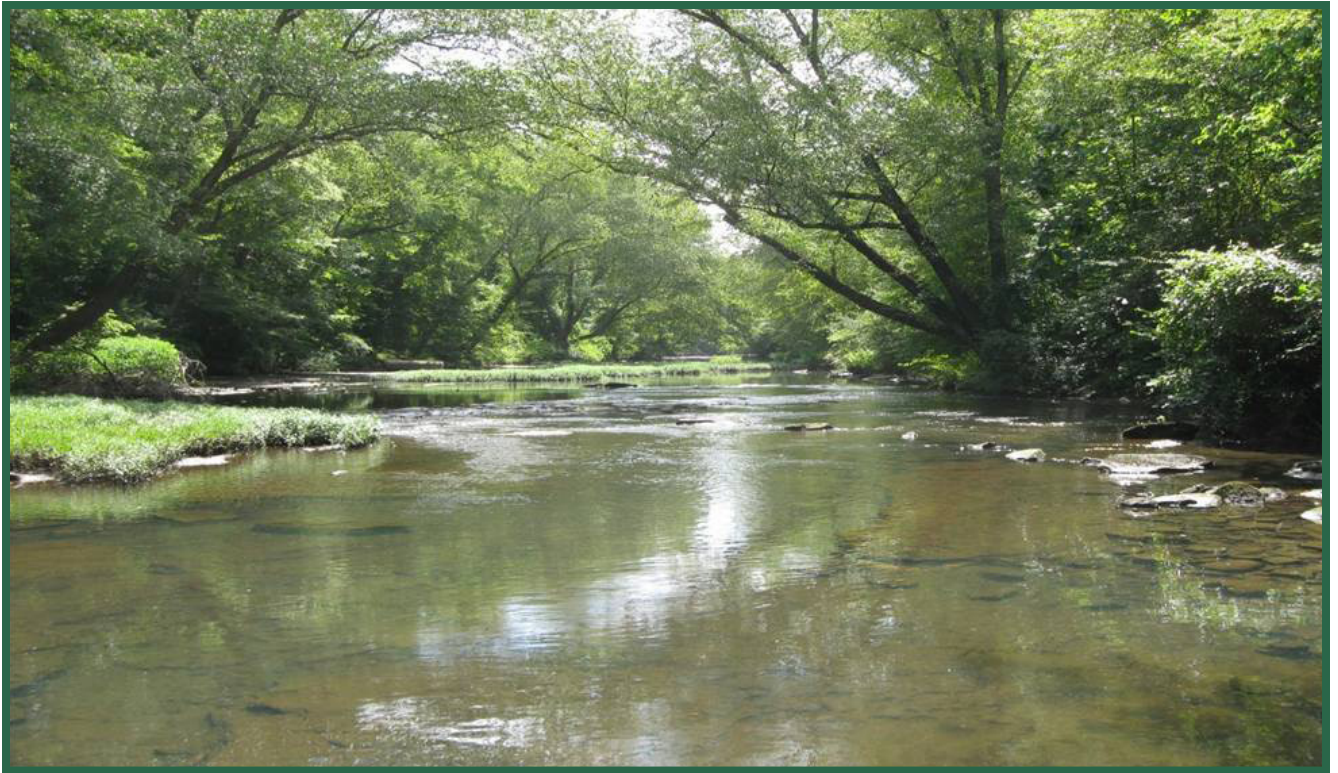


Alabama Nonpoint Source Program Annual Report 2014



ADEM

Copies of this report are available on the ADEM Website at: adem.alabama.gov

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Alabama Dept. of Environmental Management
Office of External Affairs
Nonpoint Source Unit
PO Box 301463
Montgomery, AL 36130-1463
Phone: 334-260-4501
FAX: 334-279-3051

Nonpoint Source Program Staff:

Scott Hughes, Chief - Office of External Affairs

Susan Dingman, Chief - NPS Unit

Patti Hurley, Alabama-Tombigbee, Coastal, Black Warrior Basins

Mike Jones, Coosa Basin

Missy Middlebrooks, Tallapoosa, Chattahoochee-Chipola Basins

Christy Bise, Choctawhatchee-Pea-Yellow, Conecuh-Sepulga Basins

Mark Sport, Tennessee Basin

Carmen Yelle, Tennessee, Cahaba Basins

Randy Shaneyfelt, Coastal Nonpoint Source Pollution Control - Mobile Field Office

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Alabama’s Nonpoint Source Program is funded in part by a Section 319 Clean Water Act Grant from the U.S. EPA.

The Alabama Department of Environmental Management does not discriminate on the basis of race, color, national origin, sex, religion, age or disability.

The Alabama Nonpoint Source Management Program

Executive Summary



The state of Alabama has an abundance of water resources with approximately 47,072 miles of perennial rivers and streams, 30,170 miles of intermittent streams, 14 major river basins, and 550 trillion gallons of ground water. As the State continues to grow in population, so continues the need to restore and protect our waterways. In fiscal year 2014, the Alabama Department of Environmental Management (ADEM) continued its trend of working with local stakeholders, partner agencies, and individual landowners to implement its Nonpoint Source Management Program. The information contained in this annual report documents much of the progress on meeting the goals of the newly approved Plan, including documentation of reductions in NPS pollutant loadings and improvements in water quality resulting from program implementation. By providing these updates, this report can be used for accountability for funds received and to share program successes related to the challenges of controlling NPS pollution. Solving NPS pollution problems require collaboration and networking that crosses agencies' agendas and political boundaries.

ADEM continued its support, both financial and technical, of the development of small-scale watershed management plans in impaired watersheds. These efforts provide the foundation for the installation of on-the-ground best management practices that are designed to achieve nonpoint source pollutant load reductions and create improvements in water quality. In 2014, ADEM began a focused effort to work with the Alabama Regional Planning Commissions on the development of watershed management plans. Utilizing Clean Water Act (CWA) 604(b) funding, the Department has funded four 12-digit Hydrologic Unit Code (HUC) watershed management plans that will be used to guide future project implementation. Plans that were funded include Pursley Creek in the Alabama River Basin, Second Creek in the Tennessee River Basin, Upper Ryan Creek in the Black Warrior River Basin, and Upper Scarham Creek, also in the Tennessee River Basin.

While many accomplishments were achieved during the past year, budget reductions continue to threaten the effectiveness of Alabama's Nonpoint Source Management Program. Alabama, as well as other states, are faced with difficult decisions when trying to maintain services in the face of continued budget cuts. However, ADEM will continue to utilize its available resources, as outlined in this report, to deliver efforts that are designed to improve water quality across Alabama.

2014 NPS Highlights

Alabama's Nonpoint Source (NPS) Management Program Update

In August of 2014, EPA approved the modification to Alabama's NPS Management Program Plan. It is the goal of ADEM that the modifications to the Program and its guidance document help facilitate a more effective approach in relation to tracking the progress of NPS projects; to focus efforts of both our stakeholders and ADEM on efficiently and effectively restoring our Alabama waterways; to ensure project effectiveness by identifying and measuring clear milestones within the projects; and to establish more effective coordination of the Program both internally with ADEM's different specialized units and externally with ADEM's stakeholders, partners, and citizens.

Alabama's Annual NPS Conference

Alabama's 25th Annual NPS Conference was held on January 22nd at the Renaissance Hotel in downtown Montgomery. Attendees included approximately 300 environmental engineers, biologists, geologists, municipal leaders, and water quality specialists. The conference also included several exhibitors with displays and informative hand-outs. This year's theme was "NPS Pollution - Here, There, and Everywhere". Topics for the sessions were focused on projects that targeted improving water quality in urban and rural watersheds, MS4 requirements to protect water quality, and information on listing and de-listing impaired waterbodies. A large number of organizations and agencies participated in the conference including the Alabama Cooperative Extension System, the Natural Resources Conservation Service, EPA, the Mobile Bay National Estuary Program, Auburn University, and the Nature Conservancy.

319 Projects and the De-Listing of Alabama Waterways

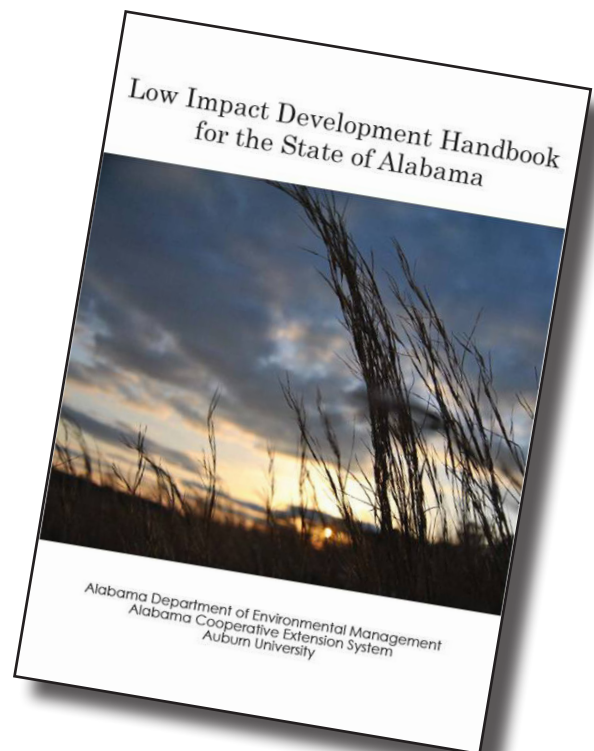
In 2014, EPA approved ADEM's newest 303(d) list of impaired waterway segments. Bear Creek in the Tennessee River Basin, along with Black Branch, Cane Creek, and North River in the Black Warrior River Basin, were de-listed from the 2014 list of impaired waters. Water monitoring data indicated that these waterbodies have returned to meeting their water quality standards for their stream designations. Bear Creek was the target of the NPS Management Program's 319 watershed based projects. Please see the "Measures of Success" Section of this report for more information about this project and the overall effectiveness of using 319 program funding with the coordination of local resources to work together and protect/restore our water resources.

National Water Quality Initiative (NWQI) in Alabama

ADEM and the Alabama Clean Water Partnership (ACWP) are partnering with the Natural Resources Conservation Service (NRCS) as part of the National Water Quality Initiative to target Cox Mill-Hurricane Creek (03140201-1004) within the Choctawhatchee River Basin in south Alabama. The Alabama Clean Water Partnership worked with NRCS to assist in selecting priority watersheds where on-farm conservation investments will deliver the greatest water quality improvement benefits. The NRCS is providing funding for the implementation practices, in addition to providing technical assistance and planning tools. ADEM will provide monitoring of water quality and assess results to document improvements.

The Low Impact Development Handbook for the State of Alabama

In recent years, there has been a major push for entities to consider and implement Low Impact Design (LID) BMPs. These practices tend to help manage stormwater runoff more closely to nature's own process. Some of the most well-known practices include rain gardens, bioretention ponds and swales, permeable pavers, and constructed wetlands. In 2014, the Alabama Cooperative Extension System, Auburn University, and ADEM published and released the Low Impact Development (LID) Handbook for the State of Alabama. A copy of this document can be found at www.aces.edu/LID.



