



AUBURN

WATER RESOURCES
CENTER

2021 ANNUAL REPORT



BRINGING SCIENCE TO PEOPLE & PEOPLE TO SCIENCE

WHO WE ARE
OUR MISSION
EXTENSION
RESEARCH
INSTRUCTION
MOVING FORWARD

WHO WE ARE

WATER RESOURCES TEAM



EVE BRANTLEY
DIRECTOR



MONA DOMINGUEZ
AWW DIRECTOR



SERGIO RUIZCORDOVA
DATA COORDINATOR



SYDNEY ZINNER
AWW VOLUNTEER
MONITOR COORDINATOR



RACHEL MCGUIRE
COMMUNICATIONS
COORDINATOR



CAROLINA RUIZ
ADMINISTRATIVE
ASSISTANT



JESSIE CURL
EXTENSION WATER
PROGRAM COORDINATOR



LAURA BELL
EXTENSION WATER
PROGRAM COORDINATOR



ADAM NEWBY
WATER RESOURCES
RESEARCH ASSOCIATE

OUR MISSION

To facilitate interdisciplinary collaboration among Auburn University faculty, staff, and students on water-related research, outreach, and instruction; conduct innovative research to find practical solutions for current and future water issues; and empower private citizens to become active stewards of water resources.

OUR VISION

Is a world where water resources are used, managed, and protected in a more scientifically-informed and sustainable manner, resulting in resilient ecosystems and thriving communities.

OUR OBJECTIVES

To provide research-based information to environmental professionals and policy makers for improved management and protection of Alabama's water resources.

To promote holistic management of water resources that supports multiple uses (agricultural, industrial, ecological, recreational, etc.).

To facilitate interdisciplinary, multi-institutional collaboration among Auburn University faculty, staff, and students on water-related research, education, and community engagement.

To empower private citizens to be better stewards of local, regional, national, and international water resources through water quality monitoring training.

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OUR MISSION

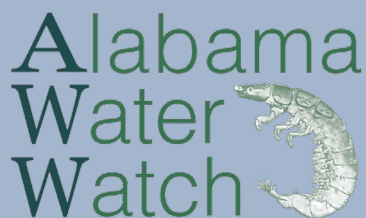
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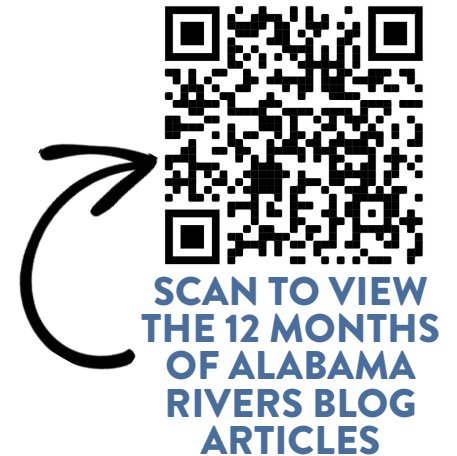
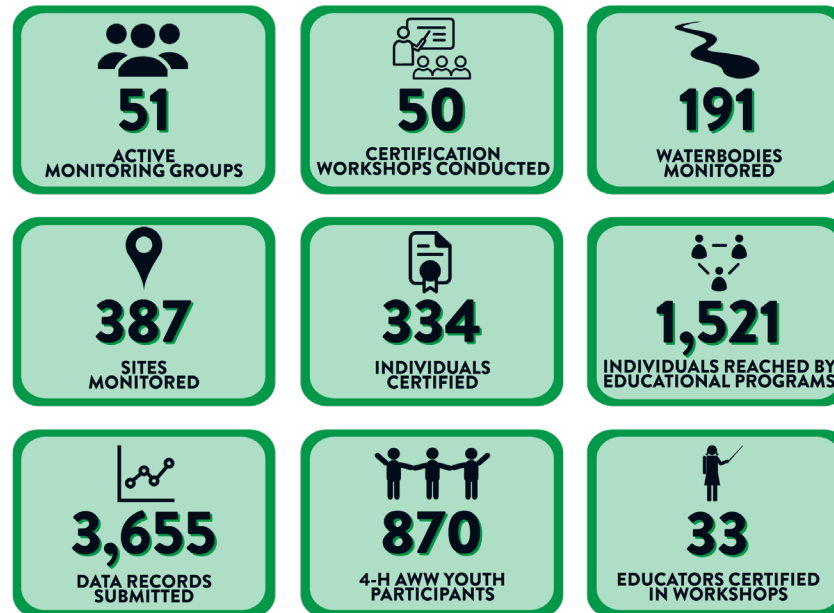
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ALABAMA WATER WATCH

