

**ALABAMA NONPOINT
SOURCE
MANAGEMENT
PROGRAM
ANNUAL REPORT**

2016

ADEM
Alabama Department of Environmental Management

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Executive Summary

Nonpoint source (NPS) pollution, also known as polluted runoff, is the largest cause of Alabama’s water quality impairments, accounting for approximately two-thirds of the water quality pollution sources to our streams and lakes. Nonpoint source pollution is caused by rainfall or snowmelt moving over and through the ground, picking up and carrying pollutants to our streams, rivers, lakes, wetlands, coastal waters, and ground waters. Unlike point source pollution that enters waters from definable locations such as discharge pipes from wastewater treatment plants, nonpoint source pollution originates from many and varied sources. Nonpoint source pollution is usually associated with farming, logging, mining, urban and construction activities, land disposal, and onsite septage and wastewater disposal activities. Atmospheric deposition can also contribute to nonpoint source pollution.

Section 319(h) of the Clean Water Act authorizes federal grant funding to implement EPA approved state nonpoint source management programs. Since 1990, the Alabama Department of Environmental Management (ADEM) has used Section 319(h) grant funding to target a wide range of NPS problems and provide for their solutions. State and local agencies and governments, academia, nonprofit entities and others are eligible to apply for Section 319(h) grant funding through the ADEM. Grant funds may be used to address the implementation of watershed management plans to restore impaired waters. These watershed projects include on-the-ground implementation of best management practices, along with the provision of technical assistance, education and outreach, and local stakeholder capacity.

TABLE 1: ALABAMA NPS PROGRAMMATIC GOALS AND OBJECTIVES FOR FISCAL YEARS 2014 - 2019

Goal 1:	Continue to collect surface water and groundwater data annually using the ADEM Statewide Water Quality Monitoring Strategy to assess whether state waters meet state water quality standards and use classifications.
Goal 2:	Target NPS pollution program resources to restore, protect, and maintain beneficial uses of waters.
Goal 3:	Implement nonpoint source best management practices to restore and protect watershed health and water quality.
Goal 4:	Enhance institutional capacity to implement a sustainable statewide NPS pollution management program.
Goal 5:	Facilitate statewide Education and Outreach (E&O) activities to increase the public’s knowledge and awareness about nonpoint source pollution, watershed health, water quality protection and restoration, and natural resource stewardship.

Alabama's Disbursement of 319(h) Funds

The 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, training, technology transfer, implementation of nonpoint source Total Maximum Daily Loads (TMDLs), and implementation of watershed projects and best management practices (BMPs).

The ADEM 319 funding has continued to decline in overall funding, with a 10.3 percent decrease since fiscal year 2012. 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.

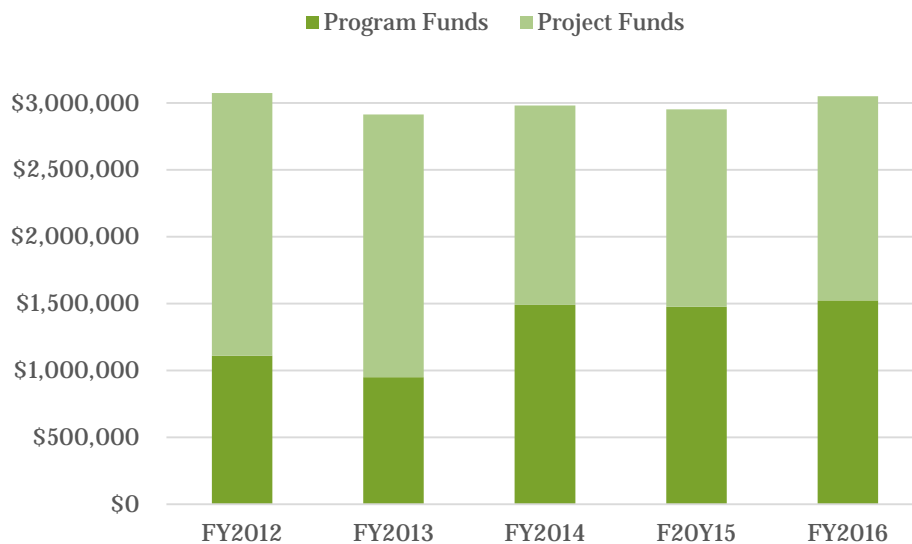
Current grant balances (effective October 2016)

Balances for active grants FY2012-FY2016 are listed in Table 2 and represented graphically in the figure below.

