



Record Crowd Attends 12th Annual Secchi Day on Beaver Lake!

What a crowd! Close to 750 people attended the 12th annual Secchi Day on Aug. 19 this year. That's an approximate 25% increase of participation over the 2016 event. Organizers, staff, volunteers, and attendees adjusted well to a new venue setting that includes the Arkansas Game and Fish Commission's amphitheater and a newly constructed pavilion at the same site on Prairie Creek on Beaver Lake near Rogers, Ark.

Beaver Water District (BWD) originated the first Secchi Day event in 2006. Each year on approximately the same Saturday in August, citizen scientists take clarity readings with a Secchi Disk measuring device and collect water samples for testing from 35 sites on Beaver Lake and its tributaries. Additionally, several hundred people and volunteers enjoy a host of hands-on educational and fun activities lakeside at Prairie Creek.

The water samples are tested for various parameters annually and Secchi depth readings are recorded and shared with a national database that is maintained by the North American Lake Management Society (NALMS).

"This year, our lake site with the best water clarity was site number 29 which is adjacent to the dam and had a Secchi depth of 18 feet," said James McCarty, BWD's Manager of Environmental Quality. McCarty served as co-emcee with Meteorologist Rick Katzfey of KNWA. A full report on Secchi Day research findings will be shared via the Beaver Water District website, with a summary in this newsletter in the winter issue.



James McCarty, left, and Rick Katzfey.

New additions to this year's event included stand-up paddle-board demonstrations, a mini-concert by Al Lopez, who created songs and music for the CD Water Fun Facts with Papa Rap (in partnership with BWD), and Pacific Islander dance demonstrations. Additionally, new hands-on activities included making bird feeders with Wild Birds Unlimited and creating unique and usable items from old computer parts with Free Geek while getting a chance to peer inside the inner workings of an old computer.

Secchi Day on Beaver Lake Partners include BWD, the U.S. Army Corps of Engineers-Beaver Lake, the U.S. Geological Survey, the University of Arkansas Cooperative Extension Service, Northwest Arkansas Stormwater Education, Hobbs State Park, Arkansas Master Naturalists, Beaver Watershed Alliance, Arkansas Game & Fish Commission, Ozarks Water Watch, One Community, the North American Lake Management Society, and Girl Scouts Diamonds. Harps Foods, Hiland Dairy, Cook's Natural Market, and Golden Corral/Pleasant Grove Road made

Continued on page 2

Record Crowd continued from page 1

snacks, lunch and ice cream possible. Cabela's donated the Grand Prize Kayak; Outdoor Cap donated Secchi Day commemorative caps and visors. Arkansas-Missouri Railroad donated train tickets to the drawing. KNWA is the television media sponsor. Other businesses and organizations contributing resources and in-kind donations for the event included Dancenance Entertainment, Hog Radio, La Zeta Radio, KUAF 91.3, KF5M, B-Scene Media, Univision Arkansas, and the Rogers Optimist Club.

BWD's mission is to serve our customers' needs by providing high quality

drinking water that meets or exceeds all regulatory requirements and is economically priced consistent with our quality standards. BWD supplies clean, safe drinking water, sourced from Beaver Lake, at the wholesale price of \$1.34 per thousand gallons to Fayetteville, Springdale, Rogers, and Bentonville. These cities in Northwest Arkansas then pump, store, distribute and resell the water to their customers -- more than 320,000 people and industries in their cities and surrounding areas. For more information, contact Amy Wilson, Director of Public Affairs, at awilson@bwdh2o.org. *Continued on page 3*