Alabama Water Watch (AWW) is a citizen volunteer water quality monitoring program. The mission of AWW is to improve both water quality and water policy through citizen monitoring and action. AWW uses EPA-approved monitoring plans with a community-based approach to train citizens to monitor conditions and trends of their local waterbodies. With a “data-to-action” focus, AWW helps volunteers collect, analyze, and understand their data to make positive impacts.

In 2021, AWW created a special campaign called “12 Months of Alabama Rivers” that included 12 blog articles as well as an 8-part webinar series, “Basin Banter with Bill”, that discussed the ecological, geological, cultural, and historical traits of each major river basin in Alabama.

2021 | BY THE NUMBERS



IN 2021, AWW VOLUNTEERS CONTRIBUTED
16,855 HOURS MONITORING,
A VALUE OF **\$481,042**

EXTENSION

4-H ALABAMA WATER WATCH

4-H Alabama Water Watch (4-H AWW) is the statewide youth water quality monitoring program created through a partnership between Alabama Water Watch and Alabama 4-H, the youth development program of the Alabama Cooperative Extension System (ACES).

4-H AWW increases environmental literacy by building capacity in volunteer trainer and educators to provide youth with awareness and understanding of watershed issues and tools that cultivate the critical thinking skills students need to identify and solve problems related to water quality.

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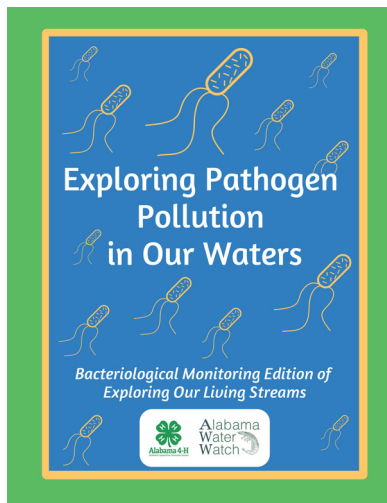
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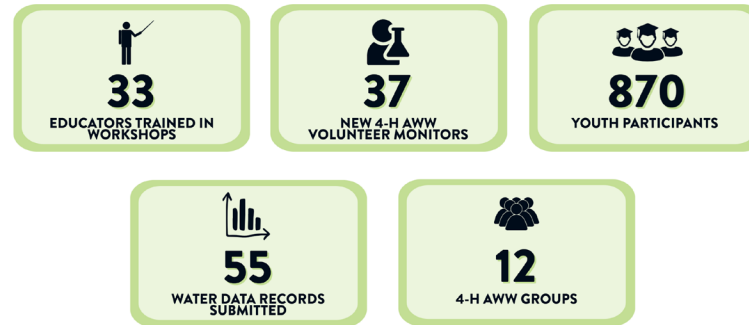
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4-H AWW IN 2021

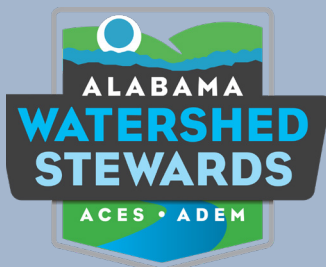


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ALABAMA WATERSHED STEWARDS

Alabama Watershed Stewards (AWS) is a statewide science-based educational program that promotes healthy watersheds, increases understanding of water pollution, and provides the knowledge and tools needed to prevent and resolve local water quality problems. The goal of the AWS program is to increase citizen awareness and knowledge about the function of watersheds, their potential impairments, and local watershed protection strategies. The program will also include practical information about local watersheds, provide opportunities to connect with local community groups, and present engaging tools for encouraging individuals to take leadership roles in improving their local water quality.

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ALABAMA PRIVATE WELL PROGRAM

The Alabama Private Well Program was established in 2020 and has since become a highly valued and referenced resource to both Alabama Cooperative Extension System (ACES) clients and staff across the state. This program increases access to private well educational materials to empower, engage, and equip well users with the resources needed to protect their water systems.

