Coordinator with



the Boston Mountain Solid Waste District and as a Public Health Educator with the Arkansas Department of Health.

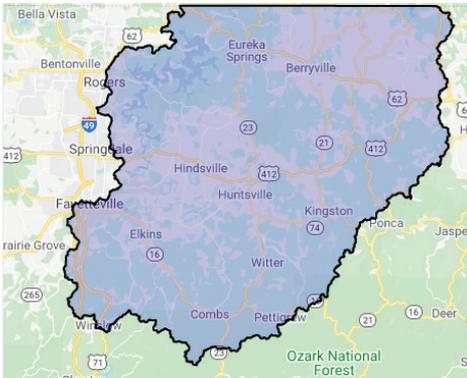
Ouei has a Master of Science in Education from the University of Arkansas and a Bachelor of Science in Health Education from the University of Central Arkansas. She is a nationally Certified Health Education Specialist (CHES). She is the recipient of numerous awards including the Arkansas Department of Environmental Quality's 2016 Ginger Tatom - Water Quality Professional Award and a 2011 Communications Award from the National Association of County Agriculture Agents.

Septic Remediation Program Moving Forward



Formerly Known As **OZARKS WATER WATCH**

H₂Ozarks (formerly known as Ozarks Water Watch) received funds from the Arkansas Department of Agriculture's Natural Resource Division through the state's Clean Water Revolving Loan Fund that could benefit some Northwest Arkansas residents. H₂Ozarks' Septic Remediation Program is assisting homeowners in the Beaver Reservoir Watershed (see map) to repair or replace failing septic



systems. Depending on household income, homeowners may qualify for a grant for up to 90% of the remediation

cost. Failing septic systems pose a risk to both environmental and human health, and in the first year of a three-year program, the program has assisted in the replacement of five systems in Washington, Benton, and Madison Counties.

The home (pictured below), located in Benton County near Beaver Lake, had effluent surfacing on the ground from a collapsed septic tank. The homeowner, a single elderly person on a fixed income, qualified for a 90% grant through the remediation program. The total cost to replace the system was approximately \$6,700, with \$6,100 as a grant (no repayment required) and the remaining \$600 as a zero-interest loan with a low monthly payment. Funds are still available. If you have concerns about your septic system, please contact H₂Ozarks Program Manager at septic@h2ozarks.org for more information or visit ozarkswaterwatch.org/arseptic.



Mission
To sustainably provide our
customers with safe, economical drinking water.

Beaver Lake Secchi Day

Data Released for 16th Year

Beaver Water District's (BWD) professional laboratory staff have completed the analysis of collected water samples from BWD's 16th Annual Secchi Day on Beaver Lake. The event was held Aug. 21, 2021, with the help of dedicated volunteers.

"This year, we had 25 sampling teams collecting data and water samples at 31 of our normal 35 sites," said Dr. James McCarty, Manager of Environmental Quality. "Poor weather conditions hampered efforts to collect data in the areas near Indian Creek and Beaver Dam."

Secchi Day is named for the Secchi Disk, a black and white device lowered into the water to measure transparency. The task of sampling teams is to take Secchi depth readings to determine water transparency. Teams also collect water samples at each site that are analyzed for chlorophyll-a, total phosphorus, and total nitrogen to determine algal density and nutrient concentration. Secchi depth is the maximum depth at which the alternating black and white pattern can be distinguished from above the water's surface.

Matthew Rich, Environmental Specialist with BWD, spoke about results and data from Secchi Day with the BWD's Board of Directors at their monthly meeting held on Oct. 21.

"Secchi depth is not only affected by the amount of nutrients and sedi-

ment within the lake, but also weather conditions above the surface of the lake," Rich said. "Windy and rainy conditions will reduce the ability to see the Secchi disk because of wave action generated by rough weather. In addition, clouds that produce the rainstorms will block incoming sunlight, further reducing Secchi depths. While we did see some reduction in water transparency as compared to last year's data, the change was minimal and well within the range that we ordinarily see. This type of result really highlights the importance of understanding year-to-year variability of these water quality parameters."

After 16 years of data collection, Dr. McCarty said despite the less-than-ideal weather for Secchi Day 2021, long-term averages of Secchi Day data show the high level of water quality in Beaver Lake is being maintained.



To read this year's Secchi Day report, go to the Secchi Day page on the BWD website at <https://www.bwdh2o.org/education-outreach/secchi-day/> and the report will be on the bottom left.

Northwest District of the Arkansas Water Works & Water Environment Association Elects Officers, Presents Awards Recognizing Excellence

On Dec. 8 in Fayetteville, Ark., members of the Northwest District of the Arkansas Water Works & Water Environment Association (AWW&WEA) met for their monthly training meeting at Mount Sequoyah.

The following individuals were announced as the officers for 2022:

Zak Johnston of Washington Water Authority as Chairman, Austin Ramsfield of Jacobs as Secretary, and Darryl Fendley of Beaver Water District as Vice Chairman. Mayo Miller of Jacobs received a plaque recognizing his years of service as outgoing Chair.

Stacy Cheevers of Beaver Water District, Northwestern District Director for AWW&WEA, presented outstanding achievement awards for 2021.



2022 Officers (left to right): Darryl Fendley, Stacy Cheevers, Zak Johnston, Austin Ramsfield



Outgoing Chair: Mayo Miller

- Water Operator more than 5000 Population - Roger Huddleston with BWD
- Water Manager of the Year - Patti Cline w/Madison Co. Water Facilities Board, (not pictured)
- Wastewater Operator less than 5000 Population - Kasey Lybrand with Jacobs/BWD
- Wastewater Operator more than 5000 Population - Joe McMahon with Bentonville Compost Facility
- Wastewater Manager of the Year - Paul Frisbie with Springdale Water Utility
- Wastewater Small System Management - Will Winn with Winn Environmental Tech
- Wastewater Laboratory Professional - Matt Benton with Jacobs (not pictured)
- Wastewater Pretreatment Professional - John Byrd with Jacobs (not pictured)

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Roger Huddleston with Beaver Water District



Kasey Lybrand with Jacobs/Beaver Water District



Joe McMahon with Bentonville Compost Facility



Paul Frisbie with Springdale Water Utility



Will Winn with Winn Environmental Tech

Those individuals not pictured had colleagues accept the awards on their behalf during the meeting.

The mission of the Northwest District of the Arkansas Water Works & Water Environment Association, formed in 1950, is to encourage the education and licensing of its members in the field of water and wastewater systems and to provide a venue by which the members can share information, obtain training, and improve the overall standing of the profession within their communities. Visit nwd-awwwea.org for more information.