TABLE 2 – CURRENT 319 GRANT BALANCES

Grant Year	Award Amount	Amount Obligated	Program Funds	Project Funds	Total # Projects
FY12	\$3,074,000	\$3,074,000	\$1,110,000	\$1,964,000	12
FY13	\$2,914,000	\$2,914,000	\$950,000	\$1,964,000	12
FY14	\$2,981,000	\$2,981,000	\$1,490,500	\$1,490,500	11
FY15	\$2,950,500	\$2,950,500	\$1,475,250	\$1,475,250	10
FY16	\$3,050,000*	\$3,050,000	\$1,525,000	\$1,525,000	12
Total	\$14,969,500	\$14,969,500	\$6,550,750	\$8,418,750	56

*FY2016 Projects were funded by the EPA on September 23, 2016.



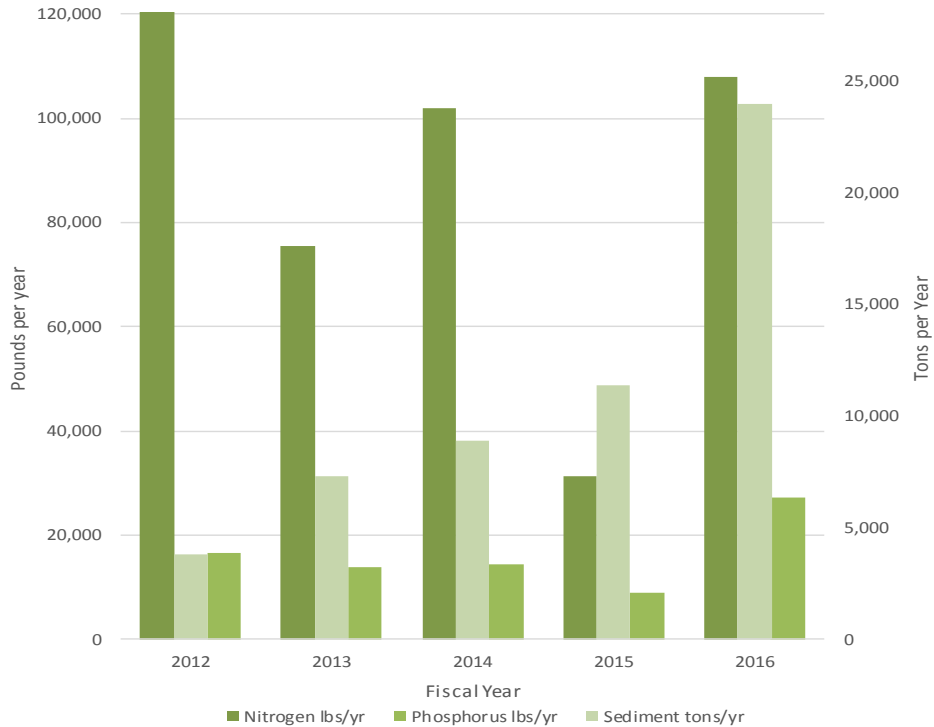
Pollutant Load Reduction Totals in FY2016

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. Table 3 and the figure 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.

TABLE 3 – POLLUTANT LOAD REDUCTIONS

Fiscal Year	Nitrogen	Phosphorus	Sedimentation-Siltation
2012	122,266.80 lbs/yr	16,618.40 lbs/yr	3,828.80 tons/yr
2013	75,521.88 lbs/yr	13,870.62 lbs/yr	7,286.57 tons/yr
2014	101,900.80 lbs/yr	14,322.60 lbs/yr	8,899.10 tons/yr
2015	31,443.20 lbs/yr	9,023.00 lbs/yr	11,404.70 tons/yr
2016	108,056.33 lbs/yr	27,187.25 lbs/yr	23,995.28 tons/yr
Total	439,189.01 lbs/yr	81,021.87 lbs/yr	55,414.458 tons/yr

*FY2016 Projects were approved/funded by the EPA on September 23, 2016.