The core values of the program are to deliver meaningful information to homeowners with private wells, educate well owners on the importance of proper well stewardship, and serve as a resource for well owners and Extension personnel to obtain answers and information about small-water systems.

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SUSTAINABLE IRRIGATION EXPANSION

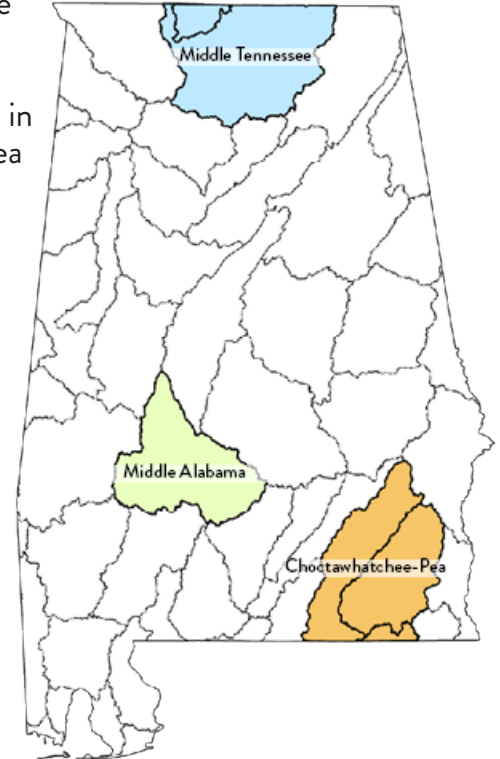
The ACES Water Program partners with the USDA Natural Resources Conservation Service (NRCS), Alabama Soil and Water Conservation Committee, and University of Alabama in Huntsville to prepare watershed plans that inform the sustainable expansion of irrigation in selected watersheds. Two Watershed Plan - Environmental Assessments have been authorized as of March 2022. Funds have been dispersed for irrigation expansion in the Middle Tennessee River Valley and the Choctawhatchee - Pea Watersheds.

2021 | BY THE NUMBERS


\$979,845
PAID TO PRODUCERS


865
NEW ACRES UNDER IRRIGATION


28
PRODUCERS WITH FUNDS APPROVED FOR IRRIGATION IMPLEMENTATION

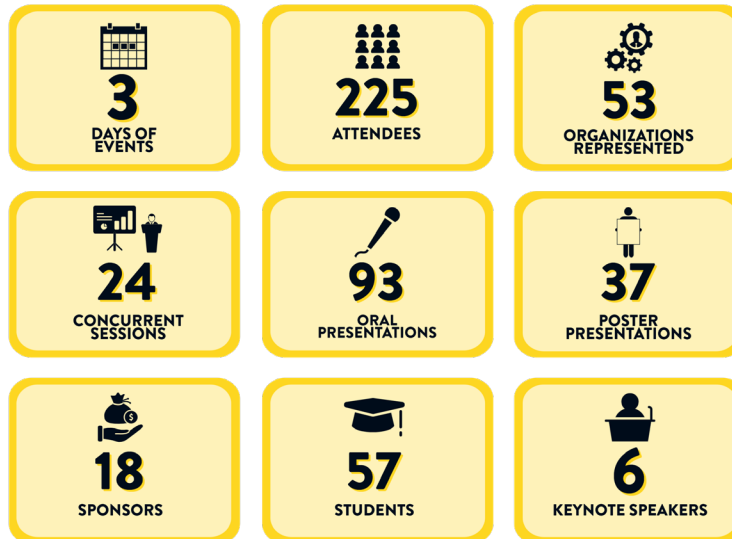


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ALABAMA WATER RESOURCES CONFERENCE

AUWRC staff facilitates the Annual Alabama Water Resources Conference (ALWRC). This conference is a forum for all participants of our water resources community, that provides opportunities for conversation about the many multidisciplinary aspects of water resources as well as a space to make connections that will improve how we understand the complex water issues that are of importance to this state, the region, and the nation. The ALWRC is traditionally held the week following Labor Day at the Perdido Beach Resort in Orange Beach, Alabama. The first day includes the American Water Resources Association (AWRA) Alabama Chapter Symposium with a 2021 theme of “Coastal Recovery, Restoration, and Resiliency”.

