Forests cover over two thirds of the state. Significant contributions to Alabama’s economy are provided from these forest resources through wood products, hunting and other outdoor recreation, and improved water quality.

- In 2017, the forest industry generated $16.3 billion in product shipments and 41,600 direct jobs.
- Wood products and paper products manufacturing are forecast to be among the fastest growing segments of the economy in 2019.
- Outdoor recreation generates $14 billion in consumer spending, $3.9 billion in wages, and 135,000 jobs.
- Each year, 55% of Alabama residents participate in outdoor recreation.

Healthy, well-managed forests are essential to support these industries. Our team of experts works across the state to provide timely, science-based information on all aspects of natural resource management to land managers and citizens of Alabama.

Wildlife Management: Enhancement and Damage

Project Leaders: Jim Armstrong and Mark Smith

Background: 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 and planting food plots for deer to managing habitats for wild turkeys and pond management.

In 2018, thirteen Management Minute segments were recorded regarding habitat enhancement, predator control, forest manipulation, food plot implementation, and herbicide usage. These were featured on the Buckmasters television show, which airs on Outdoor Channel. Outdoor Channel is available through most major cable and satellite television providers. According to their website, they have an estimated 40 million subscribers throughout the United States.

The second Wildlife Camp was attended by 28 high school students. These students entered the camp with a variety of wildlife knowledge, prior experiences, and different backgrounds. A few of the states represented...
Wild Pig Damage Management

Project Leaders: Mark Smith and Bence Carter

Background: Wild pigs are found in nearly all 67 counties of Alabama and cause >$55 million/year in agricultural and forestry damage. This project provided hands-on technical training to landowners and natural resource professionals who work with landowners (i.e., training the trainers) in practical, cost- and time-effective approaches to reduce or eliminate local populations of wild pigs in order to reduce agricultural and natural resource damage. This project reached a diversity of audiences in Alabama using multiple approaches, including in-person seminars and demonstrations, print and electronic publications, and short “how to” videos available on the internet.

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

Number of Participants: 675

Audience Diversity: 97% White, 3% African American

Conservative Direct Impact Estimate: $1.6 million in damage reduction on over 321,000 acres of farm and forest land in Alabama and neighboring states

Return on Investment: 176:1

Wildlife damage and legal ways to address those problems comprise 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, and/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 in 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.

Number of Participants: 2,000

Audience Diversity: 53% Male, 47% Female; 69% White, 31% African American, .01 Asian

Conservative Direct Impact Estimate: $715/contact (using a conservative estimate of $200/call based on cost for professional assistance) and $1,230/ enhancement expenditure (based on 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation)

Return on Investment: 990:1

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Return on Investment: 990:1
Forest Business Resources (FBR): Increasing the Health and 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.


Number of Participants: 593 in 19 events

Audience Diversity: 28% Female, 71% Male; 93% White, 7% African American, <1% Other

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

Direct Impact of Forest Business Resources (FBR) POW

- Specialist Leads: Adam Maggard and Becky Barlow
- REA Leads: Bence Carter, Spenser Bradley, and Jordan Graves
- Approximately 41,000 forestland acres owned and/or managed by participants of FBR workshops
- Estimated $1.9 million in improved forestland value, recovered loss, and financial decision making based on information learned

Return on Investment: 165:1

Direct Impact of Hurricane Michael Response Workshop

- Specialist Lead: Adam Maggard
- REA Leads: Bence Carter and Spenser Bradley
- Approximately 5,600 timberland acres owned and/or managed by participants of this workshop
- Estimated $316,325.25 in landowner recovered loss from information learned

Return on Investment: 243:1
Community Forestry

Project Leaders: Beau Brodbeck and Jack Rowe

Background: The focus of this project was on improving the health, safety, and resilience of Alabama’s community forests through increasing the professionalism and safety of commercial and municipal workers as well as increasing the knowledge of community forestry managers to implement and demand proper tree care.

