

Forestry, Wildlife & Natural Resources Team Impacts 2021

► The mission of the Alabama Extension Forestry, Wildlife, and Natural Resources team is to provide relevant, science-based information to help Alabama's residents make informed natural resource-related management decisions.

Participants in the Forestry, Wildlife, and Natural Resources (FWNR) program learn how to improve forest health, create and improve wildlife habitat, increase the quality and value of timber, and protect water quality.

Alabama has 64 different and documented ecosystems, and 25 of those are forests and woodlands that cover more than two-thirds of the state. This makes Alabama the fifth most biologically diverse state in the country. If you think about it, you can travel by car from the mountains of north Alabama to the sandy white beaches of the Gulf Coast in just one day and never leave the state.

Wood products, hunting and other outdoor recreation, and improved water quality make significant contributions to Alabama's economy. In 2020, Alabama ranked second in the United States in pulp, paper, and paperboard production, and sixth in lumber production. Outdoor recreation activities such as camping, hiking, boating, and hunting generated more than 55,500 jobs and provided \$2.1 billion in wages and benefits to Alabama workers in 2020. Healthy, well-managed forests are essential to support these industries, and society's well-being.

Alabama Master Naturalist

Project Leader: Wesley Anderson

Background: Alabama Master Naturalist (AMN) is a statewide program whose goal is to help promote awareness, understanding, and respect for Alabama's natural world among residents and visitors to the state. The AMN program will develop a statewide corps of well-informed volunteers providing education, outreach, and service dedicated to the beneficial management of natural resources and natural areas within their communities.



In 2021, the primary administration of the Alabama Master Naturalist program was transferred to the Extension FWNR team. Wesley Anderson became the program coordinator with the goal of reaching a statewide audience and developing an asynchronous online course. For the first time, AMN became a member organization of the Alliance of Natural Resource Outreach and Service programs, a national network of natural resource education and service programs. As course content continues to be developed, free webinars previewing content from the online course were given in the fall with the goal of increasing public knowledge of and interest in enrolling in the AMN online course when it is released to the public in 2022.

Number of Participants: 338 (332 in-state, 6 out-of-state) more than 13 webinars

Audience Diversity: 23% Male, 77% Female, 28% Rural, 72% Urban, 90% White, 1% Black, 3% Indigenous, 4% Other Race, 2% More Than One Race, 1% Hispanic

Extension Collaborators: Becky Barlow, Nancy Loewenstein, Audrey Gamble, Katelyn Kesheimer, Mona Dominguez, Lynn Dickinson, Kerry Steedley, Bence Carter, Tyler Mason

Evaluation Technique: Course surveys

Direct Impacts:

- Participants indicated an increase in knowledge after attending the webinars.

I have been watching the webinar replays and catching them live as able!! They are very informative!

- Participants indicated a desire to enroll in the online asynchronous training course once available.

I am looking forward to this course. As an educator at the zoo, I am always looking for opportunities to expand my knowledge about our natural resources and ways to promote environmental stewardship.

Return on Investment

- First-year reporting data for this program is not yet available.

Diversity of Fishes in Alabama



Photo Credit: Steven Kabanoch, Bugwood.com

- Ranked #1 – Fish Biodiversity (332 Native Species)
 - Also ranked #1 for freshwater crayfish, snails, turtles and mussel species
- 132,000 miles of rivers and streams
- Reason for this biodiversity
 - Historical Climate
 - Topography
 - Geology
 - Numerous watersheds



Alabama Water Watch

The Watershed Management Project develops and demonstrates management practices to enhance the development and implementation of effective watershed education, monitoring, planning, and improvement (e.g., water quality, watershed education, domestic well water). Project efforts include training in water and watershed management using demonstrations and stakeholder meetings at the watershed level, incorporation of management practices into landowner education programs, and facilitation of volunteer water monitoring workshops. Project outcomes include improved knowledge of watershed best management practices, increased adoption of watershed best management practices, and improved conditions of water resources as documented by Alabama Water Watch volunteer water monitors.