**Please join us next year on Aug. 18th
for the 13th Annual Secchi Day.
Mark your calendars now!**

Record Crowd continued from page 2

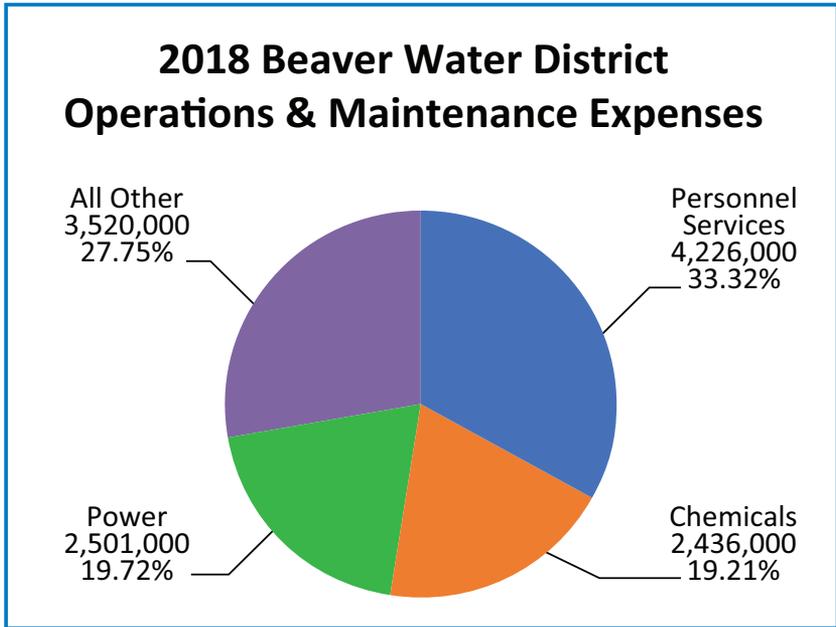


Jernigan Takes 1st Place in Beaver Lake Photo Contest: *Haleigh Jernigan, 11, of Bella Vista, daughter of Shanon and Alisha Jernigan, took 1st place in the 4H Division of the 2017 Beaver Lake Photo Contest. The contest was held for the seventh year in conjunction with the 12th Annual Secchi Day on Beaver Lake and the Benton County Fair. Jernigan received recognition and a cash prize, and her photo was displayed at Prairie Creek Recreation Area on Aug. 19th during Secchi Day.*



Jennifer Fyke of Fayetteville held the winning ticket for Grand Prize at Secchi Day: *Meteorologist Rick Katzfey of KNWA (right) poses with Jennifer Fyke and her daughter Kaleigh, 10. The grand prize kayak was donated by Cabela's to the 12th Annual Secchi Day on Beaver Lake, held on Aug. 19th.*

Board Approves Rate Increase & Approves 2018 Budget



Beaver Water District's Board of Directors met Aug. 17 and approved a fiscal year 2018 budget of \$25.8 million. This year's budget is predicated on anticipated sales of about 19.2 billion gallons of water in the next fiscal year, at the updated wholesale rate of \$1.34 per thousand gallons, which went into effect on Oct. 1, 2017.

The total budget includes debt service, source water protection, reserve funding and operations and maintenance. The operations and maintenance budget portion is \$12.7 million (see illustration here). The overall increase to the Operations & Maintenance Fund is 2.71%.

David Short of Bentonville (Benton County) moved to accept the budget as presented. Chris Weiser of Springdale (Washington County) seconded the motion. The board approved the motion.

"The overall increase to the O&M Fund

is 2.71% over last year," said Adam Motherwell, BWD's Chief Financial Officer. "Actual expenses could be greater as a result of additional treatment required due to changes in source water quality, an acute turbidity event, major price increases in chemicals, an increase in power costs, changes in regulations, or any other unforeseen event."

Alan D. Fortenberry P.E., BWD's CEO, said, "The good news is we're financially prepared for any events of that nature. Planning ahead and being fiscally responsible is a way of life for Beaver Water District. Our staff is dedicated to doing the best job they can and spending funds wisely. Our mission is to serve our customers' needs by providing high quality drinking water that meets or exceeds all regulatory requirements and is economically priced consistent with our quality standards."

Protecting Beaver Lake Top Priority of Beaver Water District



Potential development is outlined in yellow. The area is West of the 412 Bridge over Beaver Lake shown in the left of the image.

While living at Beaver Lake is a pleasing way of life for many residents in Northwest Arkansas, it comes with responsibilities. Residents and developments can have negative impacts on the lake and the quality of the water. When that happens, the cost to clean water for drinking can increase and the lake water quality may degrade for other uses as well, such as recreation and the needs of wildlife.

This past spring, a housing development named Meadows at River Mist was proposed as a new lakeside subdivision just northeast of the Highway 412 bridge over Beaver Lake. Due to the location of this proposed development, it cannot be connected to a city sewer system. Therefore, the developers proposed a sewage collection and treatment system that would handle the sewage from the subdivision on site.

