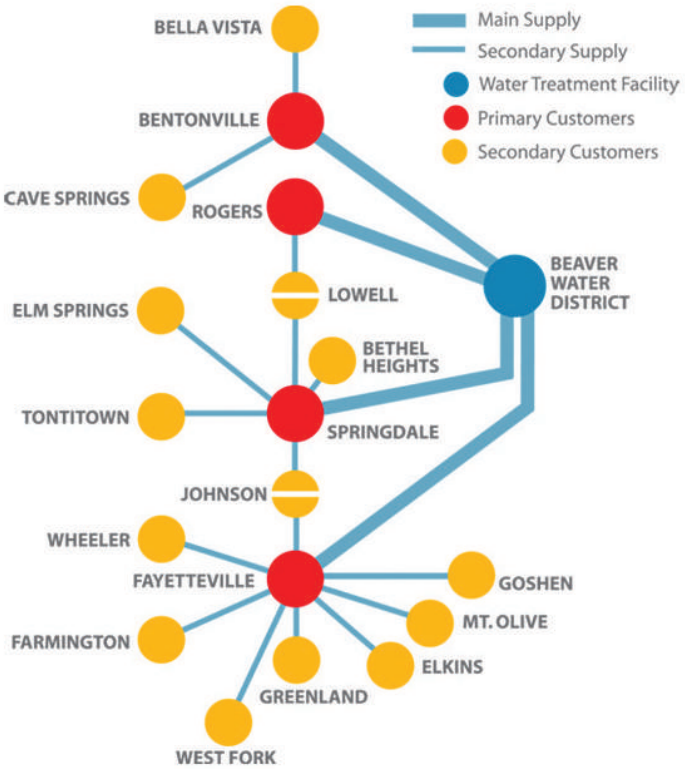
THE SOURCE

The Source is a quarterly publication of Beaver Water District Winter 2015

District Updates Master Plan

"We don't want to be lagging or wait until the need is there. At Beaver Water District, it's all about staying ahead of growth and providing our customers with safe, clean water with just the turn of a handle." – Alan D. Fortenberry P.E., CEO



Prior to the early 1960s, people in Northwest Arkansas and surrounding areas relied on everything from lakes, to streams to wells for water. Then, thanks to visionary leaders, Beaver Dam got built, Beaver Water District (BWD) formed, and Beaver Lake entered the picture. It took years of work to make all of this happen. While BWD stepped up to pay the cost of storage for municipal drinking water in the lake, the city of Springdale built the Joe M. Steele Treatment Plant. (BWD soon assumed operation of the plant located on Primrose Road on the outskirts of Lowell, AR, about two miles from the lake where the water intakes are located.) Meanwhile, the other cities came on board — Fayetteville, Rogers, and Bentonville — as water demands increased.

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Today, ample water is at the ready for customers. In fact, the peak day of use on a hot summer day by all four cities combined may reach about 90 million gallons. The good news is that BWD can actually supply up to 140 million gallons a day (MGD) if needed. All that said, master planning continues.

"We don't want to be lagging or wait until the need is there," Alan D. Fortenberry P.E., CEO, told elected Board members at their monthly meeting on Nov. 19th. "People are very unforgiving if they turn on the tap and the water isn't there."

Bill HagenBurger P.E., BWD Plant Engineer, worked closely with consulting engineers from Black & Veatch. "We looked closely at regulatory issues, population projections, water demand projections and external forces that might affect overall customer demand for water."

Andrew Hansen P.E., a Project Manager with Black & Veatch, presented the Board with a Master Plan Executive Summary, which reads in part: "This report has been prepared to provide … a guide for improvements over the 25-year planning horizon. The recommended improvement plan presented herein will serve as a basis for the design, construction, and financing of facilities to meet population growth, industrial needs, and commercial development for the four customer cities … ."

Report highlights include population and demand projections, a "treatment process overview," a regulatory review and water quality assessment, facility assessment, capacity evaluation, the western corridor pipeline and pump station study, and the solids handling facility.

The Capital Improvement Plan summarizes the recommended improvements identified as needed to increase facility capacity and to meet water quality requirements within the 2040 study period and the associated probable project cost.