Section 319(h) Grant Program Success Story

Cane Creek Meets Water Quality Standards Due to Restoration Efforts of Acid Mine Drainage to Black Branch

WATERBODIES IMPROVED

High acidity in discharge from abandoned mines led to increased metal levels and low pH in Black Branch and Cane Creek, which in turn degraded aquatic habitat. As a result, Black Branch and Cane Creek were added to Alabama's 1998 Clean Water Act (CWA) section 303(d) list of impaired waters for metals, pH, siltation and other habitat alteration. Cane Creek was added for metals, pH, nutrients, siltation and organic enrichment/dissolved oxygen. Several federal and state agencies collaborated to remediate acid mine drainage (AMD) in the watershed, partially restoring Black Branch and fully restoring Cane Creek. Water quality improved due to these efforts, enabling Alabama to remove Black Branch for siltation and metals, and Cane Creek for metals, nutrients, pH, organic enrichment and siltation, in 2014.

PROBLEM

The 4.11-mile-long Black Branch (segment AL03160109-0404-500) is a tributary to the 18.02-mile-long Cane Creek (three segments: AL03160109-0404-101, -102 and -103) in the Black Warrior River Basin in central Alabama. Cane Creek flows through the town of Oakman in Walker County (Figure 1). The Black Branch – Cane Creek Watershed consists of rural, forested land with agriculture and abandoned surface mining areas. Black Branch has a long history of underground coal mining beginning in 1920. Abandoned mines in the Black Branch – Cane Creek Watershed discharged highly acidic water into Black Branch, which created a mixing zone at the confluence of Black Branch and Cane Creek that degraded aquatic habitat and water quality. In 1997 the Alabama Department of Industrial Relations (ADIR) developed the *Cane Creek Acid Mine Drainage Remediation Project, Walker County, Alabama, Environmental Assessment*, which noted the streams were devoid of fish and plants and that the AMD had a corrosive effect on the streams. Because of these conditions, Black Branch and Cane Creek were placed on the state of Alabama's CWA section 303(d) list of impaired waters in 1998 for metals, pH, other habitat alteration and siltation.

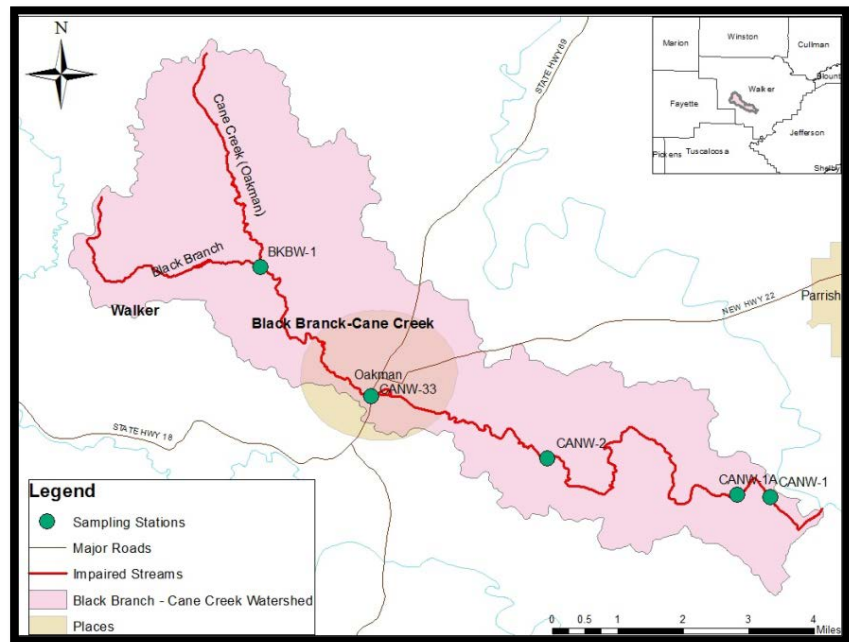


Figure 1. Black Branch - Cane Creek Watershed

Remediating Black Branch was essential for fully restoring Cane Creek and improving the water quality in Black Branch itself.