Number of Participants: 1,812

Audience Diversity: 68% Male, 32% Female; 77% White, 21% Black, 2% Hispanic

Impact Assessment of Community Forestry’s Chainsaw Safety Program

Background: The field of arboriculture is regarded as one of the most dangerous industries. Most injuries are related to chainsaws, which result in 36,000 injuries and over $350 million in medical costs annually.

Thirteen percent of workshop attendees reported having previously suffered a chainsaw injury, and over 80 percent previously did not use proper chainsaw personal protective equipment (PPE). It is largely understood that the combination of wearing PPE and training can result in over a 60 percent decrease in chainsaw injuries. The goal of our program was to provide professional hands-on training to improve the safety of Alabama municipal and professional tree-care workers.

Number of Participants: 181

Evaluation Technique: Event survey, follow-up interview

Direct Impacts:

- 21% of workshop attendees did not previously own PPE, but now intended to purchase.
- 99% of workshop attendees indicated they would wear PPE prior to using chainsaws.
- 70% of attendees agreed training contributed to a stronger workplace safety culture.
- Feedback included: “My guys, the first thing they now grab is safety stuff before grabbing their saws. It’s a 100% improvement from before.”
- $400,000 was saved in avoided medical costs and lost productivity.

Return on Investment: 42:1

Impact Assessment for Community Forestry’s ALA-TOM Program

Background: Rural towns and cities often face tree management problems they are not equipped to deal with. The cost of hiring consulting arborists or qualified full-time personnel is prohibitive for most of these small rural communities. This program provides the resources of Extension and the ALA-TOM RC&D in the person of a qualified arborist/urban forester to consult on a part-time basis, spreading the benefits and costs as needed.

Currently, there are sixteen participating member towns and cities in the nine-county ALA-TOM district. Each pays $30,915.00 per year for the services of Jack Rowe. Each town and city represents hundreds to tens of thousands of Alabama citizens affected by the program.

Number of Workshop Participants: 632

Direct Impacts: $512,750.00 in avoided consultation and contract fees for program services

Return on Investment: 17:1
Family Forests: Increasing Enjoyment From the Back Yard to the Back 40

Project Leader: Becky Barlow

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

Number of Participants: 4,072 in 97 events

Audience Diversity: 43% Female; 85% White, 10% African American, 5% Other

Evaluation Techniques: Event surveys, follow-up discussions 6 and 12 months postevent on farm case studies

Direct Impact of ForestHer Workshops that are part of the Family Forests POW

- Specialist Leads: Becky Barlow and Adam Maggard
- REA Leads: Spenser Bradly, Bence Carter, and Jordan Graves
- Over 13,000 forestland acres owned or managed by participants in the ForestHer workshops
- 75% increase in knowledge reported by program participants. “FANTASTIC! I learned so much. Would love to attend any other related workshops.”
- Estimated $9.5 million in improved forestland value based on information learned

Return on Investment: 633:1

Invasive Plant Identification and Control

Project Leader: Nancy Loewenstein

Background: Invasive plant, insect, and disease pests reduce forest health and productivity across the state. This project provides in-service training, educational events, and publications for a wide range of stakeholders, including forest landowners, foresters and natural resource land managers; federal and state agency personnel; natural resources educators; Master Gardeners; Master Naturalists; and the general public.

Members of the team organized one statewide conference and ten workshops, field tours, or in-service trainings. They also participated in three regional workshops, five natural resource educator workshops, five Master Gardener and Master Naturalist meetings, and ten other meetings. In addition, team members participated in two youth activities where native and/or invasive plants were featured.

Extension Collaborators: Beau Brodbeck, Bence Carter, Norm Haley, Jack Rowe, Chuck Simon, Tony Glover, and Doyle Keasal


Number of Participants: 1,122 adults in 34 events and 484 youth

Adult Audience Diversity: 66% Male, 34% Female; 93.6% White, 5.8% African American, and <1% other

Evaluation Techniques: real time and postevent evaluations

Adoption Rate Among Land Managers: 85%

Forestry, Wildlife & Natural Resources Impacts 2018
SmartMap: Low-Cost Technology for Forest Management

Project Leaders: Beau Brodbeck, Christian Brodbeck, and Becky Barlow

Background: In 2018 Alabama Extension in partnership with Auburn University’s Biosystems Engineering developed the SmartMap educational program. SmartMap explores a suite of low-cost geospatial and unmanned aerial system (UAS) technologies that are affordable, easily adoptable, and applicable to natural resource management. The program successfully married smart devices (iPhone and iPads), GPS units, geospatial application (apps), and UAS to produce a low-cost and easy-to-use alternative for landowners and foresters to map forestland. To attract new audiences, SmartMap produced a promotional video that resulted in 33 percent of the audience attending their first Extension program.