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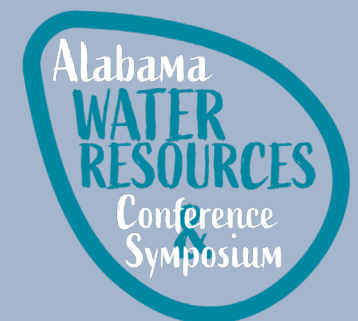
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APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER BASIN PROJECTS

The AUWRC, in partnership with the National Integrated Drought Information System (NIDIS), strives to better inform and prepare Alabama and the Southeast for the many challenges of periodic droughts. Since the inception of the Apalachicola-Chattahoochee-Flint (ACF) River Basin Drought Early Warning System (DEWS) in 2009, the AUWRC has been a key partner in the watershed in the dissemination of drought-related information. In 2020, the ACF DEWS became part of the expanded Southeast DEWS that includes the states of Alabama, Georgia, Florida, North Carolina, South Carolina, and Virginia.

MONTHLY ACF BASIN DROUGHT & WATER WEBINARS

One of the primary forms of information dissemination in the ACF Basin are the monthly ACF Basin Drought & Water Webinars hosted by the AUWRC for over a decade. Regular monthly speakers present information on current climate conditions and outlooks, real-time streamflow forecasts, real-time groundwater ACF Basin reservoir conditions, and Apalachicola Bay salinity levels. Following each webinar, the AUWRC sends a digital ACF Basin Drought Update newsletter to more than 750 subscribers.

WEBINAR PARTNERS

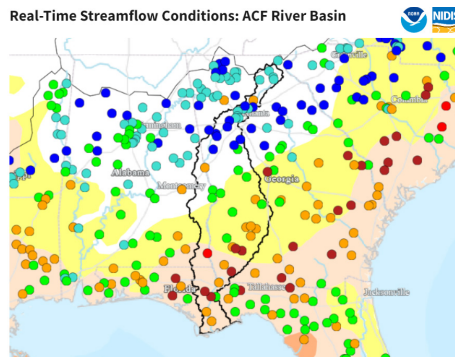


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ACF BASIN DROUGHT & WATER DASHBOARD

The AUWRC has been a partner in the development of the ACF River Basin Drought & Water Dashboard (officially released in January 2022) with NIDIS, NOAA's National Centers for Environmental Information (NCEI), and the Albany State University Water Planning and Policy Center. Its primary purpose is to further enhance planning and preparedness of drought at regional levels, including in the Southeast. The resources provided via the Dashboard will improve the public's ability to view real-time information with interactive, shareable, and easy-to-understand graphics on current and predicted drought conditions, and assist decision-making at the basin and local level. The Dashboard includes an ArcGIS StoryMap to enhance public education about drought and water-related issues and context for the ACF Basin.

ACF RIVER BASIN PROJECTS 2021 | BY THE NUMBERS



Users can create customizable maps (such as above) using the ACF Dashboard.



SCAN TO VIEW
THE ACF BASIN
DASHBOARD

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USGS ALABAMA WATER RESOURCES RESEARCH INSTITUTE (AWRRI)

The AWRRI (housed within the AUWRC) is one of 54 WRRRI's nationwide authorized by the Federal Water Resources Research Act, administered by the U.S. Geological Survey. The state-based WRRRI's are located at land grant universities and promote research and information dissemination on the state's and nation's water resources problems. The AWRRI administers an annual grants program to faculty statewide funding up to \$25,000. In 2021, the AWRRI was proud to offer grants to Auburn University graduate students as well, funding up to \$5,000 per student.



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AUBURN UNIVERSITY WATER NETWORK

The Auburn University Water Network is a group of faculty who are affiliated with the AUWRC. The AUWRC strives to facilitate successful collaboration among faculty, staff and students on multi-disciplinary water-related research. University faculty are engaged in a wide variety of projects to address local, regional, national, and global water issues.

MONTHLY AUWRC FUNDING OPPORTUNITIES

AU Water Network members received a monthly, digital Funding Opportunities newsletter curated by AUWRC staff for water resources and adjacent academic fields.

AU WATER ALERTS

AU Water Network members are also included on an email listing for special, periodic email announcements from the AUWRC regarding relevant on and off-campus seminars, webinars, RFP's, conferences, graduate student and professional development opportunities. Members of the AU Water Network can also request information to be shared to this list by contacting the AUWRC Communications Coordinator.