“We are very concerned about the location of this development, its density, and the proposed sewage treatment system. This site is only 1500 feet from the shoreline and 12 miles upstream of our water intakes,” said Larry Lloyd, Chief Operating Officer for Beaver Water District (BWD). “We’re trying to protect the Lake and our drinking water.”

So what’s the issue with an on-site sewage treatment system? According to Lloyd, several systems of this type have had problems in the past due to poor operation and maintenance. These problems can lead to runoff into and contamination of water sources. The main issue is often not the level of treatment an on-site system initially provides, but rather what results later when there is improper operation and a lack of maintenance. Also, *Continued on page 6*

Protecting Beaver Lake continued from page 5

the financial assurance programs that historically have attempted to ensure that on-site systems are properly maintained or replaced at the end of their useful life have been largely ineffective. The state has been slow to enact effective laws and regulations regarding these systems, which means that it can be very difficult to hold anyone accountable for the failure of the systems and getting problems corrected.

Plans for a subdivision at the site originated in 2006. Some of the infrastructure for the development was installed, but the project was terminated due to the recession. Instead of the 1-acre-minimum lot size currently required for this area by Washington County, the developers of the proposed Meadows at River Mist want 10,000-square-foot-minimum lot sizes. This would require a special permit from the county.

BWD took a stand on April 6 by attending the Washington County Planning Board meeting to oppose the development. The editorial board of the Northwest Arkansas *Democrat-Gazette* agreed with BWD's position, publishing an April 12th editorial entitled "Too close to home: Will county protect region's drinking supply?" The following excerpt makes it clear where the newspaper stands on this issue: "We're glad the Planning Board delayed any decisions because development around Beaver Lake isn't just a local concern. It's a regional one. And it's a concern of everyone who turns on a faucet in Northwest Arkansas."

"When it comes to developments near Beaver Lake, we're always going to take a close look, especially at any that might have a potential to negatively impact the quality of water in the lake, water that has the potential to reach our intakes," said James McCarty, BWD's

Manager of Environmental Quality. "We tend to be pretty cautious because we've heard a lot of horror stories regarding lakeside developments and their effects on water quality. We can't leave this sort of thing to chance. That's why we have a team of environmental technicians and engineers whose sole purpose is to monitor and study the water quality of the lake and the tributaries feeding into it."

Alan Fortenberry, Chief Executive Officer of BWD, agreed. "We take stewardship of Beaver Lake very seriously. Our commitment to sustainability and maintaining the current quality of water in the lake is paramount."

Another problem with the proposed Meadows at River Mist development is that it would be located next to a long-existing subdivision that is also adjacent to the lake and that has failing septic systems. Additionally, the roads and the stormwater and sewage conveyance structures that were begun around 2006 have started to crumble and wash out. The Washington County Planning Office has pointed to these issues and the proposed density of the subdivision and the slope of the land toward the lake, among other things, in requesting that the developers for Meadows at River Mist revise their proposal. Currently, the development appears to be stalled in the planning process as the developers make changes to their design plans and related documents to be submitted to the county.

"We care about your health and want to provide you with clean, safe drinking water. That's the primary reason we have taken such a strong stance on this issue," Fortenberry said. "BWD will continue to oppose this development by voicing our concerns through the planning process and garnering support from the community."

Beaver Water District Hosts Students Working, Conducting Research



Aryana Mitchell

For three months this summer, Beaver Water District (BWD) hosted 20-year-old, Aryana Mitchell, of Siloam Springs. A current student at the University of Arkansas (UA) who's majoring in Chemical

Engineering, Mitchell worked as a part-time Environmental Intern.

"I wanted to work at Beaver Water District to gain more experience and to see if I would want to work in the water industry later on," she said. "I worked in the Arkansas Water Resource Center's Water Quality lab last semester."

While at BWD, she sampled Beaver Lake and various parts of the plant, running multiple tests on the samples. Additionally, she helped count fish and macroinvertebrates in rivers that feed into the lake. Mindi Dearing, Lab Supervisor, acted as Mitchell's mentor and supervisor.