Federal Partners

As the lead state agency of the Alabama Nonpoint Source Management Program, ADEM continues to work closely with many federal agencies across the state. While some efforts result in the direct leveraging of resources, many instances involve data/information sharing, technology transfer and collaborative dialogue. The following information highlights some of the unique federal partnerships the Department has established to implement projects and enhance water quality in Alabama:



Source: Google Images

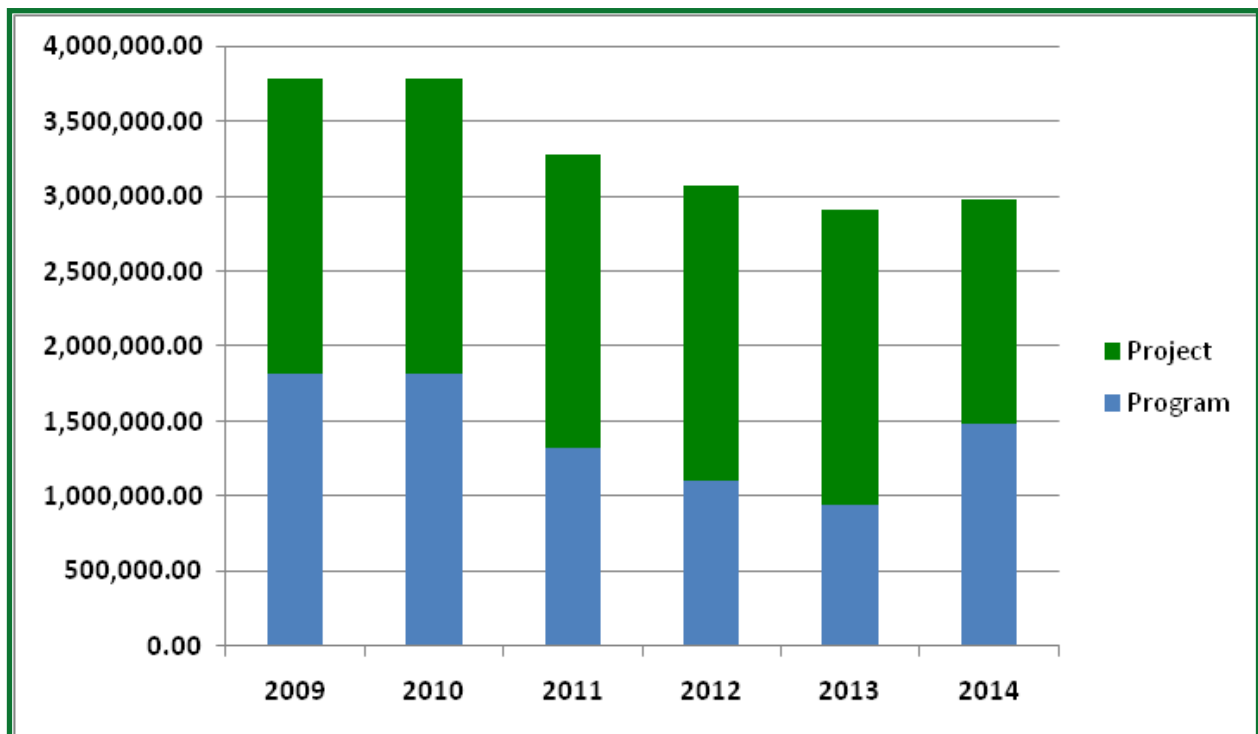
- ◇ The National Oceanic and Atmospheric Administration (NOAA) is involved in specific nonpoint source projects through and with other state agencies. NOAA and ADEM work with the Gulf of Mexico Program on watersheds that directly affect the Gulf of Mexico waters. The Clean Marina Initiative is a voluntary, incentive-based program also promoted by NOAA.
- ◇ Weeks Bay Reserve and the Mobile Bay National Estuary Program (NEP) work in conjunction with the Alabama Department of Conservation and Natural Resources and ADEM in watersheds along the coast, implementing stream restorations, agricultural BMPs, and the restoration of wetlands.
- ◇ The U.S. Army Corps of Engineers (USACOE) provides technical assistance with several stream restoration and/or stabilization projects and workshops because of the oversight needed in conjunction with permitting requirements. In both the Saugahatchee and the Mill Creek subwatersheds, the USACOE provided advice on Section 404 permitting requirements, as needed, for a stream restoration project, and helped to identify solutions to siltation problems.
- ◇ The Natural Resources Conservation Service (NRCS) continues to assist with identifying areas of concern for nonpoint source pollutant sources and causes, supply technical guidance for developing Comprehensive Nutrient Waste Management Plans statewide, and provide technical and engineering assistance with Section 319 watershed projects involving implementation of agricultural best management practices.
- ◇ Through its Clean Water Initiative, the Tennessee Valley Authority (TVA) builds partnerships with community residents, businesses, and government agencies to promote watershed protection. TVA's Regional Watershed Offices are responsible for carrying out the program. TVA focuses on improving water and shoreline conditions so that people and aquatic life can benefit from having clean water. TVA has continued to work with several watershed projects in the Tennessee River Basin and is vital in gathering and providing water quality data. ADEM and TVA are working cooperatively to identify NPS issues and priorities in the Elk and Bear Creek Watersheds.
- ◇ The U.S. Fish and Wildlife Service (USFWS), in conjunction with the Alabama Department of Conservation and Natural Resources and the Geological Survey of Alabama, have selected watersheds and river segments to focus conservation activities for managing, recovering, and restoring populations of rare fishes, mussels, crayfishes, and snails. The purpose of designating Strategic Habitat Units (SHUs) is to facilitate and coordinate watershed restoration and management efforts as well as to focus funding to address habitat and water quality issues. ADEM is working with the USFWS to coordinate these efforts through prioritization of data monitoring, information exchange, and implementation of BMPs on agricultural lands as part of the current North River Project, and also in monitoring SHUs where 319 implementation projects have occurred, such as in the Big Scarham and Dry Creek in the Black Warrior Basin.

Alabama's Section 319(h) Grant Program Funding

EPA awards Section 319(h) grant funding to the States each year according to an allocation formula that has been developed. The States determine the best possible use of their allocated funds. These funds are typically used for assessment and monitoring of Alabama's waterways, education and training, technology transfer, implementation of nonpoint source TMDLs, and implementation of watershed projects and best management practices.

ADEM 319 funding has continued to decline in overall funding, with a 21.3% decrease since fiscal year 2010. In FY2014, new EPA Section 319 Guidance required a 50/50 split in Project and Program funding. The Department continues to adjust to the continual decline of these essential dollars that are needed to oversee and manage the Project Implementation portion of the 319 program.

FISCAL YEAR	PROGRAM FUNDS	PROJECT FUNDS	TOTAL 319 FUNDS
2009	\$1,824,100	\$1,964,300	\$3,788,400
2010	\$1,824,100	\$1,964,300	\$3,788,400
2011	\$1,330,000	\$1,960,000	\$3,290,000
2012	\$1,110,000	\$1,964,300	\$3,074,000
2013	\$949,000	\$1,964,000	\$2,913,700
2014	\$1,490,500	\$1,490,500	\$2,981,000



Measures of Success

Section 319 Success Story Highlight

One of the chief measures of success of the Section 319 Nonpoint Source (NPS) Management Program includes the tracking and reporting of waterbodies that have achieved water quality standards for one or more pollutants and/or designated uses after having been previously included on the 303(d) list of impaired waters. These Success Stories are submitted to EPA on an annual basis and highlighted on EPA's Success Story website at water.epa.gov/polwaste/nps/success319. In fiscal year 2014, Alabama submitted the Bear Creek Success Story to EPA to document the nonpoint source program accomplishments.

Bear Creek in the Tennessee River Basin

Waterbody Improved

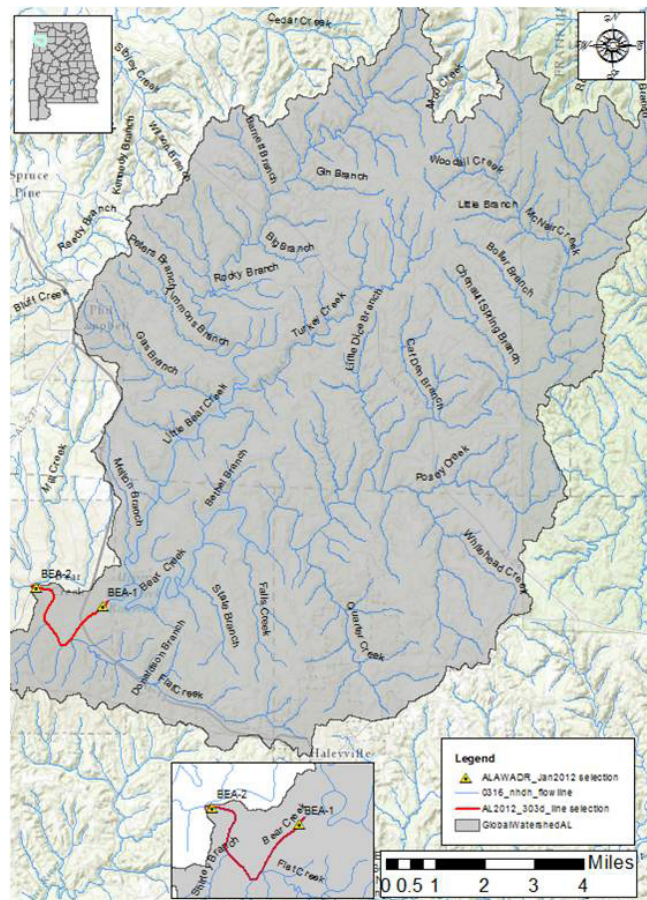
Runoff from agricultural activities and historical surface mining areas contributed to aluminum impairments in a three-mile segment of Bear Creek, a tributary to the Tennessee River. The implementation of best management practices (BMPs) and stakeholder education and outreach enhanced water quality and helped Bear Creek meet the water quality standards associated with its designated water use classifications. As a result, the Alabama Department of Environmental Management (ADEM) removed Bear Creek for the aluminum impairment from the state's 2014 303(d) list of impaired waters.

Problem

A three-mile segment of Bear Creek (Assessment Unit ID # AL06030006-0103-103) is located in Marion County. The Bear Creek Watershed's landuse consists of 52% forested land, 27% agriculture, 11% grassland/shrubs, and a few surface mining areas. Bear Creek was first placed on the State of Alabama's § 303(d) list for metals (aluminum) impairment in 1998 as a result of water quality data collected by ADEM from 1992 to 1996. The cause of the water quality impairment was originally believed to be historical surface mining activities.