Alabama Water Watch: Community-based, science-based volunteer water monitoring of Alabama's water resources.

Project Team: Eve Brantley, Mona Dominguez, Sergio Ruiz Córdova, Sydney Zinner, Rachel McGuire, Carolina Ruiz



Background: The focus of Alabama Water Watch (AWW) is promoting community-based, science-based, volunteer water monitoring to residents throughout the state. In 2021, AWW awarded 334 certifications in water chemistry and bacteriological monitoring. AWW reached an additional 353 individuals through webinars, a virtual annual meeting, and data interpretation sessions via Zoom. Although AWW's ability to engage new volunteers was limited because of COVID-19, monitors submitted a total of 3,651 water data records.

In 2021, AWW completed the development of three self-paced online courses: (1) Introduction to Alabama Water Watch, (2) Water Chemistry Monitoring, and (3) Bacteriological Monitoring. Each course is made up of modules that include videos and quizzes related to course content. Future AWW training will be offered in a hybrid model with online and in-person components.

The creation of the AWW online courses addresses challenges to in-person meetings that have been presented by the pandemic. Additionally, they also address long-term program challenges related to AWW's reach, as many potential volunteers have been excluded from AWW training workshops because of scheduling conflicts and time constraints. AWW hopes that these changes will make it possible for a wider audience to participate in the future.

Collaborators: In 2021, AWW continued to grow its network of collaborators that include NOAA, USDA USFS, EPA, ADEM, Wild Alabama, Cheaha State Park, various municipalities, stormwater management entities, and universities. AWW also works to increase its visibility with Extension staff throughout the state.

Number of Participants: 678

Evaluation Technique: Analysis of volunteer monitor data submitted to the AWW database.

Impact Estimates:

- Volunteers spent 16,855 hours (valued at \$481,042) participating in training, webinars, data interpretation sessions, and collection of 3,651 water data records.
- The 3,651 data records collected by AWW volunteer monitors will be included in the Alabama Department of Environmental Management's 305(b) Water Quality Report to Congress and used to determine if water bodies are meeting water quality standards. This amount of data would cost ADEM more than \$680,000 to collect.
- AWW continued collaboration with the USDA Forest Service to support a network of volunteer water monitors in National Forests in Alabama (NFAL). This project expanded to the Talladega National Forest. Project volunteers submitted 144 water data records collected from water bodies within NFAL priority watersheds identified through the USFS's Watershed Condition Framework.
- 39 articles were published on the AWWareness Blog and shared on AWW social media.
- The AWWareness e-newsletter was distributed monthly to approximately 3,700 subscribers.

Return on Investment: 56:1



Beekeeping

Project Leader: William Rowe

Background: Beekeeping focuses on bringing up-to-date management practices to Alabama's beekeepers, along with hive product processes to help maximize the production of honey and other edibles, wax, and bees themselves.

The main focus is our web-based educational show, At Home Beekeeping. This effort is led by Alabama Extension and supported by apiculture researchers from eleven universities in the southeastern United States and the USDA-ARS.



Number of Participants:

- Live viewing participation total: 3,066
- Recording views post-event: 2,429

Audience Diversity: 49% Male, 51% Female, 90% Non-Hispanic, 84% White, 2% Black, 2% Hispanic

Impact Assessment: Extension beekeeping efforts are expanding in Alabama with more programming and training for both professional and hobbyist beekeepers. Beekeeping as both a hobby and small business has expanded exponentially in Alabama.

The honey bee itself has never been more valuable with package bees (4 pounds of workers with a mated queen) now regularly costing more than \$200.00 to \$300.00. Nucleus colonies (small working colonies used to quickly start a full-sized hive) now cost between \$150.00 to \$200.00 for Alabama beekeepers. Alabama experiences about 23 percent loss of managed honey bee colonies per year. Complex health and habitat issues now make beekeeping more intensive and difficult.