PROJECT HIGHLIGHTS

The Black Branch Watershed Management Plan was written in 2005 to identify ways to reduce the amount of AMD entering the stream. To achieve this goal, the first objective of the plan was to back-fill a large subsidence from a collapsed mine with limestone riprap to prevent any safety hazard to site visitors. A secondary objective was to remediate the gob pile (mining overburden). To remediate the gob pile, a grading crew relocated the portion of the gob pile that was in contact with surface



Figure 2. Pictures of restoration sites in 2006 (top) and in 2011 (bottom)

water and areas where water was leaching through it, and then covered the remaining pile with one to two feet of soil. Finally, a passive water treatment consisting of a vertical flow system was constructed that would improve water quality for Red Branch, a tributary to Black Branch. All restoration activities took place from June 2006 to May 2011 (Figure 2).

RESULTS

Implementing the recommendations outlined in the Black Branch Watershed Management Plan helped to decrease AMD. Water quality data collected in 2012 by ADEM showed increases in pH compared to before restoration. Furthermore, all the pH readings collected in 2012 fell within ADEM's water quality standards criteria ranging between 6.0 and 8.5 (Table 1). The pH values improved over the course of the project: 24.15 percent (mean values) and 22.88 percent (median values). No violations occurred at any of the three stations in reference to EPA's recommended iron criteria. In addition, all stations showed compliance with the 90th percentile eco-reference guideline for iron. With respect to aluminum, all three stations reported exceedances of EPA's recommended aluminum criteria. The highest was at CANW-33, where four of eight samples exceeded the 0.087 mg/L criteria value; however, all three stations median values were below the 90th percentile eco-reference guideline for aluminum (see Table 1). Turbidity data collected in 2012 was below ADEM's water quality criteria of 50 NTU above background. Furthermore, median turbidity and total dissolved solids concentrations are below the eco-reference 90th percentile; therefore, the numeric data meets criteria and indicates low sediment levels. From

examination of all available water quality data and information provided for Cane Creek, ADEM has determined that impairment due to metals, nutrients, pH, organic enrichment, and siltation does not currently exist. Cane Creek has been removed from Alabama's CWA section 303(d) list. In addition, Black Branch is no longer impaired for siltation and metals.

TABLE 4 - PRE AND POST BMP DATA VALUES

Station ID: CANW-33 (CC-1)						
2012	Fe Dissolved	Fe Total	Al Dissolved	Al Total	DO (mg/L)	pH (s.u.)
Minimum	0.019	0.065	0.043	0.043	6.08	7.49
Maximum	0.040	0.143	0.078	0.286	9.08	8.02
Mean	0.022	0.111	0.054	0.1159	7.838	7.726
Median	0.019	0.096	0.053	0.098	7.97	7.78
75th %	0.021	0.139	0.058	0.1123	8.29	7.85
90th %	0.03	0.179	0.067	0.1859	8.932	8.002
Eco Ref 90%	0.588	0.1046	0.1	0.3055	6.79	7.84
1988/1996	Fe Dissolved	Fe Total	Al Dissolved	Al Total	DO (mg/L)	pH (s.u.)
Minimum	0.004	0.04	0.00	0.02	3.30	4.20
Maximum	297.00	76.50	53.00	75.40	7.70	8.20
Mean	46.18	14.57	9.32	11.13	5.28	5.86
Median	0.49	0.74	0.06	0.10	4.60	6.00
75th %	1.14	26.60	0.12	2.25	5.20	6.50
90th %	174.70	42.66	41.50	33.16	7.00	7.22
Eco Ref 90%	0.588	0.1046	0.1	0.3055	6.79	7.84
EPA criteria for Fe is 1 mg/l and AL is 0.0857 mg/l						

PARTNERS AND FUNDING

The Black Branch Watershed Management Plan, written by the Black Warrior Clean Water Partnership for the ADIR, addressed the implementation of the Black Branch Watershed Project. All construction and remediation was done under the supervision of ADIR's Mining and Reclamation Division, Abandoned Mine Lands Program.