Project Highlights

To restore water quality and ecological health in the Bear Creek Watershed, a multi-year coordinated effort among federal, state, and local agencies, as well as special interest groups and landowners was required. Prior to the project, formal and informal discussions among citizens, landowners, special interest groups, and agency representatives took place concerning actual and perceived pollution sources and impacts in the related sub-watersheds which included Upper Bear Creek (010), Little Bear Creek (030), Upper Cedar Creek (040), Lower Cedar Creek (050), Rock Creek (070), Lower Bear Creek (100), and Buzzard Roost Creek (110). Primary concerns that came from these stakeholder discussions were related to bacteriological contamination, accelerated erosion, nutrient enrichment, loss of riparian zones, and loss of aquatic habitat.



The five-year Bear Creek Watershed Project began in August 2000. During this time a total of \$336,947 of Section 319 Federal funds were utilized with \$375,973 in matching funds being received from project cooperators. The overall goal of the project was to effectively focus federal, state, local, and special interest group resources on solving the nonpoint source pollution problems in the Bear Creek Watershed.

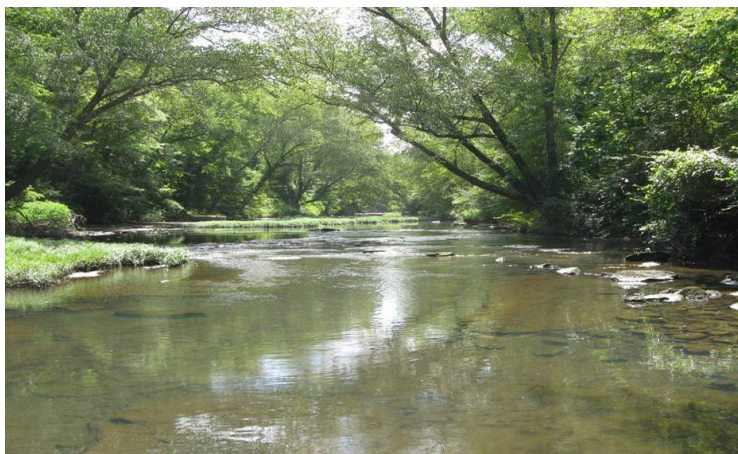
Reducing the sediment load to Bear Creek required a focus on controlling erosion along different streambanks, pastures, croplands, abandoned surface minelands, and timber harvest areas. The BMPs that were implemented included filter strips, streambank protection, exclusion fencing, and resource extraction stabilization.

The project was very successful in multi-agency cooperation and education and outreach activities with watershed stakeholders. Cooperative activities included the Bear Creek Subbasin Clean Water Partnership, TVA Leased Land Evaluations, the Bear Creek Floatway, Alabama Water Watch Trainings, Earth Day events, Water Festivals, Envirothon, litter clean-up days, and a Watershed Leadership Conference.

Results

The source of data that was utilized in the evaluation of Bear Creek is from the ADEM surface water quality monitoring plan. Physical, chemical, and biological data were collected at two sampling stations.

The most recent water quality data available for Bear Creek was collected in 2009 and 2012. Only two exceedances out of 16 samples was reported from one sampling location, and five exceedances out of 16 samples was reported at the second location. However, the median values at both locations were below the 90th percentile ecoregional reference guideline for aluminum. While comparing the water quality data to the EPA aluminum criteria showed a small number of exceedances, the ecoregional comparison indicates that the waterbody shows no exceedances for aluminum.



Bear Creek, downstream of sampling station



Bear Creek, upstream of sampling station

Partners

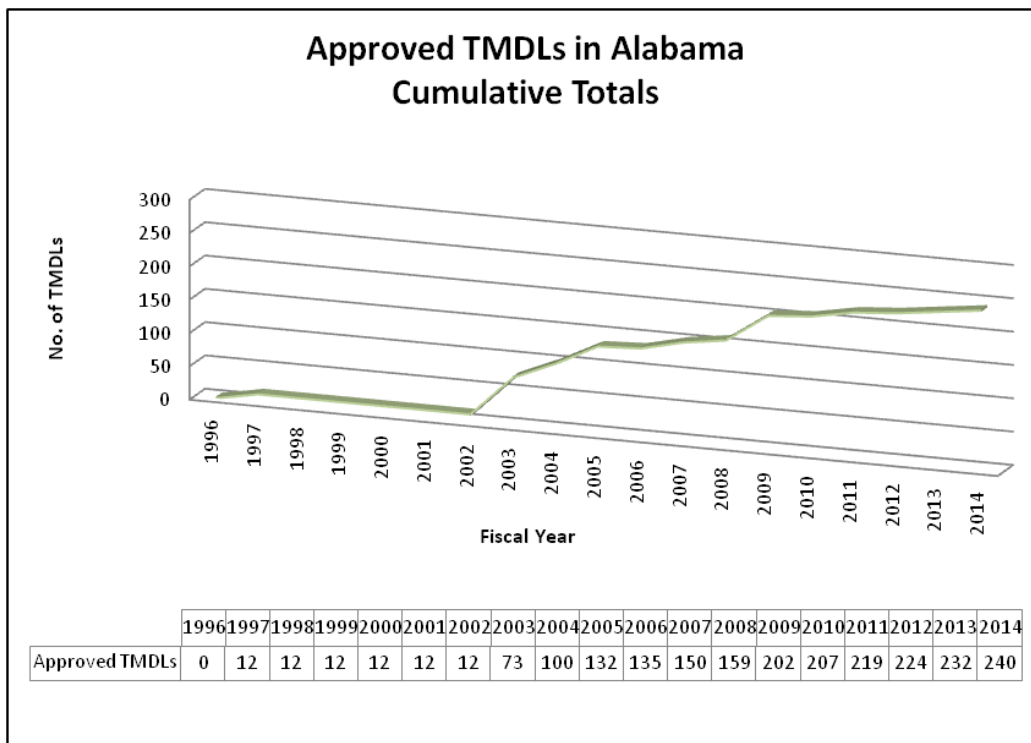
This project was a cooperative NPS pollution control endeavor involving at least four Soil and Water Conservation Districts in Alabama, TVA, NRCS, ADEM, Bear Creek Outdoor Environmental Education Center, Alabama Water Watch, Alabama Cooperative Extension System, the Tennessee Basin Clean Water Partnership, Alabama Cattleman's Association, Alabama Poultry and Egg Association, Southeastern Poultry and Egg Consortium, Gold Kist, and the Alabama Department of Industrial Relations.

TMDLs in Alabama

Total Maximum Daily Loads (TMDLs) are developed by ADEM as specified in the State of Alabama Water Quality Monitoring Strategy. TMDLs establish the amount of each pollutant, causing water quality impairments, that can be allowed in a water body without causing exceedances of water quality standards. They also address reductions needed to meet these standards. Once the TMDLs are developed by ADEM's Water Quality Branch, the TMDLs are submitted to EPA for approval and subject to public comment. The NPS Management Program uses TMDLs to address watershed priorities, leverage resources, and implement water quality protection and restoration activities.

In FY2014, the TMDL Program of ADEM continued to make great strides in protecting Alabama's water resources. With respect to TMDL development, ADEM finalized and received EPA approval on TMDLs for the following segments and pollutants. With the completion and approval of these nine TMDLs, Alabama's cumulative total of approved TMDLs is 240.

Waterbody Name	Waterbody ID 12-Digit HUC	River Basin	County	Pollutant(s)
Cahaba River	AL031550202-0407-100	Cahaba	Bibb	Siltation (Habitat Alteration)
Cahaba River	AL031550202-0206-101	Cahaba	Shelby	Siltation (Habitat Alteration)
Cahaba River	AL031550202-0206-102	Cahaba	Shelby	Siltation (Habitat Alteration)
Threemile Creek	AL031550202-0204-101	Cahaba	Shelby	Siltation (Habitat Alteration)
Threemile Creek	AL031550202-0204-102	Cahaba	Jefferson	Siltation (Habitat Alteration)
Fish River	AL031550202-0104-102	Cahaba	Jefferson/St. Clair	Siltation (Habitat Alteration)
East Branch Luxapallila Creek	AL031550202-0101-102	Cahaba	Jefferson	Siltation (Habitat Alteration)
Wahalak Creek	AL03150202-0206-101	Cahaba	Shelby	Pathogens



An additional accomplishment for FY2014 includes receiving final approval from EPA Region 4 on our 2014 303(d) List. As part of that process, the Department received approval for the following pollutant delistings (Category 5 to Category 1) for various waters throughout the State of Alabama.

Waterbody Name	Waterbody ID (12-Digit HUC)	River Basin	County	Pollutant(s)
Riley Maze Creek	AL03160109-0101-150	Black Warrior	Cullman, Marshall	Siltation
Tibb Creek	AL03160109-0101-600	Black Warrior	Cullman, Marshall	Ammonia
Cane Creek (Oakman)	AL03160109-0404-101 AL03160109-0404-102 AL03160109-0404-103	Black Warrior	Walker	Metals (Al, Fe) Nutrients Organic Enrichment (CBOD, NBOD) pH Siltation (habitat alteration)
Black Branch	AL03160109-0404-500	Black Warrior	Walker	Metals (Fe) Siltation
Valley Creek	AL03160112-0101-101	Black Warrior	Jefferson	Metals (Hg)
Opossum Creek	AL03160112-0101-200	Black Warrior	Jefferson	Metals (Hg)
Mud Creek	AL03160112-0105-101	Black Warrior	Jefferson	pH, Siltation
Daniel Creek	AL03160112-0305-110	Black Warrior	Tuscaloosa	Metals (Cr, Pb)
North River	AL03160112-0411-102	Black Warrior	Fayette Tuscaloosa	Nutrients Siltation
Mobile River	AL03160204-0505-100	Mobile	Mobile	Metals (Hg)
Toulmins Spring Branch	AL03160204-0504-300	Mobile	Mobile	Ammonia
Mobile Bay (Northeast)	AL03160205-0300-502	Mobile	Baldwin	Pathogens
UT to Lake Frank Jackson 2-S	AL03140103-0102-800	Perdido-Escambia	Covington	Pathogens
Saugahatchee Creek (Yates Lake)	AL03150110-0104-101	Tallapoosa	Tallapoosa	Metals (Hg)
Hester Creek	AL06030002-0303-500	Tennessee	Madison	Nutrients
Bear Creek	AL06030006-0103-103	Tennessee	Marion	Metals (Al)
Tombigbee River	AL03160203-0903-102	Lower Tombigbee	Clarke, Washington	Metals (Hg)

Other accomplishments for FY2014 include the following:

- ◇ 72-hr Diurnal Studies were conducted on 14 waterbodies at 26 stations.
- ◇ One time-of-travel dye study was conducted on Boggy Branch and Brushy Creek in the Perdido-Escambia River Basin.
- ◇ 28 Clean Water Partnership meetings were attended throughout the State by WQ Branch staff.