Extension Collaborators: Geoffrey Williams, Allyson Shabel

Evaluation Technique: Zoom Poll

Direct Impacts:

- 89% of attendees report intending to implement practices taught.

- 68% of attendees report potential savings between \$50.00 and \$200.00. Average potential savings: \$72.00 per beekeeper.
- Self reported savings by attendees: \$57.00

Return on Investment: 15:1



Community Forestry Program

Project Leaders: Beau Brodbeck and Jack Rowe

Background: The focus of this project is to improve the health, safety, and resilience of Alabama’s urban and community forests. This is done in two ways: by increasing the professionalism and knowledge of commercial and municipal tree-care professionals and (2) by educating private homeowners to improve their knowledge and demand for best management practices in urban forest management.

Number of Participants: 11,981

Audience Diversity: 66% Male, 34% Female, 90% White, 1% Black, 6% Hispanic, 8% Other

Extension Collaborators: William Rowe, Nancy Loewenstein, Bence Carter, Lynn Dickinson, Jack LeCroy, Gavin Mauldin

Virtual Programs for Professional, Homeowner, Spanish-Speaking Groups

Background: The Community Forestry program offered three educational webinar series in 2021. The Raising Trees series focused on nontechnical audiences providing introductory educational content in the care and management of landscape trees. The Tree Fund series focused on new and emerging research in the fields of arboriculture and urban forestry for professional audiences. The Creciendo Arboles is an all-Spanish

series aimed at Hispanic audiences both in North America and beyond. Each webinar series provided a rich diversity of topics and speakers, including timely content (post-storm tree evaluation tips), emerging tree-care challenges (management of new invasive pests), and new applied research. In 2021, the three series combined offered 30 one-hour webinars to 11,492 people from more than 12 countries.

Extension Collaborator: Jack Rowe

Agency Collaborators: Tree Fund, International Society of Arboriculture Southern Chapter and University of Georgia

Number of Participants: 11,492; 65% Professional, 24% Homeowner, 11% Educators

Evaluation Technique: Event-survey and year-end survey



Both Tree Fund and Raising Trees have been the best series for continuing education quality, variety of topics, value, and, of course, convenience. Hope the series continues.

Making more educated decisions on tree species selection. Stronger ability to communicate municipal forestry issues with members of City Government and residents.

My wood decay ID improved as a result of the webinar, and it helped me consider the details of what fungal growth I see on trees as part of my assessment.

One of the webinars verified my fears about a failing oak in my backyard. I had it taken out before it failed.

Loved the Tie in Point webinar! Feel much safer at work as a climbing arborist with this knowledge!

Direct Impacts:

- 79% experienced a change in knowledge
- 73% implemented knowledge gained in their business, municipality, or landscape
- 75% indicated financial gains/savings as a result of knowledge gained (estimated at \$1.5 million).
- 32.5 continuing education hours offered to arborists to maintain professional license

Return on Investment: 45:1



Forest Business Resources: Increasing Health & Wealth of Private Forestland in Alabama

Project Leader: Adam Maggard

Background: The focus of this project is to enhance the livelihoods of Alabama residents through the betterment of forest management, business practices, and increased opportunities for producing income. Specifically, the information and tools focus on temporary or small-scale income-producing opportunities and owning and operating a value-added business to assist private forest owners in achieving their goals and objectives. Further, this project educates landowners on the benefits of healthy forests and how practicing forest management can not only enhance the health and resiliency of forests but also enhance opportunities to generate income from forests that can potentially be used to support the costs of forest management practices.

Collaborators: FWNR Regional Agents, County Extension Coordinators, County Forestry Planning Committees, Alabama Forest Owners Association,

Alabama Forestry Commission, Alabama Forestry Association, Alabama Treasure Forest Association, Forest Landowners Association, ALFA, Alabama Forests Forever Foundation



Number of Participants: 29 events, 1,993 participants

Audience Diversity: 29% Female, 71% Male, 85% White, 5% Black, 10% Other.