CAPITAL IMPROVEMENT PLAN PROJECT SUMMARY

Project	Type	Year	Probable Project Cost
North Intake Pumps	Capacity	2031	$2.1M
Raw Water Transmission Main	Capacity	2036	$15.9M
40 MGD Plant Expansion	Capacity	2031	$43.9M
Clearwell Expansion	Capacity	2031	$10.5M
High Service Pump Replacements	Capacity	2022-2038	$4.4M
Western Corridor Pump Station	Capacity	2032	$19.4M
Western Corridor Transmission Main	Capacity	2031	$54.6M
Basin Expansion/Modifications	Solids Handling	Unspecified	$4.1M
		SUBTOTAL	**$154.9M**
Ammonia Facilities	Water Quality	Unspecified	$1.3M
UV Facilities	Water Quality	Unspecified	$15.0M
Ozone Facilities	Water Quality	Unspecified	$39.0M

- The Expansion Reserve Fund is used to fund future expansion, based on estimates of water sales and timing of future projects.
- The timings and dollar estimates are based on information from our external engineering consultants, Black and Veatch.
- The probable project costs are in 2015 dollars.
- Under current conditions, the three projects at the bottom of the Capital Improvement Plan Project Summary table are not needed. However, one or more of these projects may be required should future water regulations tighten or raw water quality in Beaver Lake declines.

Beaver Water District Board Tours Facilities

The Beaver Water District (BWD) Board of Directors toured BWD's North Intake on Beaver Lake in Northwest Arkansas on Sept. 17, 2015, during their monthly board meeting. Pictured on the deck of the intake with Beaver Lake in the background (from left) are Bill HagenBurger, BWD Plant Engineer; and BWD Board Vice-President Chris Weiser of Springdale (Washington County); President Bill Watkins of Rogers (Benton County); Secretary-Treasurer Woody Bassett of Fayetteville (Washington County); Cathy Foraker of Fayetteville (Washington County); and David Short of Bentonville (Benton County). Not pictured is Mary Gardner of Prairie Creek near Rogers (Benton County).

Beaver Water District, formed under Arkansas Act 114 of 1957, is the oldest regional water district in the state of Arkansas. The District is governed by this six-member elected board of directors, with three members from Washington County and three from Benton County. Board members serve six-year terms, staggered by two years in each county. Therefore, every two years, a board member is up for election in each county.

The board meets monthly, on the third Thursday, except in December. To learn more, visit the Board of Directors page on the Beaver Water District website at bwdh2o.org.

Beaver Water District Staffers Fill Leadership Roles

Bill HagenBurger of Rogers
Title: Plant Engineer
Organization: Southwest Section, American Water Works Association
Appointment: Chair

Nicole Bridges of Lowell
Title: Laboratory Analyst
Organization: Southwest Section, American Water Works Association
Appointment: Chair, Young Professionals Committee

Jesse Burch of Bentonville
Title: Operations Supervisor
Organization: American Water Works Association
Appointment: Member, AWWA Treatment Plant Operations & Maintenance Committee

NW AR Water Operators Take 1st Place in Southwest Competition

Beaver Water District's team took 1st place in the Top Ops Challenge held Oct. 6, 2015, in Shreveport, LA, during the annual meeting of the Southwest Section of the American Water Works Association. Dustin Mayhew (left) of Springdale, Plant Operator II; Nicole Bridges of Lowell, Laboratory Analyst; and Frank Blowers of Pea Ridge, Maintenance Mechanic II, comprised the team, which will now compete in the national competition to be held next June in Chicago. Ken Bardett, Transportation/ Housing Chair for the Shreveport meeting, presented the award. Last year, this same team won the regional competition and placed 6th overall in nationals.

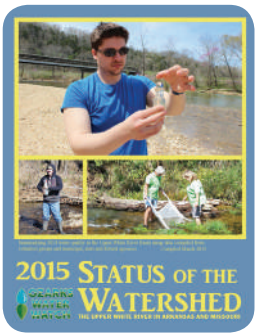
The Top Ops "Quiz Bowl" Challenge is designed to promote excellence and professionalism and provide an opportunity for water professionals to showcase their talents in all aspects of water operations.

Beaver Water District supplies drinking water to more than 300,000 people and industries in Fayetteville, Springdale, Rogers, Bentonville and surrounding areas. The District'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. For information, visit bwdh2o.org. For information about the Southwest Section of the AWWA, visit www.swawwa.org. For information about AWWA, visit www.awwa.org.