Current NPS Projects Implementing a TMDL

FISCAL YR	PROJECT TITLE	TOTAL
2009	Implementation of Nonpoint Source Stormwater Runoff Best Management Practices in the Goose Creek Sub-Watershed of the Flint River Implementation of the Saughatchee Watershed Management Plan/Phase 2	2
2010	Demonstration of Stormwater Conveyance Retrofit Practices to Improve Water Quality in the Genetta Stream Dry Creek and Big Scirum Creek Watershed Project Indian Creek Watershed Restoration Project - Phase 3 Rock Creek and Crooked Creek Watershed Project Upper and Middle Coosa (DeKalb Co.) TMDL Implementation Project	5
2011	No Business Creek Watershed Management Project Parkerson Mill Creek Watershed Enhancement Project	2
2012	Hurricane Creek Watershed Management Project Village Branch Watershed Project	2
2013	French Mill Creek Watershed Project Harris Creek Watershed Project-Phase 2 Pintlala Creek Watershed Project West Flint Creek Watershed Project-Phase 2	4
2014	Graves Creek Watershed Project West Fork Cotaco Creek Watershed Project-Phase 2 Pursley Creek Watershed Project Shoal Creek Watershed Project <i>*FY2014 Projects are awaiting EPA approval</i>	4

Pollutant Load Reductions

The projects/activities outlined in this report provide a brief overview of the Department's efforts to address nonpoint source pollution in Alabama. However, in order to provide a numerical measure of the effectiveness of these efforts, EPA 319 guidance calls for a report of the "annual reduction in nitrogen, phosphorus, and sediment from nonpoint sources to waterbodies." In cooperation with its 319 partnerships, pollutant load reductions have been estimated using developed methodologies for past and ongoing projects. The chart below contains data from EPA's Grant Reporting Tracking System (GRTS) database and gives an estimate of the positive impact these efforts have made on water quality in Alabama and overall grant program success. The pollutant load reductions for current individual projects are available on the GRTS interactive website at www.epa.gov/nps/grts.

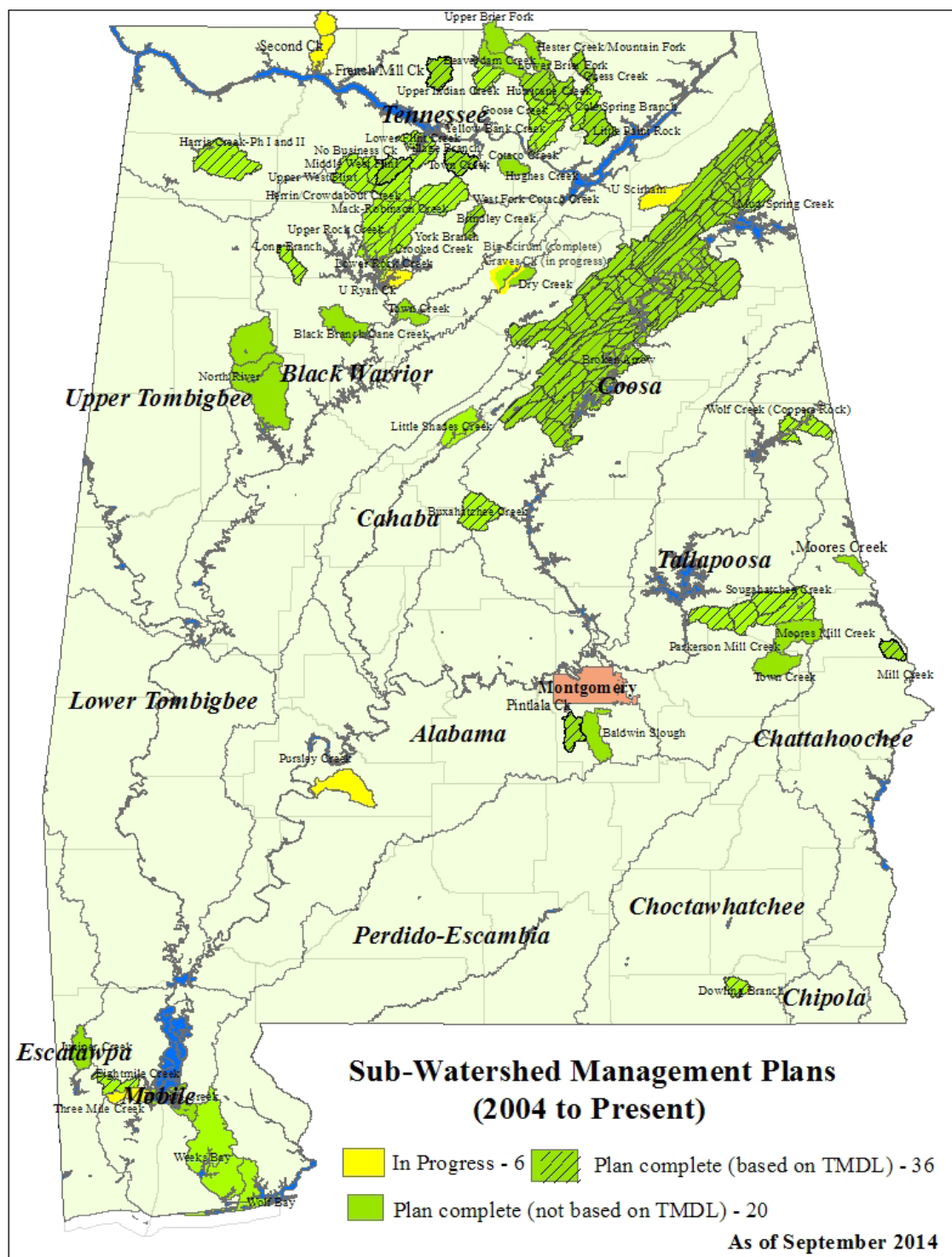
LOAD REDUCTIONS, FISCAL YEARS 2009 - 2012*

FISCAL YEAR	NITROGEN	PHOSPHORUS	SEDIMENTATION-SILTATION
2009	135,864.3 LBS/YR	50,985.2 LBS/YR	33,972.5 TONS/YR
2010	88,561.88 LBS/YR	9,147.22 LBS/YR	4,475.57 TONS/YR
2011	43,757.61 LBS/YR	3,219.01 LBS/YR	1,005.54 TONS/YR
2012	2,791 LBS/YR	1,005 LBS/YR	44 TONS/YR

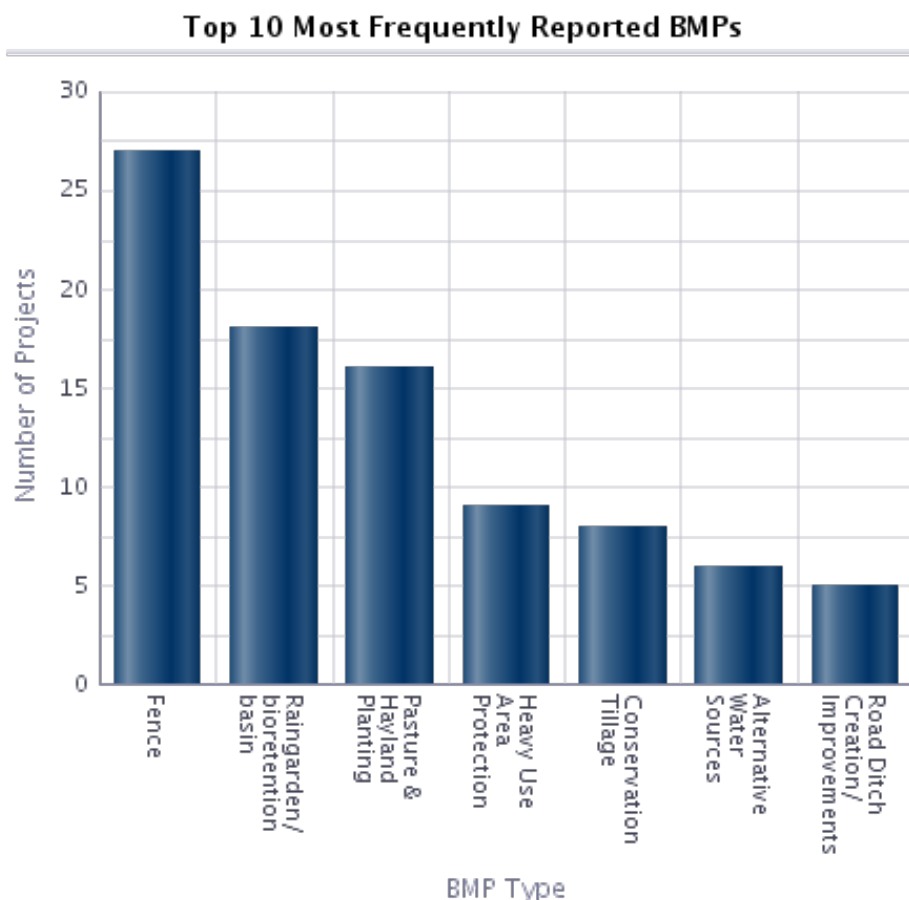
*(2013 and 2014 Project Load Reductions are pending implementation results)