Evaluation Techniques: Event surveys, follow-up discussions and interviews 6 and 12 months post event

Direct Impact of Forest Business Resources (FBR)

Specialist Leads: Adam Maggard, Becky Barlow

REA Leads: Bence Carter, Norman Haley, Drew Metzler

- Approximately 408,650 forestland acres owned or managed by participants of FBR workshops
- Estimated \$2.5 million in improved forestland value, recovered loss, and financial decision making based on information learned

Return on Investment: 152:1



Forest Management: Backyard to the Back 40

Background: The Forestry, Wildlife, and Natural Resource team provides educational opportunities and land management tools for forest landowners that promote multiple-use management and revenue production from forestland. In 2021, our team developed or participated in the following topic areas:

- Community forestry including risk assessment, chainsaw safety, arborist education, and beekeeping
- Forest management including principles, practices, and stewardship for landowners; professional logging management; forest business resources; alternative income generation; and land management for women and minority landowners
- Invasive species identification and control
- Water quality and farm pond management
- Wildlife management including game and nongame management techniques and wild pig control



Extension Collaborators: FWNR Regional Agents, FWNR Specialists, Home Grounds Regional Agents, and County Extension Coordinators

Number of Participants: 4,362 for 166 events

Audience Diversity: 55% Male, 45% Female, 84% White, 9% Black

Evaluation Techniques: Follow-up surveys

Natural Resources Webinar Series

One of this project's primary outputs was the Natural Resources Webinar Series. Twenty-five webinar sessions were hosted in 2021 with 76% of surveyed participants implementing a practice discussed in the webinar series: snake identification, timber inventory,

timber stand improvement, invasive removal, and feral swine control. They also reported that they were better able to communicate with their forester because of the webinars.

Regional Extension Agent Leaders: Norm Haley, Bence Carter

Supporting Team Members: Regional Extension Agents, Specialists

Total Contacts: 2,235

Acreage Owned or Managed by Attendees: 3,013,709

Estimated Value: \$185 per contact

CEUs Awarded: 193 hours

Return on Investment: 14:1



Forestry, Wildlife, and Natural Resources REA One-on-One Contacts

- A short e-survey (using a QR code or Qualtrics link) was developed by FWNR regional agent Bence Carter to track one-on-one contacts in the field. The total contacts that filled out the survey in 2021 was 54, which is a small percentage of the contacts assisted by FWNR specialists and REAs but represents those landowners who responded to the online survey.

Regional Extension Agent Lead: Bence Carter

Supporting Regional Extension Agents: Norm Haley, Lynn Dickinson, Drew Metzler, Ryan Mitchell

Total Contacts: 54

Acreage Owned or Managed: 1,681

Reported Total Value: \$9,950

Return on Investment: 8:1

Invasive Plant Identification and Control

Project Leader: Nancy Loewenstein

Background: Invasive species such as kudzu, Chinese tallow tree, and cogongrass make up nearly 20% of all plants in many forests and natural areas across the state. Invasive species reduce forest health and productivity affecting profits, wildlife habitat, recreational opportunities, and aesthetics. Through educational events and outreach, our goal is to improve invasive species prevention and control for natural resource managers, forest landowners, natural resource educators, Master Gardeners, and the general public.



Extension Collaborators: FWNR Team; Home Grounds, Gardens & Home Pests; Agronomic Crops

Agency Collaborators: Alabama Invasive Plant Council, Alabama Forestry Association, Alabama Forestry Commission, Alabama Department of Agriculture and Industries, Southern Regional Extension Forestry

Number of Participants: 1,605 (including 253 from out of state) for 32 events

Audience Diversity: 25% Female, 75% Male, 91% White, 6% Black, 3% Other

Social Media: 60 Posts; 121,620 Reached; 13,670 Engagements

Overall Impact Estimate: Impacts range from homeowners and landscapers not planting invasive species to improved invasive plant control through increased ability to identify invasive plants, use of more effective methods of control, more effective and safer use of herbicides, and encouragement to take action. Forest health and productivity are ultimately improved through earlier detection of invasive species, enhanced and more rapid control efforts, more acres treated, and fewer plants escaping cultivation. Impacts are amplified through collaborating with federal and state agency

personnel and other stakeholders who share timely information with their clients.