OWW's Status of our Watershed 2015 Reports Water Quality Improving

Each year, Ozarks Water Watch publishes its "Status of the Watershed" report to answer the question "how's the water" in lakes and streams of the Upper White River Basin Watershed. To gauge the health of water on the local level, OWW relies on a network of agencies, organizations, and volunteers who took more than 4,000 measurements at 189 locations in 2014.

"It is in everyone's best interest to restore and protect the region's waters," said David Casaletto, Executive Director of OWW. "We hope our annual … report can be a tool everyone can use to start that improvement either at your favorite local stream or on a watershed wide basis. If you are interested in becoming a volunteer water quality monitor in the Upper White River Basin, please let us know." The report is available online at www.ozarkswaterwatch.org. *(Source: Ozarks Water Watch)*



Employee Profile: Jesse Burch, Operations Supervisor

Editor's Note: I hope you enjoy the Q & A below and learning more about Jesse Burch, one of our many outstanding Beaver Water District employees. "24/7 professionals" create the backbone that enables quality life for everyone, no matter what day of the year it is! Telling your story makes it real for all those who read and share it! – Amy Wilson, BWD Director of Public Affairs.

Q: Are you an Arkansas native?
A: Yes. I was born and raised in Springdale.

Q: Who are your parents?
A: David and Joan Burch of Lynn, AR

Q: Where did you graduate from high school?
A: Springdale High School

Q: What got you interested in studying water?
A: Water has been a part of my life since childhood -- from swimming and fishing, to boating and skiing. One day while standing in a creek smallmouth fishing, it just dawned on me that I would like to work in one form or another in a profession that involved protecting water.

Q: What is your degree, what year did you get it, and where did you go to college?
A: In 2000, I earned a Bachelor of Science in Environmental Soil and Water Science from the University of Arkansas.

Q: Give me a short work background.
A: After graduation, I worked at the Washington County Conservation District as a Water Quality Technician. Then in January 2003, I started as an Operator II at Beaver Water District. In 2014 after more than a decade on the job, I applied for and was chosen to become the Operation Supervisor at Beaver Water District. It's been a challenge and a great opportunity for me. My predecessor worked here at BWD for more than 25 years, and he was in this position until retirement. I feel fortunate to have this opportunity. I'm overseeing about a dozen water operators and I manage scheduling, chemical inventory, and the Solids Handling Facility.

Q: What do you like most about working at Beaver Water District?
A: I like the people I work with. They are hardworking and diligent. I enjoy the comradery. Serving the community where I live also gives me pride in my job.

Q: Tell us a little about your family. Does family keep you busy when you aren't at work? Wife and children names, ages?
A: My wife, Sarah, is a Registered Nurse at a local public school. We have two children, Caleb, who is eight years old, and Evan, who is 6. When I'm not at work, you can find me on a ball field of some sort coaching my boys in baseball, basketball, soccer or football.

Q: I understand you are active in Professional Water organizations. Will you mention which ones, the offices you hold, the committees you participate in and why is it important?
A: I served as Vice Chair of the Northwest District of the Arkansas Water Works & Water Environment Association this past year (2015). Now I'm serving as Secretary/Treasurer for 2016. I also serve on the Treatment Plant Operations and Maintenance Committee of the American Water Works Association. I believe that it is important to serve the trade association that has given me so much. It also provides a platform to let my voice and opinion be heard and make an impact in the industry beyond my normal day-to-day duties.

Beaver Watershed Alliance Presents Annual Report:

Sustainable Funding for Regional Source Water Protection Makes Good Sense

On Oct. 15, 2015, John Pennington, Executive Director of the Beaver Watershed Alliance (BWA), shared BWA's Annual Report, including the case for Sustainable Funding for Regional Source Water Protection, to the Beaver Water District Board of Directors at their monthly meeting.

The Beaver Watershed Alliance (BWA) works to proactively protect, enhance, and sustain the high water quality of Beaver Lake and its tributaries through voluntary best management practice implementation, outreach and education, and scientific evaluation. Tributaries of Beaver Lake such as the West, Middle, and East Forks of the White River, Richland Creek, and War Eagle Creek offer a diverse and stunning variety of aesthetic beauty, wildlife, and cultural heritage as they flow along their courses to Beaver Lake.