Watershed Management Plans

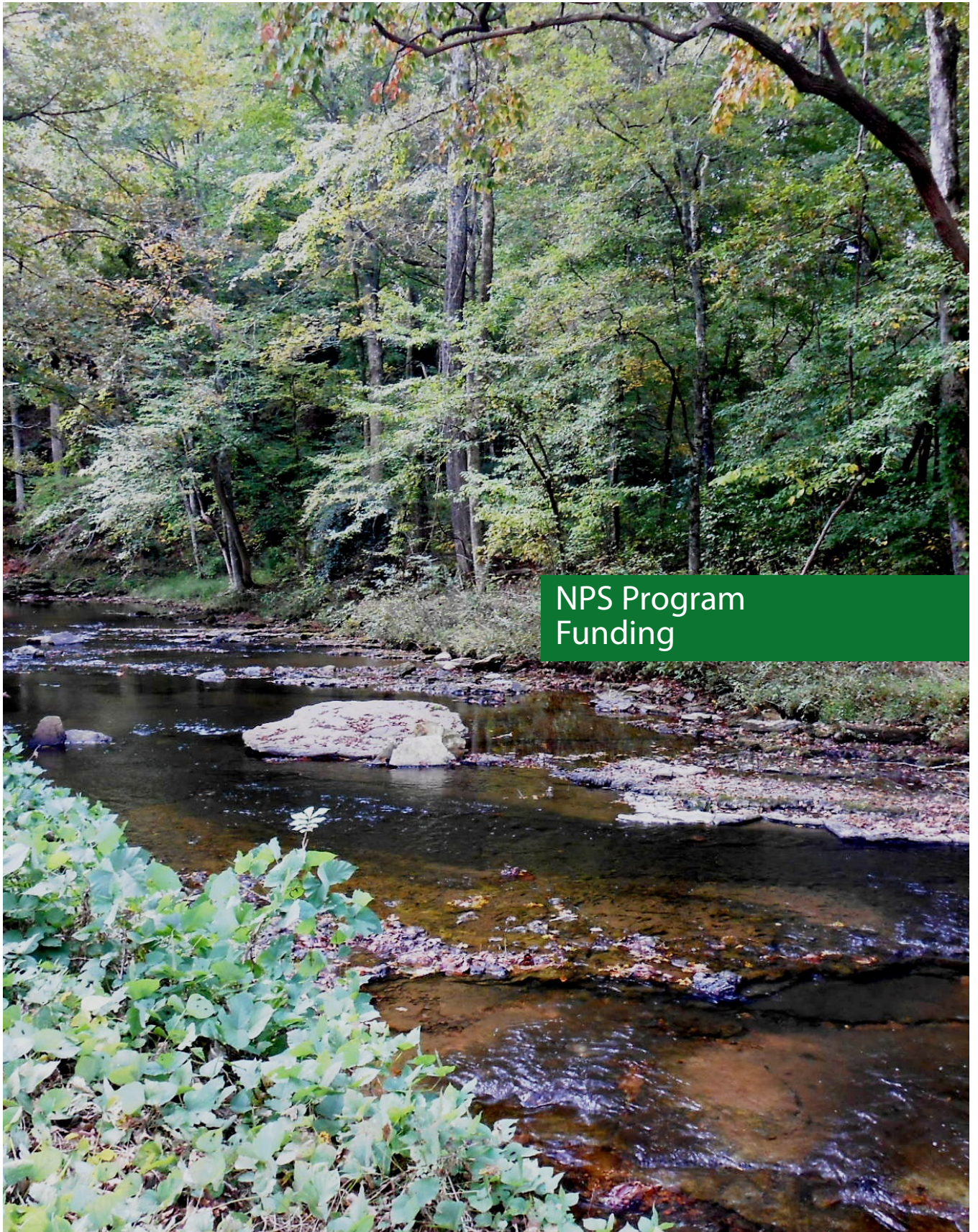
The Department is continuing to work with stakeholders to develop and implement watershed management plans. As depicted by the map below, these watershed management plans are in various stages of completion, but each plan will incorporate EPA's nine key elements. In FY2014, four additional 12-digit HUC watershed plans were completed and are in various stages of project implementation. Of the plans that were completed, three are implementing a TMDL.



Top BMPs Implemented by Projects 2009-2014



On-the-ground implementation of best management practices to improve water quality is the leading focus of the Alabama Section 319 Program. While there are many opportunities to improve water quality across Alabama, in both rural and urban watersheds, the graph above documents that the implementation of agricultural best management practices has been a program focus. The ability to work with local landowners and provide them with a vested interest in protecting water quality is one of the keys to the long term sustainability of Alabama's water resources.



2014 Surface Water Quality Assessments: Southeast Alabama (SEAL) River Basins

Rivers, Reservoirs, and Tributary Embayments

Thirty-four stations on Harding, West Point, and Eufaula reservoirs and the main stem river in the Chattahoochee River Basin; Point A and Gantt reservoirs and the main stem river in the Conecuh River Basin; Frank Jackson and Lake Jackson, along with the Choctawhatchee, Pea, and Yellow Rivers were intensively monitored. Each station was sampled monthly, from April through October within a one-week period to reduce weather-related variability in water quality conditions. Water quality assessments of these nonwadeable waterbodies will also serve as a complement to the project: 2014 Surface Water Quality Monitoring of the Wadeable Streams and Rivers of the SE Alabama River Basins (see below) and allows for determinations

of compliance with established water quality compliance criteria. This information is also used to update the Department's Integrated Monitoring and Assessment Report (CWA Sections 303(d), 305(b), 314), the ADEM Water Resources System – Alabama Water-Quality Assessment & Monitoring Data Repository (ALAWADR), and exported to EPA's Water Quality Exchange (WQX). Since the department is still developing water quality criteria for tributary embayments, these assessments will also determine which tributaries are most affected by nonpoint source pollution, aid in development of TMDLs for these tributaries as required by Section 303(d) of the CWA, and assist the department in developing water quality criteria to

ensure each waterbody is meeting its use classification.

At each site, temperature, dissolved oxygen, specific conductance, and pH were measured in situ at multiple depths in the water column with a multi-parameter instrument. Using a pump and hose apparatus, water was collected from the entire photic zone and composited. From this composite, water quality and water-column chlorophyll a samples were collected monthly, hardness was collected semi-monthly, and AGPT samples were collected once in August. Surface water E. coli samples were collected three times during the sampling season for each station. Select stations were sampled for low-level mercury analysis in September.

Wadeable and Nonwadeable Streams and Rivers

Fifty-five locations on wadeable, flowing streams and rivers were sampled as part of this project. Biological, habitat, and water quality assessments were conducted at fifteen sites within the eight nonpoint source priority watersheds to assess the effectiveness of BMPs implemented through Alabama's CWA §319 Program. Twenty-two candidate reference reaches located within the SEAL were monitored to characterize least-impaired conditions within the Southeastern Plains Ecoregion. Intensive monitoring was also conducted at 15 locations where previously-collected

data suggested a high potential for impairment. TMDL development projects were conducted at 25 locations on nine impaired water bodies. Together, this data will be used to update the Department's Integrated Monitoring and Assessment Report, the ADEM Water Resources System – Alabama Water-Quality Assessment & Monitoring Data Repository (ALAWADR), and exported to EPA's WQX.

Data generated during the project will allow ADEM to assess overall water quality of wadeable, flowing streams within the SEAL, and provide data

that can be used to develop nutrient and sediment criteria, biological condition gradients, and assessment criteria for wadeable streams and rivers. At each of these sites, in situ measurements (stream flow, dissolved oxygen, pH, conductivity, and turbidity) and water quality samples were collected monthly (including nutrients, water column chlorophyll a, total dissolved solids, total suspended solids, and E. coli), semi-monthly (total and dissolved metals), or quarterly (pesticides, semi-volatiles, and atrazine), March through October, to help identify any stressors to biological communities.

Erosion and Sediment Control on Construction Sites and Urban Areas

This project establishes a framework for an Erosion and Sediment Control Program for construction sites and urban areas. Participants of the project include the Alabama Soil and Water Conservation Committee, the Natural Resources Conservation Service, ADEM, and the Alabama Association of Conservation Districts. Partners include the Alabama Department of Transportation, the Home Builders Association of Alabama, the Associated General Contractors of Alabama and Auburn University – Alabama Cooperative Extension System.

The “Field Guide for Erosion & Sediment Control on Construction Sites in Alabama” was initially developed in 2004 and is available in English and Spanish. Both have been available free to the public since publication through Soil and Water Conservation Districts and they are currently being updated. The brochure, “Let’s Look at Sediment”, is also being distributed by the Soil and Water Conservation Districts and at Erosion and Sediment Control workshops.

More than 30 seminars have been presented since late 2004 with support of 319 funds with most of them



Clear Water Alabama 2014 Field Day in Birmingham

presented through the continuing education program of Auburn University’s Engineering Department. In fiscal year 2014, the Erosion and Sediment Control Field Days were held in Birmingham in October 2013.

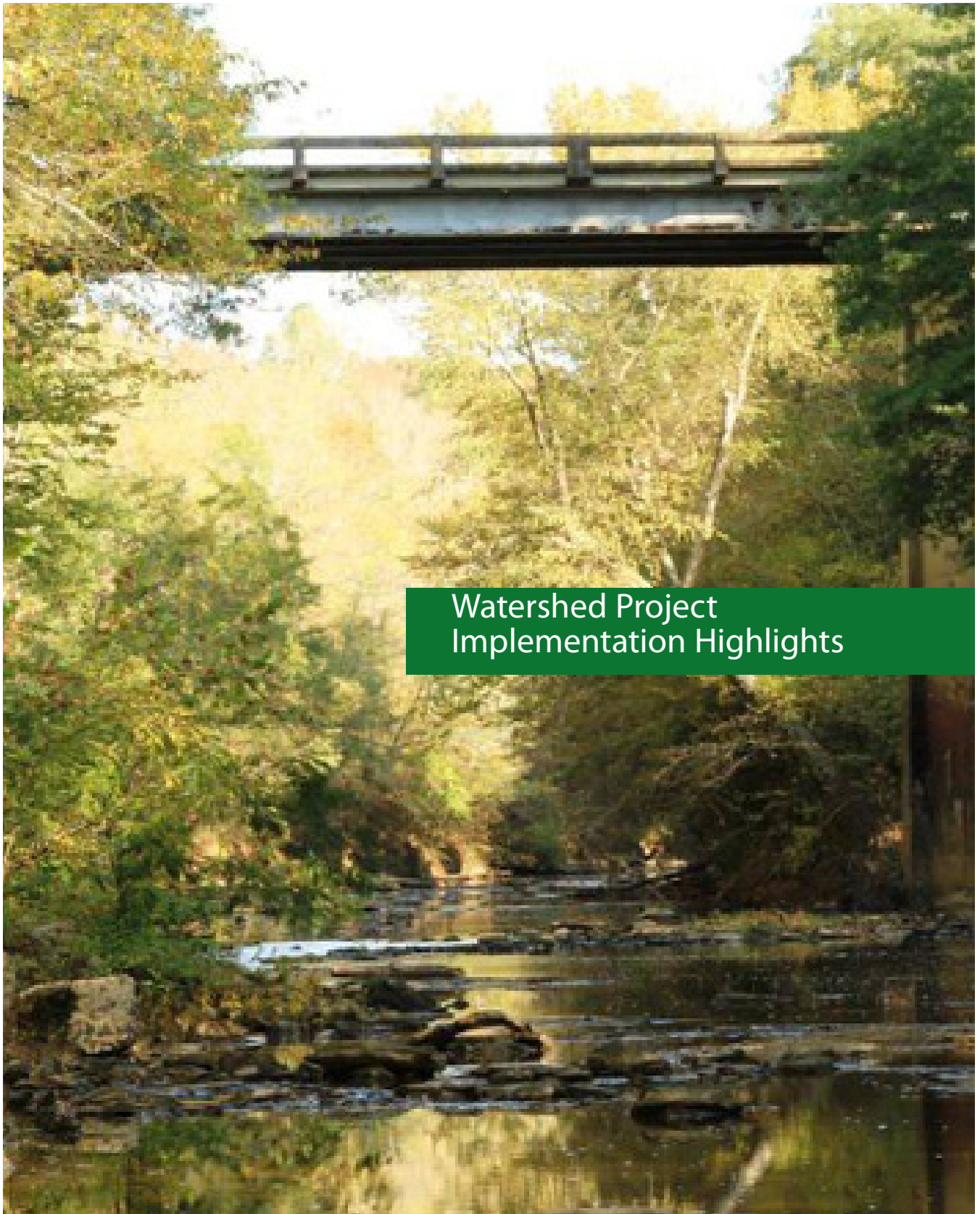
Alabama Envirothon



Students preparing for their Envirothon current issue presentation

ADEM’s NPS Unit, in a joint effort with other agencies, continues to play a supporting role in the Alabama Envirothon competition by helping in event planning, developing test materials, and leading many of the training events, judging, and overall program implementation. This year’s state competition was held April 10-12, 2014 at the 4-H Camp in Columbiana. The main theme of this year’s Envirothon was “Sustainable Agriculture- Locally Grown”. Students learned about runoff issues related to agriculture as well as information regarding low impact development.