Impact Estimates, Land Managers:

- Acres Impacted: 2.5 million owned or under the management of program participants. While not all acres were impacted by invasive plants, these acres will receive more effective monitoring, which allows early detection and rapid response when new invasions are detected, ultimately slowing spread.
- Acres Treated: 200,000 acres of invaded managed forestland controlled with more effective methods; conservative estimate of \$2 per acre savings over time.
- Impacts of prevention are difficult to quantify.

Return on Investment: 25:1



Learn to Burn Workshops and Other Prescribed Fire Training

Project Leader: Ryan Mitchell

Background: Prescribed fire is a complex tool that landowners and managers use to improve habitat, reduce hazard fuel loads, and restore forestland. A major barrier in conducting prescribed fires is often the lack of hands-on training and experience. The focus of this project was to provide prescribed fire training to landowners and professionals using a hands-on approach through Learn to Burn workshops, webinars, and a Prescribed Burn Manager Certification course. During Learn to Burn workshops, landowners are paired with mentors and have an opportunity to receive hands-on training on the planning, preparation, executing, and assessing of a prescribed burn.

Extension Collaborators: Bence Carter, Drew Metzler

Collaborators: Gulf Coast Resource, Conservation, and Development Council; Alabama Forestry

Commission; Alabama Forestry Foundation; Alabama Forestry Association

Learn to Burn Workshops: 114 attendees (4 workshops)

Prescribed Burn Manager Certification Workshop: 43 attendees

Webinars: 134 attendees (2 webinars)

Audience Diversity for Workshops: 85% Male, 15% Female, 90% White, 3% Black, 7% Other

Audience Diversity for Webinars: 61% Male, 39% Female, 38% White, 11% Black, 1% Asian/Pacific Islander, 32% Other

Evaluation Techniques: Surveys following training events

Learn to Burn attendees reported:

- A 70% increase in prescribed fire knowledge.
- A 37% increase in willingness to conduct a prescribed fire in the future.
- 97% will implement practices learned during the event in future management.
- An 88% increase in the number of attendees stating they will manage a prescribed burn on their own land.



My property has been unmanaged for over a decade. I want professionals with us the first time we burn but would be willing to burn independently with a little more experience. The program today was very informative and highly enjoyable. It has taken burning my property from a concept to a strategy that I will definitely employ.

The Learn to Burn was an excellent learning experience and the certified burn managers were all very knowledgeable and helpful. I would recommend to anyone new to prescribed burning.

Direct Impacts:

- Instruction provided to more than 250 attendees.
- 258,600 acres owned or managed by Learn to Burn Workshop attendees
- 38 people certified as a prescribed burn manager.

Return on Investment: 52:1



Professional Logging Manager (PLM) & Continuing Forestry Education (CFE)

Project Leader: Richard Cristan

Background: Alabama has 23 million acres of timberland and ranks third in largest commercial forest land in the United States. Logging is important in the state economically and brings the need to train loggers in both sustainable forestry practices and logging safety. The Alabama Professional Logging Manager (PLM) initial training and subsequent required yearly continuing forestry education (CFE) give loggers the needed training. PLM training and CFE provide relevant content on the Sustainable Forestry Initiative (SFI) program; forest management; resource conservation and biodiversity; timber harvest practices for wildlife, threatened and endangered species; forestry best management practices for water quality protection; OSHA regulations; logging safety and hazards; and trucking regulations.