"Next, I plan on finishing my degree and I'll see where that takes me," Mitchell said. "I'm going to try and do some research during school to see if there are other areas that interest me." Others coming to BWD on a regular basis throughout the summer included Sana Ajaz and Cody Vaughn. Ajaz, 24, hails from Lahore, Pakistan. Vaughn, 23, is a native of Batesville, Ark. Both worked under the supervision of Bill HagenBurger, BWD Plant Engineer, and his staffer, Danny Dearing, Engineering Technician.

Ajaz, a Graduate Research Assistant in the UA Department of Civil Engineering, is conducting research under the direction of Dr. Julian Fairey, an Associate Professor in the UA Department of Civil Engineering.

Vaughn also is a Graduate Research Assistant in the UA Department of Civil

Engineering. His research is under the tutelage of Dr. Wen Zhang, an Assistant Professor in the UA Department of Civil Engineering.

"We're currently assessing the potential of the biofiltration process for the removal of targeted organic compounds that result in the formation of harmful disinfection by-products (DBPs) in water," Ajaz said. "The two-year study involves lab and pilot testing of modified filter media including granulated activated carbon (GAC) under conditions that would allow biofilm to grow and enhance the process naturally. The project is significant as controlling DBP formation is currently a challenge for BWD and many water utilities around the United States, while the DBP rule is anticipated to get more stringent in the future."



Sana Ajaz & Cody Vaughn pose in the BWD Pilot Plant.

After achieving her master's degree, Ajaz hopes to attend graduate school to earn her doctorate in the U.S. or work for a year at a company in the U.S. Of course, these plans are contingent upon her work visa status. As for Vaughn, he noted that his interest stems from an earlier project he engaged in as an undergraduate in biological engineering. He spent his senior year designing filters that made their way to Mozambique with Engineers Abroad. When asked what's next for him, he commented he would likely focus on "water quality and water access in developing communities."

NTI Young Manufacturers Explore Expanding Water Career Opportunities



Michelle Sowell, Financial Coordinator, NTI Foundation, and Tom Freking, Executive Director of Economic and Workforce Development for Northwest Technical Institute, (2nd row, left) pose with Young Manufacturers Academy students and Dot Neely/BWD Education Coordinator (center, sitting) framed by the Beaver Lake Watershed Map in the BWD Administration and Water Education Center.

A chain of events led to young people visiting Beaver Water District on July 26. After contacting Northwest Technical Institute (NTI) in Springdale in search of recent graduates with skilled trades, Pat Bates, Human Resources Director for Beaver Water District (BWD) networked with Tom Freking, NTI's Executive Director of Economic and Workforce Development and Michelle Sowell, Financial Coordinator with NTI Foundation. That led BWD to establish a partnership with the NTI Business and Industry Training Center to conduct assessments and specialized training for the BWD staff.

"College isn't for everybody and with the retirement of baby boomers locally and nationwide, there is an increasing need for trade skills," Bates said.

Meanwhile, the Young Manufacturers Academy occurs statewide. In Northwest Arkansas, Northwest Technical Institute facilitated an Academy, sponsored by the Arkansas State Chamber of Commerce and paid for with a \$5,000 grant from the Gene Haas Foundation. The Academy made it possible for students to be introduced to different career options and the increasing need for graduates of technical programs and trade skills in Northwest Arkansas at various businesses and facilities.

Excited to share the many career prospects in the water industry that don't require a four-year college degree, Dot Neely, BWD's Education Coordinator, facilitated a visit to BWD for the Academy students. Neely introduced students to water treatment (how water from Beaver Lake is made clean and safe to drink), as well as career opportunities in the water industry. These included positions such as water plant operators, maintenance mechanics, electricians, and instrumentation technicians – all jobs that do not require a college degree. She also taught them basic concepts related to Beaver Lake Watershed features and flow dynamics, as well as ways they can help with Beaver Lake Source Water Protection. BWD distributed drawstring backpacks containing reusable/BPA-free BWD water bottles, pens, pencils/sharpeners, organic lip balm, and water sector career flyers.

Freking thanked BWD's Neely for "taking time to give the kids an up close and personal view of our greatest natural resource." He also noted that "a couple of the kids were telling their moms and dads about the trip when we got back. You truly made a difference in some lives yesterday!"