The Beaver Watershed Alliance was formed in 2011 to establish programming to maintain high quality drinking water in Beaver Lake and improve water quality in the Beaver Lake Watershed. The Alliance represents a diverse coalition of stakeholders from conservation, education, water utilities, technical and science, business, agriculture, recreation and local government groups working together for the cause of clean water.

A few highlights from the Annual Impact Report include:

• BWA reached 20,186 watershed stakeholders and generated $105,379 in voluntary community service hours.

• More than 8,800 landowners in the Beaver Lake Watershed have been engaged in watershed opportunity assessment and streamside and forest management programs. As a result, more than 800 landowners representing 172,000 acres are participating, and many are using best management practices on their land.

• The drinking water awareness campaign now includes 72 signs throughout the Beaver Lake Watershed.

• BWA completed the Forest Landowner Opportunity Assessment. Data will be incorporated in the Beaver Lake Watershed Protection Strategy.

• More than 1 million people have been reached through TV, newspaper, and digital media.

Pennington told the BWD Board that sustainable funding for regional source water protection will enable BWA staff to execute the Beaver Lake Watershed Protection Strategy.

Key points to support the case for sustainable funding include:

• More than 420,000 people – from Harrison, Ark., to Westville, Okla., rely on Beaver Lake for drinking water, industry, and recreational activities such as boating, skiing, birding, and swimming.

• This is an investment. A sustainable source of funding ensures that maintaining the source water quality in Beaver Lake is a high priority. A dependable, safe and affordable water supply depends on the quality of water in the lake.

• Beaver Lake is an essential piece of infrastructure and a key economic driver in Northwest Arkansas and the surrounding areas. Investing in integrated water management strategies, that combine engineered solutions with protection of drinking water at its source, can reduce costs and provide a suite of co-benefits to the community and the environment.

In spring of 2016, BWA will present formal proposals for sustainable funding to Beaver Lake regional water suppliers. For more information about BWA, visit beaverwatershedalliance.org.

BEAVER LAKE "SECCHI DAY" DATA REVEAL GOOD WATER QUALITY

For the past 10 years, more than 100 citizen scientists and others have collected water quality data on Beaver Lake near Rogers in Northwest Arkansas during the annual Secchi Day event, typically held on the third Saturday each August. The big question on everyone's minds is whether there are any trends that can be identified, now that there's a decade of data to consider. To put it simply, how is the water quality in Beaver Lake doing?

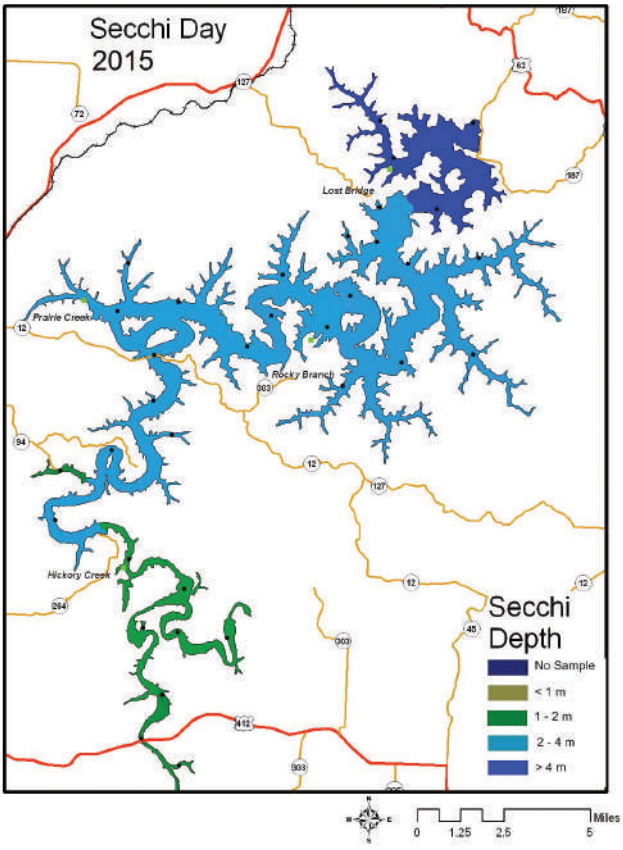
Dr. Bob Morgan, Manager of Environmental Quality for Beaver Water District (BWD) shares comments below about Secchi Day, held Aug. 15, 2015.