Loggers need to complete 5 CFE hours to maintain their PLM status annually and registered foresters in Alabama need to complete 10 CFE hours annually to maintain their registration. FWNR Extension specialists and regional Extension agents (REAs) conduct in-person CFE workshops for loggers and foresters throughout the state along with live and on-demand webinars. Specialists and REAs are also invited to speak at CFE workshops hosted by other organizations, associations, and natural resource council planning committees.



PLM and CFE Collaborators: FWNR Extension Specialists, REAs and CECs, Alabama Forestry Association, Alabama Forestry Commission, Alabama Loggers Council, Forest Workforce Training Institute

Overall PLM Program Contacts: 1,485 (48 events)

PLM Initial Training Participants: 90 (4 initial training sessions)

PLM Initial Training Demographics: 42 Alabama counties represented, 36 average age (19 to 70), 77% White, 13% Black, 6% Other, 4% Not Reported

CFE Workshop Participants and CFE Hours: 487 participants; 2,435 CFE hours (17 workshops)

On-Demand Webinars: 12 webinars (14 CFE hours available)

On-Demand Webinar Participants: 81 PLM (97 CFE hours), 41 Other CFEs (47 CFE hours)

New Products: Peer-reviewed Extension publications available at www.aces.edu

Evaluation Techniques: Surveys following PLM initial training and CFE workshops



Direct Impacts:

- Increase in knowledge of sustainable forestry practices by an average of 58%.
- PLM initial training materials reported to be clear and easy to understand, well organized, and valuable by increasing knowledge.
- Based on an annual harvest volume of 40,177,166 tons and 2,091 PLM loggers, it is estimated that the 2021 PLM and CFE participants had a direct impact on 28% of the tons of wood harvested in Alabama.

Return on Investment: 81:1



Watershed Management

The Watershed Management Project develops and demonstrates management practices to enhance the development and implementation of effective watershed education, monitoring, planning, and improvement (water quality, watershed education, domestic well water). Project efforts include training in water and watershed management using demonstrations and stakeholder meetings at the watershed level, incorporation of management practices into landowner education programs, and facilitation of volunteer water monitoring workshops. Project outcomes include improved knowledge of watershed best management practices, increased adoption of watershed best management practices, and improved conditions of water resources as documented by Alabama Water Watch volunteer water monitors.

Alabama Watershed Stewards: Taking a Watershed Approach

Project Team: Laura Bell, Eve Brantley, Mona Dominguez, Sergio Ruiz-Córdova

Background: The Alabama Watershed Stewards (AWS) is a science-based educational program that promotes *Forestry, Wildlife & Natural Resources Impacts 2021* 9

healthy watersheds, increases understanding of water pollution, and provides the knowledge and tools needed to prevent and resolve local water quality problems. Initiated in 2018 by the Alabama Extension Water Program in conjunction with Alabama Water Watch, the AWS program is fully funded by the Alabama Department of Environmental Management through a Clean Water Act Section 319(h) nonpoint source grant provided by the US Environmental Protection Agency Region 4.

The goals of the AWS program are to increase awareness, protection, and restoration of land, water, and natural resources by providing education and tools for individuals. The program increases awareness and knowledge about water issues, inspires participation in conservation programs, and promotes hands-on activities to improve and protect water and natural resources.

For this year's project, AWS developed educational materials about watershed management, hosted watershed stewardship training events including two in-person Watershed Stewardship training as well as five virtual training sessions, four professional development sessions around low impact development installation practices, and one rain garden installation workshop. Workshops promoted in-depth engagement in watershed protection through nonpoint source pollution reduction.



I learned how important it is for me, as an individual, to take action daily on keeping our water clean. I learned that I can make a difference in my household alone. I have a better understanding on how the quality of our water can be affected so now I know where I can begin helping.

Truly I gained an overall much better understanding of so many different facets to watersheds, best management practices, and regulatory tools and feel better prepared.