EPA and ADEM contributed \$255,000 in CWA section 319 funds, which supported safety measures to control erosion through the use of rip-rap, remediation materials for the gob pile, and clearing and reshaping the gob pile. The Abandoned Mine Land Reclamation Program within ADIR's Mining and Reclamation Division contributed \$810,152 for remediation of the gob pile, construction of the passive treatment system for Red Branch, and water quality monitoring of the site before and after construction. They also conducted educational programs on the site for educators and agency staff members. The Black Warrior Clean Water Partnership compiled the Black Branch Watershed Management Plan for the ADIR as an in-kind service.

TMDLs and Assessments Update

TMDLs in Alabama

Total Maximum Daily Loads are developed by ADEM as specified in the State of Alabama Water Quality Monitoring Strategy. The 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, along with reductions needed to meet these standards. Once the TMDLs are developed by ADEM's Water Quality Branch, the documents are submitted to EPA for approval and subject to public comment. The NPS Management Program uses TMDLs to help with establishing watershed priorities, leverage resources, and implement water quality protection and restoration activities. In FY2016, the TMDL Program of ADEM continued to make great strides in protecting Alabama's water resources. Alabama's cumulative total of approved TMDLs in FY2016 was 246.

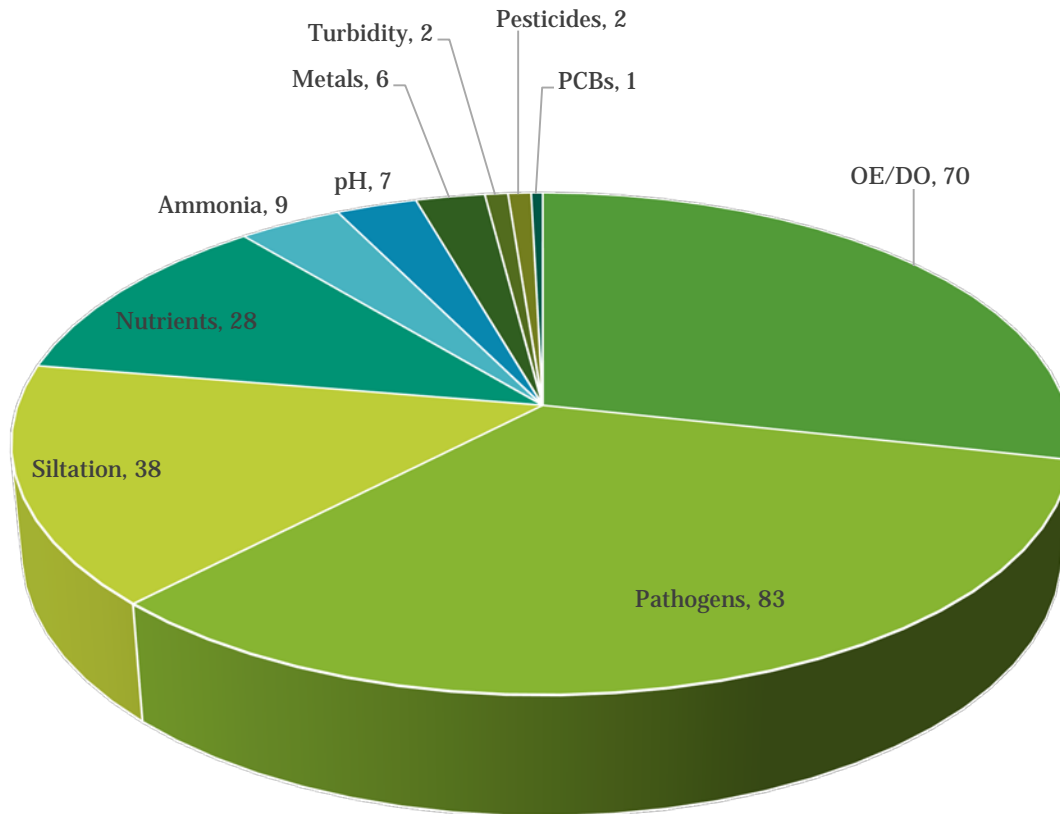


Figure 3: Approved TMDLs in Alabama

Current NPS Projects Implementing a TMDL

TABLE 5 – IMPLEMENTATION PROJECTS FY 2012 THRU FY 2016

Fiscal Year	Project Title	Total
2012	#14 Village Branch Watershed Project #16 Hurricane Creek Watershed Management Project	2
2013	#13 West Flint Creek Watershed Project-Phase 2 #14 French Mill Creek Watershed Project #15 Harris Creek Watershed Project-Phase 2 #18 Pintlala Creek Watershed Project	4
2014	#8 Upper Scarham Creek Watershed Project #9 Graves Creek Watershed Project #10 Shoal Creek Watershed Project #11 Pursley Creek Watershed Project	4
2015	#7 Second Creek Watershed Project #8 Brindley Creek Watershed Project #10 Neely Henry Nutrient Reduction Project	3
2016	#8 Upper and Lower Flint River #9 Shoal/Swann Creek (Limestone Co.) #10 West Flint Creek Watershed Project - Phase 3 #11 Three Mile Creek Watershed Project	4