AUWRC NEWSLETTER

The AUWRC releases a quarterly, digital newsletter to the AU Water Network and external stakeholders and partners. In 2021, 4 newsletters were published that included 3 student success stories, 2 spotlight videos, faculty blog features, 2 student blog features, and 3 specialty blog features.

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AUWRC WATER WEBINARS

Outreach and research collide with the AUWRC Water Webinar Series which feature recent and ongoing research, outreach, and Extension topics from AU faculty and staff that are experts in water resource fields. The webinars are open to the public and have covered topics from pathogenic pollution in Alabama surface waters, microplastics on the Coast, bass ecology, precision agriculture, wetland ecology, restoration of carnivorous plants, and more. These webinars have fostered countless interdisciplinary connections within Auburn University and beyond. In 2021, AUWRC facilitated 7 webinars with approximately 220 participants.

2021 AUWRC WATER WEBINAR SPEAKERS



**DR. ANN
OJEDA**



**DR. GORDON
AMBROSINO**



**DR. KELLY
DUNNING**



**DR. WESLEY
ANDERSON**



**DR. SHANNON
BREWER**



**PATRICK
THOMPSON**



**DR. BRENDA
ORTIZ**

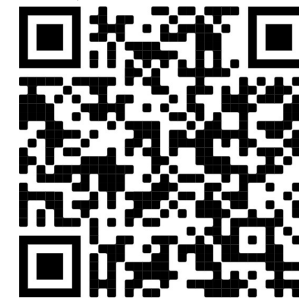
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AUWRC VIDEO SPOTLIGHTS

In 2021, the AUWRC established a Video Spotlight series to highlight water-related research conducted by faculty, staff, and students across Auburn's campus. Five videos were released in 2021 covering a wide range of research areas including sediment control, erosion product testing, collecting sediment cores in reservoirs, and crustacean and molluscan ecology and environmental stressors.



SCAN
TO VIEW
SPOTLIGHT
VIDEOS



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AUWRC FIELD EXPERIENCES

Since 2018, the AUWRC has offered field-based experiences for Auburn University classes. The AUWRC recognizes the importance of experiential learning and is seeking to supplement traditional classroom education through outdoor experiences related to student coursework.

Faculty from several different departments have taken advantage of the program, including Landform Hydrology and Landscape Architecture with the College of Design and Construction, Natural Resources Conservation Engineering with the Department of Biosystems Engineering, Introduction to Environmental Engineering with the Department of Civil and Environmental Engineering, Natural Resources Field Methods with the College of Forestry and Wildlife, and Live Green Stay Green with the First Year Experience Office.

The AUWRC began accepting applications for field experiences in Spring 2022.



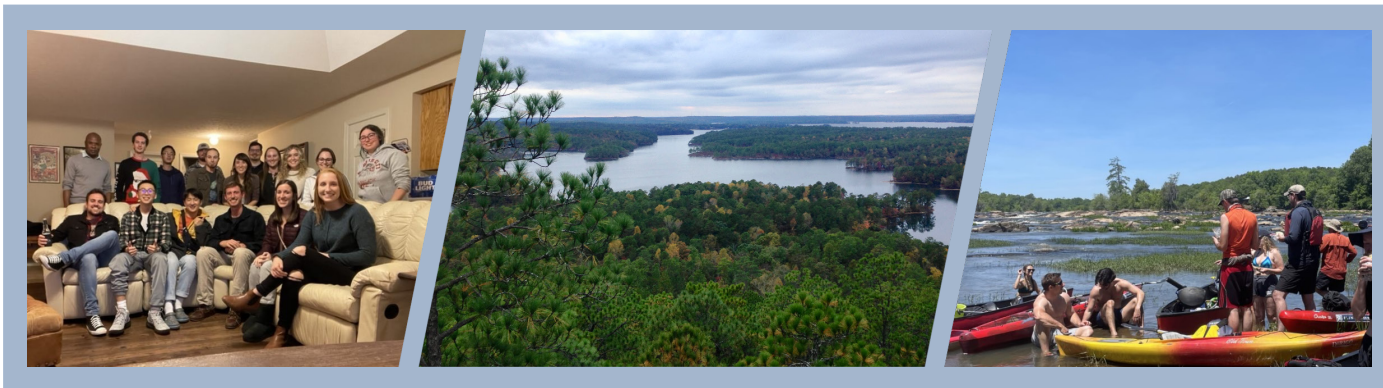
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GRADUATE WATER RESOURCES CLUB

The Graduate Water Resources Club (GWRC) was established in January 2021 with 20 founding members. One of the founding ideas behind the GWRC was the benefit all students could gain from an interdisciplinary club. Throughout 2021, GWRC grew to 44 members and was granted permanent status as an Auburn University organization.