Envirothon teams from across the state took part in the competition with Belgreen High School of Franklin County being the overall event winner.



Watershed Project Implementation Highlights

The Alabama Clean Water Partnerships



The Alabama Clean Water Partnership (ACWP), a statewide organization, is a diverse and inclusive coalition of public-private interest groups and individuals working together to improve, protect, and preserve water resources and aquatic ecosystems in Alabama. This project funds a Statewide Coordinator as well as a Basin Facilitator in each of the ten major river basins. The River Basin Facilitators coordinate stakeholders, implement on-the-ground projects, and provide educational workshops. The following are FY 2014 highlights:

- The ACWP's Annual Watershed Conference was held in conjunction with the Home Builders Association of Alabama's ABLE (Alabama Better Living) Expo on Wednesday, February 19, 2014, with 131 people in attendance. The publication "The ACWP – Celebrating 13 Years" was released at the conference for use as a public relations tool.
- A total of 13 steering committee meetings and/or subbasin meetings were convened in FY2014.
- Five rain barrel workshops were held by basin groups across the state, educating approximately 72 citizens on water conservation and nonpoint source pollution prevention.
- The ACWP signed an extension for its contract with the NRCS in Alabama. This extension allows the ACWP to continue to prioritize 12-digit HUCs in each of the ACWP-designated river basins as part of the National Water Quality Initiative. Final basin and statewide lists along with fact sheets are posted on the ACWP website. The ACWP will continue accepting nominated streams, will develop watershed plans, and will assist with Strike Force and other stakeholder meetings in watersheds chosen for NWQI implementation.
- The Alabama and Tallapoosa Basins held their third annual Business Breakfast on June 5, 2014.
- The Cahaba and Coosa facilitators worked together to organize the second annual water festival for all fourth grade students in Chilton County on March 14, 2014 at the Jefferson State College Campus/Clanton Performing Arts Complex. The Choctawhatchee-Pea-Yellow Rivers Facilitator also helped organize the Crenshaw Groundwater Festival held at LBWCC – Luverne Campus on April 21, 2014. The second annual Tallapoosa Water Festival was held in April 2014 at Lake Martin.
- Alabama Water Watch (AWW) is partnering with the Coastal Basin ACWP, the Alabama Coastal Foundation and the Mobile Bay NEP to focus, promote, and sustain community-based watershed stewardship efforts in the Mobile Bay Basin, specifically in Coastal areas. Through offering additional water monitor certification trainings on the coast, the goal is to increase the capacity of AWW participation and water monitoring and reporting in coastal watersheds. The Coastal-Escatawpa facilitator assisted with this effort by setting up two coastal water monitoring training sessions, certifying 40 new coastal water monitors overall to collect and report water chemistry and bacteria data to AWW.
- The Conecuh-Sepulga Facilitator is working to enhance the recycling program in the City of Andalusia and Covington County by assisting with the development of a strategic plan to encourage curbside recycling, to establish a county-wide recycling deposit station and a permanent electronics recycling location. For the fourth year, the facilitator served as coordinator of the e-cycling event in partnership with ACWP, City of Andalusia, Andalusia High School Key Club (volunteers) and Ecovery. The total collections for three events was over 30,000 pounds.
- Three teacher workshops hosted by the Tennessee Basin CWP were held at the WaterWorks Center for Environmental Education during this reporting period, with 54 teachers in attendance.

The Mill Creek Watershed Project - Phase 2

The Mill Creek Watershed encompasses the City of Smiths Station (Lee County) and the City of Phenix City (Russell County) in Alabama. It is a major tributary of the Middle Chattahoochee River. The watershed drains an area of approximately 24.8 square miles. Mill Creek (9.93 miles) is impaired from organic enrichment/low dissolved oxygen from urban development. A watershed management plan was completed in December 2010 and a TMDL is currently scheduled for completion in 2016. This is the second phase of the project, with a goal to continue to reduce nutrient and sediment pollutant loadings from nonpoint sources in order to help restore the water quality in Mill Creek.

Existing partnerships continue to expand to build on successful education and outreach programs developed in phase one of this project. Several workshops have been held this year to target urban sources of pollution. These workshops include a Nonpoint Education for Municipal Officials (NEMO) training for Phenix City and Smiths Station city council and planning commission members, two workshops on Low Impact Development, a Rain Garden class for the Phenix City Master Gardeners, and several make-and-take rain barrel workshops. In March 2014, the Project Coordinator spoke at the Lakewood Elementary Career Day about the Project and how to be a watershed steward. Volunteer participation enabled the installation of 400 live stakes at the Broad Street stream restoration site. In addition, students from Columbus State University volunteers cleaned up two illegal dumping sites as part of the project, in partnership with the Chattahoochee River Wardens and Consolidated Resources. This was done as an early start to the Help the Hooch litter cleanup event. The City of Phenix City provided dumpsters at the two clean up sites as well as trash and tire pickup the following week.



Students from Columbus State University participated in a streamside cleanup of a dump site in downtown Phenix City.

Monthly sampling is being conducted by the project coordinator and other partners through Alabama Water Watch. The sampling allows project partners to observe changes in water chemistry as well as documenting high E. coli counts that may indicate pathogen problems. Currently, project partners monitor a total of 15 sites per month. These visits have resulted in the detection of at least one illicit discharge this year. In July 2014, an Alabama Water Watch workshop was conducted to train eight science teachers and 10 members of the general public.

A Steering Committee meeting was held in March 2014 to examine identified potential projects for Phase 2. During this meeting, stakeholders were able to determine specific projects to pursue based on feasibility, cost, and estimated pollutant load reductions. The priority projects were identified to be a streambank stabilization project at 14th St., a stream restoration and swale construction at the Phenix City amphitheater, and a constructed wetland at Phenix City Intermediate School. Data collected through meetings, surveys, volunteer monitoring, GIS, and the Spreadsheet Tool for Estimating Pollutant Load Reductions (STEPL) are used to help identify BMP locations and to narrow down which sites will provide the best pollutant removal. Construction of the identified implementation projects are scheduled to begin in January 2015.

No Business Creek Watershed Project

No Business Creek is located in the west-central section of Morgan County within the Wheeler Lake Watershed in the Tennessee River Basin (HUC 06030002-1004). The 2,224-acre watershed is predominantly agriculture (70%) and forestland (28%), but does have a small percentage of urban area (2%). The goal of the No Business Creek Project is to address the causes of organic enrichment/ low dissolved oxygen and pathogens through the implementation of agricultural best management practices.

The No Business Creek Watershed Project has been completed. This project included the initial development of a Nine Key Element Watershed Management Plan. Priority projects identified by the plan were implemented. This included a total of 17 on-the-ground BMPs. The placement of these BMPs were prioritized on disturbed land, riparian areas, and along stream banks nearest the site of ADEM water quality monitoring sites and/or sites that were obviously and directly contributing to the impairment. Agricultural practices that were implemented included 355 acres of improved pasture, 2,415 feet of cattle exclusion fencing, two heavy-use areas, two watering troughs, 58 acres of tree planting, 241 acres of cover crop/no-till, and the installation of a livestock stream crossing.

Presentations on nonpoint source pollution, wildlife, bird migration, soil and gardening, and forestry were given to Danville 4th grade classes at the Wetland Wonderers program. There were 124 participants, both students and adults, present at this event held at the Flint Creek Wetland Mitigation Bank site in Hartselle.



*Top: Exclusion fencing for cattle
Bottom: Heavy use area and watering source*



No Business Creek Load Reductions

96,882 lbs/yr of nitrogen
9,730 lbs/yr of phosphorus
2,737 tons/yr of sediment

French Mill Creek Project



Cross fencing, heavy use area protection, and rotational grazing practices were implemented as part of the French Mill Creek Project.

French Mill Creek Load Reductions

96,882 lbs/yr of nitrogen
9,730 lbs/yr of phosphorus
2,737 tons/yr of sediment

The French Mill Creek Watershed is within the Wheeler Lake watershed of the Tennessee River Basin (HUC 6030002-0802). In 1998, French Mill Creek was placed on the §303(d) list for pathogens. Further sampling of French Mill Creek by ADEM in 2003 also resulted in a violation of the five-day geometric mean criterion of 200 col/100 ml. Based on the dominate land uses of agriculture and forest, the most likely sources of pathogen loadings from agriculture, wildlife, and/or failing septic systems.

A kickoff meeting for the French Mill Creek Project was held March 3, 2014 at the Agricultural Research Station in Belle Mina, Alabama. Letters and announcements were sent out to the farmers through the USDA Service Center and were placed at local places of interest. The Limestone County Cattlemen's Association also helped advertise and provided dinner for the attendees. Thirty people attended the meeting, including the Limestone County Commission members.

To date, the following practices have been installed or implemented: cross-fencing, heavy use area protection, improved watering facilities, rotational grazing, and terraces to control erosion on cropland.

Village Branch Project

Village Branch (HUC 06030002-1014) is located near the City of Hartselle in Morgan County. It is a tributary of Flint Creek, which drains to Wheeler Lake on the Tennessee River. The Village Branch landuse is primarily agricultural, although increasing population growth from the City of Hartselle and county-wide continues to threaten natural resources and water quality. The entire length of Village Branch (5.7 miles) is identified on ADEM's 303(d) list as impaired from nutrient enrichment and sediment runoff from agricultural lands. An Organic Enrichment/Dissolved Oxygen (OE/DO) TMDL was developed by EPA in 2003. A siltation TMDL was developed by ADEM and Tetra Tech in 2002.

To date, the following BMPs have been completed in the Village Branch Watershed: 40 acres of trees have been planted, 750 feet of cross-fencing has been installed, 3,073 feet of stream exclusion fencing has been installed, two heavy use areas with gates were added, and 20 acres of cover crops have been planted.



Cross fencing has been installed for improved pasture management and to limit cattle access.