Number of Participants: 115

Audience Diversity: 94% Male, 6% Female; 89% White, 9% Black, 2% Hispanic

Evaluation Technique: Event survey, follow-up electronic survey

Direct Impacts:

■ 18% of attendees purchased a GIS app and 21% purchased a UAS. (Note: 45% and 18% already owned a similar system and needed training.) “Based on this class we have bought and begun using a drone in our consulting business.”—Consulting Forester

■ 31% believe this technology will improve profitability of their timberlands. (Note: 50% have yet to implement the technology.)

■ 77% found this technology improved communication between landowners and resource professionals.

■ 64% believe this technology will help them develop/improve their forest management plans.

■ $180 thousand in estimated cost saving measures were gained from SmartMap technology implementation.

■ “This is easily the best continuing education class I’ve ever taken, and that includes a LOT of classes over almost 35 years.”—Consulting Forester

Return on Investment: 22.4:1

Conservative Estimate of Acres Impacted: 3.5 million (~15 percent of forest land in Alabama) owned or under management of program participants

Overall Impact Estimate: Impacts include gardeners deciding not to use invasive species in their landscaping; improved invasive plant control through increased ability to identify invasive plants and other forest pests; use of more effective methods of control; more effective and safer use of herbicides; and being encouraged to take action.

It is difficult to quantify these impacts, but forest health and productivity ultimately is improved through enhanced control efforts, more acres treated, and fewer plants escaping to start with. Impacts are amplified through training of federal and state agency personnel who share timely information with their clients. Natural resource professionals also value the affordable continuing education credits provided through many of our programs.

Impact Estimate Land Managers:

■ 63,000 acres of invasive plants controlled with more effective methods
■ $441,000 in estimated returns

Return on Investment: 34:1

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Return on Investment: 34:1
**Watershed Management**

**Project Leaders:** Eve Brantley and Mona Dominguez

The Watershed Management project is designed to develop and demonstrate management practices to enhance the development and implementation of effective watershed education, monitoring, planning, and improvement. 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 (AWW) volunteer water monitors.

**Extension Collaborators (from AWW):**
Sergio Ruiz-Córdova, Sydney Smith, and Rachel McGuire

**Alabama Water Watch**

**Project Leader:** Mona Dominguez

**Background:** The focus of Alabama Water Watch (AWW) is to promote science-based watershed stewardship in the state through community-based water monitor training and promotion of data-to-action strategies in local water resources management.

Each year, the Alabama Department of Environmental Management (ADEM) requests all AWW data from the past five years. The data is used to assist them in determining if a waterbody is meeting the specific water quality standards set for its use classification and also to help them focus yearly water quality monitoring priorities.

In 2018, AWW conducted 135 training sessions that resulted in 725 volunteer monitor certifications. AWW staff and volunteers facilitated 29 additional educational programs reaching over 1,500 individuals.

**Number of Participants:** 2,359

**Audience Diversity:**
- 49% Male, 51% Female
- 80% White, 11% Black, 4% Hispanic, 2% Native American, 4% Asian/Pacific Islander

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

**Impact Estimates:**
- 19,224 hours of volunteer citizen time were donated at a value of $421,390. (Volunteers numbered 812 trainees and 18 AWW-certified trainers who conducted or assisted in 54% of trainings.)
- 3,368 water data records from 211 waterbodies were submitted by volunteers. (The 2018 requested data records totaled 25,800, worth approximately $1,696,608). AWW provided the state with significant savings in personnel.

**Return on Investment:** 9.4:1

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