Sampling teams take Secchi disk readings to determine water clarity, and collect water samples which are tested for chlorophyll a, total phosphorus, and nitrate, to determine algal density and nutrient concentration. Secchi depth is a measure of water transparency that involves lowering a black and white disk into the water and recording the maximum depth in which the black and white pattern can be distinguished from above the water's surface.

"Overall, everything was slightly better this year than the average of the data over the past 10 years," Dr. Morgan said. "However, the data tell us that the water quality is not rapidly changing one way or the other, at least in late summer. In other words, the lake water quality is maintaining, and that's what we want to see."

This year, the greatest Secchi depth was 5 meters, or approximately 16 feet. This occurred at Site 29 near Beaver Dam. The least depth of 1.05 meters, a bit more than 3 feet, was measured at Site 1 at Hwy. 412 Bridge. The average Secchi depth for 2015 was slightly greater than the 10-year long term average of 2.7 meters. Near surface mean concentrations for both chlorophyll a and nitrate were lower in 2015 than in the last nine years. Secchi depth in late August is inversely related to the concentration of chlorophyll a. Therefore, as chlorophyll a decreases, Secchi depth increases.

To read this year's detailed Secchi report, link to the District's website at bwdh2o.org. Next year's event will be held on Aug. 20, 2016.



"For It Is in Giving That We Receive":
District Staff provide Toys for Tots

#nwawater
By Amy Wilson

What may come to mind as you read this is "what does this have to do with water and Northwest Arkansas?" If you will bear with me, my meaning will become clear.

The Prayer of St. Francis of Assisi inspires me daily. I have a copy posted on my refrigerator in the kitchen. I suppose I've known this prayer for most of my life. While I don't consider myself a religious person, I certainly consider myself spiritual. The prayer goes like this: "Lord, make me an instrument of thy peace. Where there is hatred, let me sow love; Where there is injury, pardon; Where there is doubt, faith; Where there is despair, hope; Where there is darkness, light; and where there is sadness, joy. O Divine Master, grant that I may not so much seek to be consoled as to console; to be understood as to understand; to be loved as to love. *For it is in giving that we receive,* it is in pardoning that we are pardoned, and it is in dying that we are born to eternal life."

For many, many years, employees of Beaver Water District (BWD) have saved aluminum cans. The cans are taken to an aluminum recycler once a year and "cashed in." Additionally, staffers who wish to participate contribute cash donations to the fund. This effort then leads to the giving of toys to children in need over the holidays during December of each year.

Roger Huddleston, a longtime water plant operator at BWD, began collecting cans years ago. He is now joined in the effort by Joe Pineda, who joined BWD in facilities maintenance in 2007. Together, they see to it that BWD saves and collects aluminum cans, cashes them in, collects donations, and purchases toys with the proceeds (with the help of Roger's wife Janice) for the US Marine Corps Toys for Tots program each December. They collected in excess of 60 items this year. Both Huddleston and Pineda are retired from the Marines.

So what does this have to do with water? For one thing, BWD water utility employees and families are giving back and in doing so we all receive something in return. What is that "some thing" and how do we define it? I don't know exactly. But I do know that I'm passionate about my job at Beaver Water District and that many of my co-workers feel the same way. This is not just a job. We come to work every day knowing that in some small way, we each contribute to ensuring that safe, clean healthy water is available at the tap for our customers in Northwest Arkansas and surrounding areas. That passion for our work carries over into other aspects of our lives. We give at work, we give at home, and we give in our communities. We save aluminum cans, we help collect trash at cleanups of our streams and rivers and Beaver Lake, and hand out reusable water bottles filled with chilled tap water at public events. We talk to our family, friends, neighbors, others in our community about what we do on the job and how important water is. And we do this to inform people about how precious water is and what it means to have clean water.

"It is in giving that we receive." I would argue that one of the most important commitments we all make daily is to value the people in our lives. If we value those people, then we also value clean water, because without it, there is no way to sustain healthy life.

Amy Wilson is Director of Public Affairs for Beaver Water District. Email her at awilson@bwdh2o.org.