Village Branch Load Reductions

46,191 lbs/yr of nitrogen
2,767.6 lbs/yr of phosphorus
46,191 lbs/yr of nitrogen

Parkerson Mill Creek Watershed Project

The Parkerson Mill Creek (PMC) Watershed is located in Lee County in east-central Alabama. It is part of the Upper Chewacla Watershed (HUC 03150110-0202) in the Lower Tallapoosa River Basin. The 9.3-square mile watershed has approximately 68,500 feet of perennial streams and 282,152 feet of tributary streams. Its headwaters originate on the campus of Auburn University. In 2008, Parkerson Mill Creek was listed as impaired from Chewacla Creek to its source. This was based on a series of Auburn/Opelika Intensive Fecal Coliform Studies. The cause of impairment was identified as pathogens from urban stormwater runoff and storm sewer sources. A pathogen TMDL was completed in 2011, which calls for a 61% reduction in pathogens. Development throughout the watershed contributes to increased volumes of stormwater runoff from impermeable surfaces; “flashy” stormwater runoff hydrology, altered and degraded stream channels, stream banks, and riparian area; diminished natural flood plains; fragmentation and other threats to aquatic species survival, habitat, and biodiversity. This project served to implement components of the PMC Watershed Management Plan in order to improve water quality and help to restore the creek to a more natural, functioning, ecological condition.

This project was completed in August 2014. The following practices were installed as part of the Parkerson Mill Creek Project:

- Two 100-ft² rain gardens were installed at the Plant Science and Research Center.
- Two vegetated swales, a 250-ft² rain garden and a 2,000-gallon cistern were installed at the Southeastern Raptor Center.
- A 400 ft² rain garden and 1,000 gallon cistern were installed at Dudley Hall.
- A 200 ft² rain garden was constructed to catch roof runoff by the Turf Research Unit.
- A total of 19 pet waste stations were installed to address the large population of dogs that the students have at residential apartment complexes and student housing units. Educational materials were provided to residents, with fines being assessed for not picking up the waste.
- Approximately 350 storm drains were identified and labeled with the AU PMC storm drain markers by students through various classes and departments on campus.
- Three in-stream rock vane structures were installed at the intramural field pedestrian bridge. Students also installed live stakes to control bank erosion.
- A stream stabilization project was completed at the City of Auburn Softball Complex. It included installation of 75 linear feet of toe-wood, boulder vanes, stormwater outfall protection, and native vegetation.
- The Corley Courtyard Stormwater Educational Plaza was completed in August 2014, including installation of two bioretention cells. The Plaza will serve as an outdoor classroom for Biosystems Engineering. Post-storm event sampling will be analyzed and described by Biosystems Engineering’s faculty and students to evaluate pollutant removal.
- A 350-linear foot stream restoration was completed in partnership with the AU Kitchen Wellness Program. PMC funds were used to purchase signage, while AU Facilities and Athletics funded the actual restoration. Future improvement of the stream is included in the AU Campus Master Plan.



Soil Resources and Conservation students at the Auburn University Turf Unit rain garden



Stream stabilization project at the City of Auburn Softball Complex



Pet waste stations in high pet traffic areas promote stewardship goals linked to pathogen reductions

Parkerson Mill Creek Load Reductions

209.28 lbs/yr of nitrogen
3.82 lbs/yr of phosphorus
1692.67 tons/yr of sediment

Big Scirum/Dry Creek Watershed Project



Above: Cross fencing to restrict cattle access

Below: Streambank stabilization on a farm in Blount County



The Big Scirum Creek Sub-Watershed (HUC 03160111-0208) is located in the Upper Locust Fork Watershed within the Black Warrior River Basin. The watershed covers 16,993 acres in Blount County and incorporates most of the Town of Nectar. The primary land cover is pasture and forest land. Big Scirum Creek is a tributary to Locust Fork (HUC 03160111-0208) and appears on the State's 303(d) list for siltation from agriculture and abandoned surface mining.

The Dry Creek Watershed (HUC 03160111-0203) is located in the Middle Locust Fork Sub-Watershed of the Black Warrior River Basin. The Middle Locust Fork Sub-Watershed drains approximately 138 square miles in Blount and Etowah Counties. The Dry Creek Watershed resides entirely within Blount County and covers 12,648 acres. The Town of Cleveland and a portion of the Town of Rosa are located within the boundaries of the watershed.

During the life of this project, the following BMPs were implemented: 20,374 feet of fencing, 18,931.5 square feet of heavy use area, 210 feet of stream bank and shoreline stabilization and protection, 40 acres of pasture planting, 12 acres of tree planting, five alternative watering sources and one 20'X 48" pipe crossing.

Educational outreach and other assistance were provided to watershed stakeholders for the duration of the project. The Watershed Coordinator facilitated meetings, workshops, education and outreach, training, etc., that promoted the project.

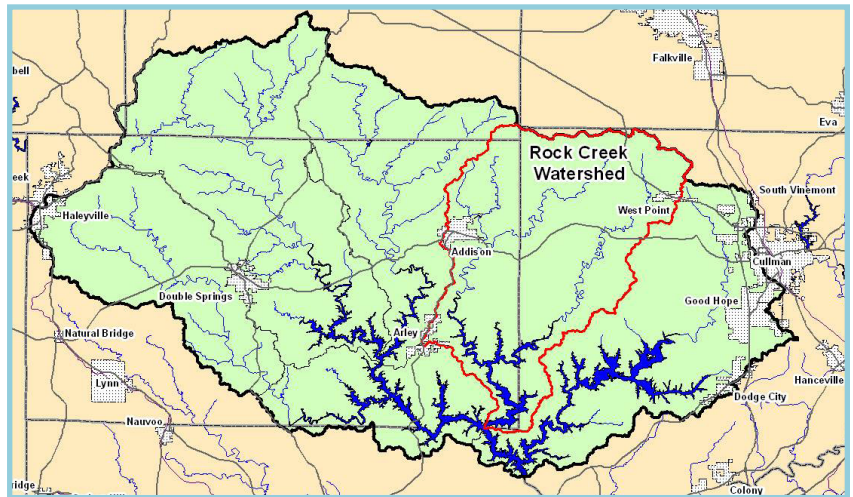
Big Scirum/Dry Creek **Load Reductions**

5,144 lbs/yr of nitrogen
771 lbs/yr of phosphorus
393 tons/yr of sediment

Rock Creek Watershed Project

The Rock Creek Watershed Management Project (RCWMP) implements the first three years of a six-year watershed management plan to address impairments and extend watershed stewardship outreach. Two segments in the Rock Creek Watershed, Upper Rock and Crooked Creeks, are impaired because of organic enrichment/low dissolved oxygen (OE/DO) and pathogens. Additionally, Crooked Creek was listed on the 303(d) list because of excessive ammonia. Nonpoint sources of pollution to both Rock and Crooked Creeks have been attributed to pasture grazing and intensive animal feeding operations. The project is coordinated by Alabama Water Watch at Auburn University.

During this project, 13 landowners installed more than fifty BMPs aimed at improving water quality (specifically reducing organic loading and pathogen contamination) on farms in the Rock Creek Watershed. Project personnel also provided project updates and promoted stakeholder participation through RCWMP stakeholder meetings and at meetings of local watershed organizations. A RCWMP poster, brochure, and website were developed and utilized to promote the project. A total of approximately 18 outreach activities, including educational workshops, were conducted as part of the RCWMP. Approximately 10,000



A map of the Rock Creek Watershed

adults and youth were reached by the project.

Thirty Alabama Water Watch water monitoring certifications were earned by stakeholders through water chemistry and bacteriological water monitoring workshops sponsored by the project. Volunteer water monitors regularly conducted water chemistry and bacteriological tests at approximately 17 sites. This has resulted in about 130 data records. Four Bacteria Blitzes were also conducted during the project period. Data can be accessed at www.alabamawaterwatch.org.

Volunteer water monitors identified a major pathogen issue related to failed septic systems in the Town of Addison. Stakeholders shared data with Town officials and encouraged them to address the issue. The Town of Addison received a grant from the Appalachian Regional Commission to fund 80% of the \$143,942 project to connect the center of town to the wastewater treatment plant. Improvements to water quality (pathogens) in the historically problematic site are being documented with bacteriological water data. Stakeholders continue to pursue improved methods of detection, policies, and enforcement of policies regarding pathogen pollution on a state-wide basis.



Rock Creek Load Reductions

15,569 lb. nitrogen/yr

1,611 lb. phosphorus/yr

418 tons of sediment/yr

Left: W. Deutsch, Project Director and M. Dominguez, Watershed Coordinator, discuss progress of the RCWMP during the Project Kick-Off Meeting in June 2011.

Hurricane Creek Watershed Project

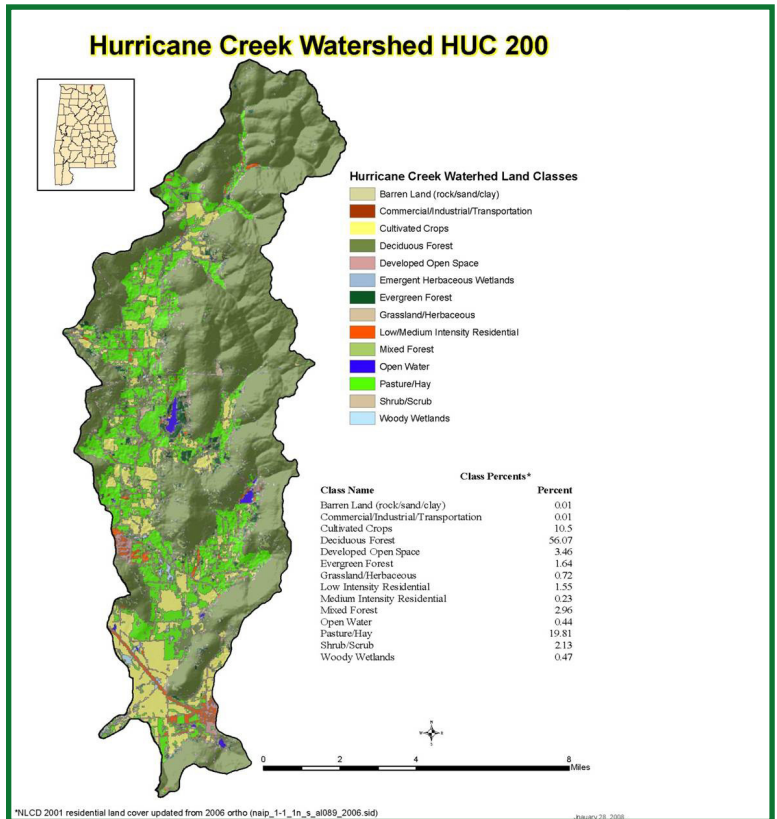
The Hurricane Creek Watershed drains to the Wheeler Lake Watershed in the Tennessee River Basin (HUC 06030002-0200). Hurricane Creek was first placed on the State of Alabama's 303(d) list for pathogens in 1998. The pathogens TMDL for Hurricane Creek was drafted by ADEM in 2006. Based on the dominate land uses of agriculture and forest, the most likely sources of pathogen loadings to Hurricane Creek is related to agriculture. The goal of the Hurricane Creek 319 project is to address the causes of stream impairment through development and implementation of conservation plans that will result in Hurricane Creek meeting its designated use water quality standards.