The group members' demographics are quite diverse across academic disciplines (i.e. geography, geology, engineering, crop and soil sciences, fisheries, wildlife, forestry, etc.) with students from all over the US and international students from South America and Asia. The only exclusive aspect of GWRC is tailoring meetings to graduate students that are particularly interested in or researching water. In 2021, the GWRC facilitated monthly meetings, stream cleanup opportunities, webinars and guest speakers, as a springtime paddling trip on Georgia's Flint River.

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A MESSAGE FROM THE DIRECTOR

The Auburn University Water Resources Center (AUWRC) is committed to being present and offering assistance to move forward impactful water research, Extension, and education. Documenting the impacts of connecting people, facilitating collaboration, empowering change, and the resulting improvement of water resources can be convoluted. Numbers of people at seminars, workshops conducted, and extramural funding secured provides lists of actions, but not necessarily success. It is rewarding to hear from our Water Affiliated Faculty about AUWRC programs and resources that contribute to success in funding awards (thanks especially to Dr. Dunning), connections for future research opportunities (appreciation to Judy Haner and The Nature Conservancy), expansion of water testing facilities through an AU Mission Enhancement Fund (College of Sciences and Mathematics, College of Forestry and Wildlife Sciences, College of Agriculture, and the AU Soil, Forage and Water Testing Lab), and many other examples (thank you, Tiger Giving Day donors!).

The WRC will continue to connect faculty, students, and stakeholders, provide forums for collaboration, and share relevant, beneficial resources. Please share ideas for other avenues where the we can help promote water-related research, Extension, and instruction. Lastly, we are appreciative of the collaboration and investments in time and energy of representatives from Auburn University, sister academic institutions, local, state and federal agencies, private industry, non-governmental organizations, and dedicated citizens. Looking forward to another successful year.

Eve Brantley



Kelly Heber Dunning
@DrKellyHDunning

I'd like to thank [@brantef](#) and the folks at [@AuburnWater](#) for successfully directing me to yet another grant that my lab just received! If you're at Auburn and you're not on the Water Mailing List, you're literally leaving money on the table! Thanks [@brantef](#) !!!

4:00 PM · Mar 11, 2022 · Twitter Web App

1 Retweet 2 Quote Tweets 19 Likes

2022 PREVIEW

HERE'S SOME OF THE CORE AND AFFILIATED PROJECTS AND INITIATIVES IN STORE FOR AUWRC IN 2022:

- Phase III of the Alabama Watershed Stewards Program
- Phase III of the Alabama Private Well Program
- Completion of the NOAA BWET Program, “Exploring Pathogen Pollution in Our Waters”
- Completion of Phase II of the USDA Forest Service CitSci Project
- SEC Travel Fellowship with University of Florida’s Dr. Eban Bean
- Auburn University Mission Enhancement Fund (EPA-Certified Lab)
- Alabama Stream Connectivity Team (collaboration with the Geological Survey of Alabama and the U.S. Fish & Wildlife Service)
- USDA NRCS Working Lands for Wildlife Eastern Hellbender Alabama Project
- Alabama Drought Impacts & Reporting (collaboration with the Alabama Cooperative Extension System and the University of Alabama at Huntsville/State Climatologist Office)
- Red Algal Citizen Science Project (collaboration with the Kreuger-Hadfield Lab of the University of Alabama at Birmingham and Alabama Water Watch)
- 2022 AUWRC Water Webinar Series expansion to external presenters
- Reintroduction of the AUWRC Field Experiences Program

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FRONT COVER IMAGE | LOCUST FORK RIVER DOWNSTREAM FROM CORNELIUS FALLS BY MARI BRINDLE
BACK COVER IMAGE | WEST POINT LAKE AT R. SCHAEFER HEARD PARK BY LESTER K. ADAMS