[I learned] the connection of the knowledge of watershed management to my local community. It was nice to learn about watersheds through the scope of something close to me as my understanding and appreciation for the subject differed greatly.



Agency Collaborators: Alabama Department of Environmental Management, EPA Region 4

Evaluation Technique: Knowledge assessment provided in workshops and feedback surveys

Number of Participants: Approximately 270 people were reached by AWS programs in 2021.

Impact Estimates:

- Majority of participants in Alabama Watershed Stewards training events said they were likely to adopt water quality best management practices relevant to their work and personal lives.
- 100% experienced a change in knowledge after AWS training events (18% average knowledge increase after training).
- 4 Low Impact Development Professional Trainings conducted (Bioretention Design, Permeable Pavement Installation, Stormwater Wetland Installations, Rain Garden Design) (191 people reached).
- 5 Virtual Alabama Watershed Stewards Course Sessions (79 people completed the online course).
- 1 hands-on rain garden installation to capture polluted runoff.

- 3 peer-reviewed Extension publications.
- 3 educational resources
- Survey of workshop participants to better gauge and meet stewardship needs
- Growth of statewide following to increase stewardship in Alabama.
- Estimated value of service for online course, professional development trainings, and rain garden installation compared to input values.

Return on Investment: 7:1

CEUs:

- Events with CEUs: 6
- Cumulative hours: 41.5
- Cumulative participants: 118
- Total hours of CEUs provided: 745.5



Alabama Private Well Program: Laying the Foundation for a Successful Well Owner Network

Project Leaders: Jessica Curl, Eve Brantley

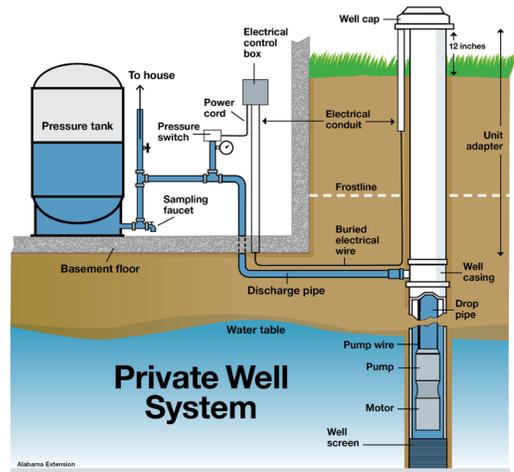
Background: The Alabama Private Well Program was established in 2020 and has since become a highly valued and referenced resource to both Extension clients and staff across the state. This program increases access to private well educational materials to empower, engage, and equip well users with the 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.

After launching a collection of newly developed resources to Extension offices in early 2021, the program saw an opportunity to enhance educational efforts by supplementing printed materials with interactive training. This led to the creation of a biweekly comprehensive well water webinar series available to Extension administrative staff, CECs, REAs, and specialists.

Agency Collaborators: Alabama Department of Public Health, Geological Survey of Alabama

Evaluation Technique: Direct consultation and evaluation survey



I have really retained a lot of knowledge from the well water [lunch and learn] sessions. Great job to you and your team!

Just wanted to thank you for the good job with this series. Good basic information, keep up the good work!

Going to the ACES website, I was particularly impressed with the posted Alabama Private Well Program resources. They are very well done and provide a new dimension to the AU Water Resources Center's reach across the state.

Great program and received reliable education.

Impact Estimates:

- Hosted 7 virtual Lunch and Learn webinars featuring 4 guest speakers, with participant representation from industries, agencies, and universities; 80 participants engaged in the webinar series.
- Connected with the Alabama Department of Public Health to provide "Well Water Resource Packets" to each ADPH County office and Extension office.

- Published 20 content pieces on the Extension website.
- Program featured in 2 blog posts.
- Assisted in 10-plus engagements.
- Published 2 technical digital publications.
- Established a recognizable brand.
- Connected with Extension Well Water Programs at 8 different universities.
- Produced one educational video with Extension Communications & Marketing.
- Worked with Communications and Marketing to develop an online Continuing Education course and a well owner's handbook to be released in winter 2022.