To date, the project coordinator has received ten applications, developed conservation plans for twelve cattle farms, and installed conservation practices on seven farms. The following practices were installed in priority areas within the Hurricane Creek Watershed:

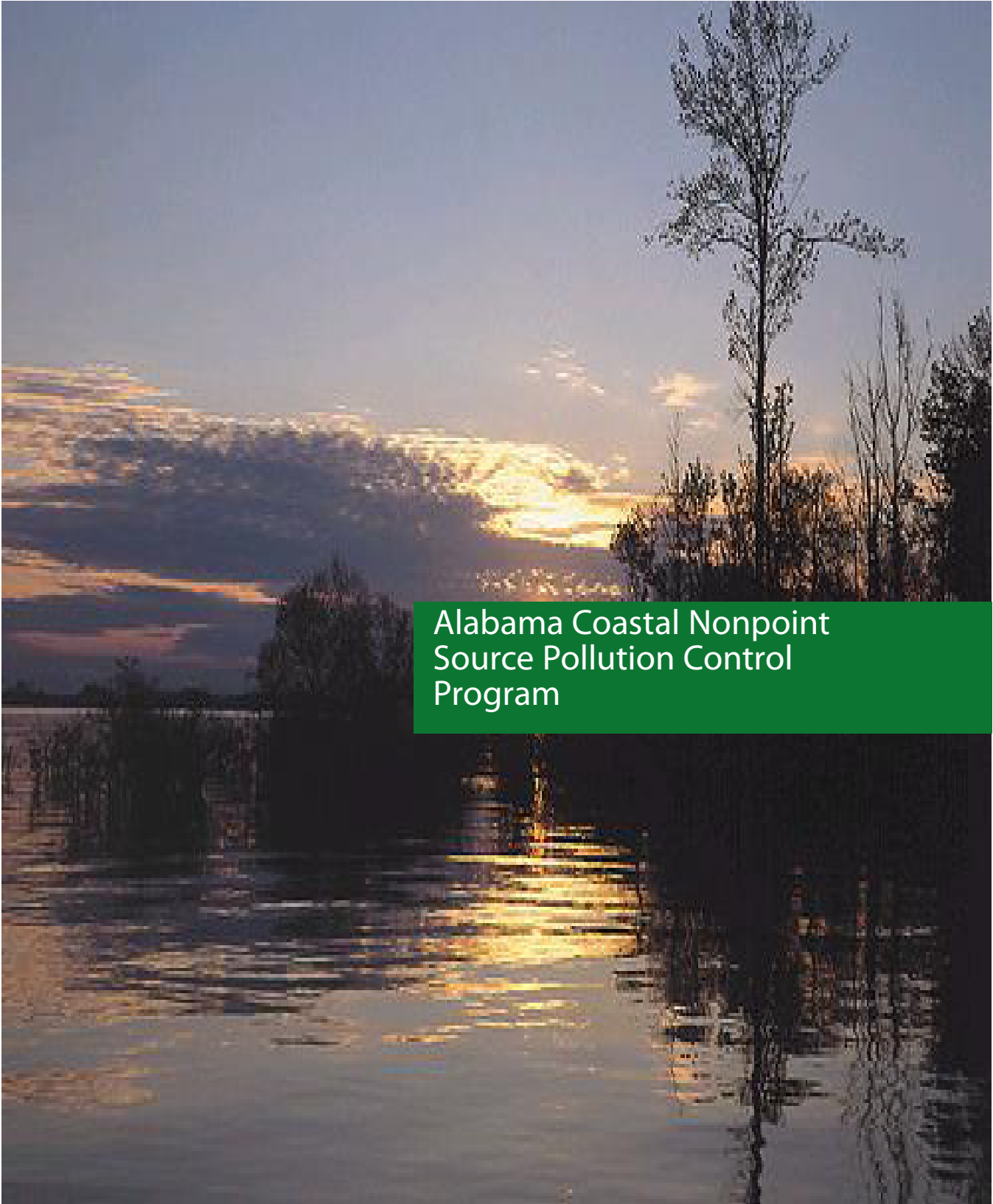
- 13 freeze-proof watering facilities for cattle with heavy-use area protection
- Four acres of vegetation improvement
- 4157 feet of cross fencing
- 6683 feet of exclusion fencing
- 700 feet of broad-base terracing for gully erosion

Hurricane Creek Load Reductions

4,6031 lbs/yr of nitrogen
1,681 lbs/yr of phosphorus
89.1 tons/yr of sediment



Heavy use area and alternative watering source help to minimize the negative impacts that livestock can have on riparian areas.



Alabama Coastal Nonpoint Source Pollution Control Program

Alabama's Coastal Nonpoint Pollution Control Program



Baldwin County Coastal Stream

During the past year, the ADEM Coastal Nonpoint Pollution Control Program (ACNPP) has continued to coordinate with EPA-Region 4 and the ADEM Nonpoint Source Unit to develop and implement programmatic approaches. The ACNPP focused on the continued development and implementation of these major projects in order to address important coastal NPS issues, including ongoing coordination with NOAA-OCRM and the Alabama Department of Conservation and Natural Resources-Coastal Section, as well as other pertinent partner agencies. Activities have been expanded considerably to coordinate closely with ADEM-319, Coastal States Organization (CSO), and other program partners in order to specifically address approval criteria.

CSO Coastal NPS Work Group for \$6217

In order to promote these goals for the ACNPP, the ADEM staff have assisted management of the CSO's National Coastal Workgroup, serving as a Workgroup co-chairman since December of 2010. ADEM has helped lead this Coastal NPS Program forum with CSO, assisting with over 51 teleconference meetings and federal agency discussion, including a current list-serve of 96 participants to date. During the past year, the Coastal NPS Work Group has coordinated requests from CSO, EPA, NOAA, and the GAO, as well as several policy documents and tabulations of key

issues for the coastal states. This Coastal NPS Workgroup seeks to bridge gaps between the CZMPs and statewide NPS programs to improve land-uses and management of coastal resources while enabling the CNPCPs to enhance the quality of coastal streams, rivers, and embayments.

ACNPP Submission for Agriculture Measures

The ACNPP and ADCNR-Coastal Programs have continued the construction of category submissions based upon the prior Draft ACNPP Submission 2011, and as indicated by EPA and NOAA-OCRM. The recent ACNPP submission for agriculture (October 2014) documents and demonstrates the progress of the ACNPP and to satisfy the last remaining approval issues for Alabama's Program. The ACNPP staff utilizes a NPS Projects Template in the development of projects that address designated Coastal NPS Program Land-Use Categories. This approach has allowed the ACNPP to monitor progress for each category of interest (e.g., marinas, agriculture, or onsite disposal systems). These projects, along with the development of Technical Assistance Workshops, Surveys, and Category related Resource Reports, comprise the core of Alabama's long-term efforts to address and/or track coastal NPS issues.

Coastal Alabama Headwater Stream Survey

The Headwater Stream Survey serves to locate potential stream sites and to identify and survey 'representative' low-order reference streams within the two coastal counties. Documentation was made of specific water quality conditions, flow, and basic geomorphic survey data for local headwater streams, both urban and rural. Quantification of adjacent Land Use Categories (LUC) was documented and measured, along with correlating LUC management measures and best management practices in close proximity to identified 'headwater' streams. In addition, baseline data was gathered that relates to 'conditional approval' issues cited in the Alabama Coastal Findings and Conditions document that relate to the Agriculture, Forestry, Urban Runoff, Hydromodification, and Wetlands,

Coastal stream with adjacent wetlands



Riparian Areas, and Vegetated Treatment Systems (VTS) category sections. In 2012, the Level I-Reconnaissance was contracted and conducted to assess over 200 identified survey sites as suitable for further study. Intensive field recon for over 145 stream sites was conducted throughout southwest Alabama within the Coastal NPS Management Area. This intensive headwater survey project was contracted for 2013 to conduct the final site selection and geomorphic survey and GIS mapping. Approximately 14 stream reaches were selected, being visited seasonally and determined as suitable for the final survey and assessment for Year II of this project through 2013, into 2014. ADEM required additional field calibration and the project was implemented, with final project activities and report products being completed in December of 2014.

Coastal Alabama Region NO-TILL Grain Drill

The continued implementation and monitoring of Agriculture-related measures are realized through the newest ACNCP project contracted through the local Soil and Water Conservation Districts using ADEM-319 funds through December of 2015. Each county has contracted to purchase this erosion stabilization equipment and through a series of six collaborative Workshops educate the local public concerning their use and importance. This Program provides access and long-term maintenance, enabling maximum application for these machines for farmers participating within each coastal county. The machines record acres of use and the SWCDs tally the HUCS and soil loss reductions as a result of these and associated practices. The first two field demonstrations of six planned Workshops, the Annual Forage & Cattle Field Day: Coastal Alabama No Till Grain Drill Program, were held Sept. 24, 2014 in Mobile County and in Baldwin County on December 11, 2014 to initiate implementation of this project.

Urban Area Projects

The continued effort to address the Urban Areas categories and issues involves the ACNCP Technical Advisory Projects for Urban Areas Management Measures:

A.) The ACNCP has continued engagement with the D'Olive Creek Restoration Plan and with the completion of the Joe's Branch Stream Improvement Project, along with assistance in developing the Eight Mile Creek (8MC) WMP. The Program has also continued to provide technical assistance for development of the Three Mile Creek WMP and the initiation of the Fowl River WMP, which has been led by the the Mobile Bay NEP.

B.) The ACNCP Municipal Advisory Project is on-going in order to provide program coordination with the new City of Semmes, Alabama (established May 2, 2011), as the City continues to amend/refine their municipal Subdivision Ordinances and new Design Standards Codes (See <http://cityofsemmes.powweb.com>). The program proactively addresses Wetland, Hydromodification, and Urban Areas category issues and measures for Alabama's CNCP.

C.) ADEM's ACNCP further addressed Urban Area issues by becoming engaged with the development and review of the Alabama LID Handbook. This handbook was developed and completed in FY2014, through Auburn University and AL Soil & Water Conservation Committee (ASWCC) as a project for ADEM-319 and in support of ACNCP.

D.) ADEM's Coastal NPS Program developed a complete listing of "Priority Watersheds for Coastal Alabama" for current watershed assessment/prioritization efforts.

E.) In FY2014, the new Coastal Alabama Marinas & Watersheds Mapping Project / Online GIS Viewer Format continued to be used by coastal stakeholders (see http://gis.adem.alabama.gov/ADEM_Dash/marina_viewer/index.html).

F.) ACNCP coordination with ADEM's Information Services Branch continues to update the online Marinas and Watersheds tool. It allows the public to view the previous Atlas of Coastal Alabama Marinas and Watersheds (2008) online. The newest 12-digit HUCs and labels have been overlaid with navigation data.



The Alabama NPS Program

Administered by the:
Alabama Department of Environmental Management
1400 Coliseum Blvd.
Montgomery, Alabama 36110-2400
Phone 334-271-7700
adem.alabama.gov