Wild Pig Damage Management

Project Leaders: Mark Smith and Bence Carter

Background: Wild pigs are found in nearly all 67 Alabama counties causing more than \$55 million a year in agricultural and forestry damage. This project provides hands-on technical training to landowners and natural resource professionals who work with landowners (i.e., training the trainers) on practical, cost- and time-effective approaches for reducing or eliminating local populations of wild pigs resulting in reductions in agricultural and natural resource damage. This project used multiple approaches to reach a diversity of audiences in Alabama including in-person seminars and demonstrations, print and electronic publications, and short how-to videos available on the Internet.

In 2021, this project continued to provide outreach and monitoring of technical support to the Alabama Feral Swine Control and Eradication Pilot Project administered by the Alabama Soil and Water Conservation

Committee. This multi-agency, multiyear effort aims to reduce damage caused by wild pigs in select counties in Alabama. Additional programming, such as webinars, field day events, and trap demonstrations, was conducted throughout the year.

Collaborators: Alabama Soil and Water Conservation Committee, Soil and Water Conservation Districts, USDA Wildlife Services, USDA Natural Resources Conservation Service, University of West Alabama, Alabama Wildlife and Freshwater Fisheries Division, Alabama Farmers Federation, National Wild Turkey Federation

Number of Participants: 797

Audience Diversity: 91% White, 9% Black, 76% Male, 24% Female

Evaluation Techniques: Event surveys, in-person technical assistance

Adoption Rate: 99%

Conservative Direct Impact Estimate: \$1.9 million in damage reduction on more than 379,372 acres of farm and forestland in Alabama and neighboring states.

Return on Investment: 127:1

Key Project Resources: Wild Pig Education Unit Trailer, "Landowner's Guide to Wild Pig Management," Extension Fresh from the Field Wild Pig How-To YouTube video series



Wildlife Management: Enhancement and Damage

Project Leader: Mark Smith

Background: Alabamians spend more than \$2.2 billion per year for wildlife-related recreation with most of these expenditures made by 1.1 million wildlife watchers (\$734 million) and 535,000 hunters (\$913 million/year).

These individuals spend more than 14.3 million days per year engaged in these two outdoor activities. As such, the Wildlife Management: Enhancement and Damage project is designed to assist clients in managing Alabama's natural resources. Management may involve programs and one-on-one contacts to improve wildlife habitat or to minimize or eliminate damage caused by wildlife. Enhancement programs cover topics ranging from backyard birds to food plot planting for deer to management of habitats for wild turkeys to pond management.



Wildlife damage and legal ways to address those problems create a significant amount of work for regional Extension agents and specialists. These activities may be in the form of one-on-one contacts (e.g., phone calls, emails, office visits) or structured educational programs. Backyard wildlife damage programs focus on vertebrate species that may cause damage to structures, yards, and ornamentals, or pose health threats. Program topics include squirrels, chipmunks, moles, voles, commensal rodents, bats, snakes, and white-tailed deer.

The goal of these activities is to educate clients on how to identify damage and take actions necessary to eliminate this damage, either by contacting a professional or using the information provided to address the problems themselves.

Extension Collaborators: Bence Carter, Lynn Dickinson, Norm Haley, J. Ryan Mitchell

Audience Diversity: 54% Male, 46% Female, 74% White, 26% Black

Number of Participants: 581

Conservative Direct Impact Estimate: \$156,585 in prevented wildlife damage to property (assumes an average of \$715 per contact event) and \$444,260 in wildlife enhancement in both urban and rural communities (\$1,230 per enhancement expenditure per contact based on 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation)

Return on Investment: 128:1



For more information, contact your county Extension office. Visit www.aces.edu/directory.

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New February 2022, FOR-2118

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