2017	<i>*Projects are currently awaiting EPA approval.</i>	-
Total Projects Implementing a TMDL		17

ADEM Surface Water Monitoring and Assessments Strategy

Between 1996 and 2014, ADEM's overall strategy was implemented on a five-year rotation by basin groups and incorporated a combination of targeted, probabilistic, and long-term monitoring stations to meet state monitoring goals and objectives. Concentrating monitoring in one basin group enabled ADEM to identify opportunities to meet multiple monitoring objectives at a single site, increasing overall efficiency. It also created a comprehensive dataset to develop the criteria and indicators needed to meet other objectives.

For the 2015 monitoring cycle, the Department identified a new process for prioritizing which streams and sampling stations would be monitored. The Department created the Basin Team approach. This approach allows for developing improved communication among project managers, field staff, and ADEM management within Field Operations, the Water Quality Branch, and the Nonpoint Source Unit. Participation provides opportunities for Team members to become familiar with data needs and issues within their basin. Responsibilities of each Basin Team include development of the annual basin plan, tracking and documenting State Water Quality Monitoring Plan decisions and revisions, preparing basin team status summaries, managing data requests and reviews, and reviewing final reports.

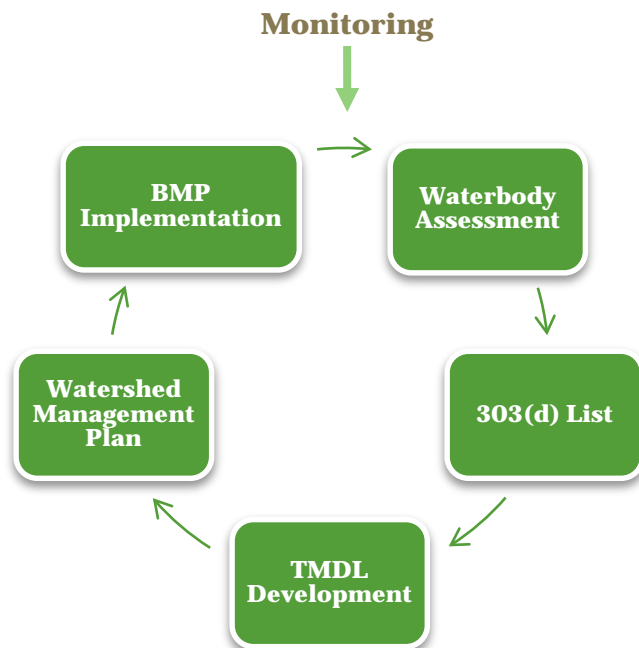


Figure 4: Assessment Strategy

This approach has been successful in large part to the progress ADEM has made during the last ten years in monitoring, as well as changes to EPA's program priorities. The Basin Team approach allows ADEM to conduct monitoring within each basin each year, while continuing to meet monitoring goals for all three programs over a five-year period. This change supports more frequent, intensive monitoring within each basin group to more accurately measure trends in water quality before and after implementation of restoration efforts, to respond to data needs more quickly, and to minimize the impact of weather-related events on data collected within any one basin. The strategy also provides level loading for ADEM's labs and field offices, making better use of ADEM's available resources.

A prioritization framework has been developed within the Basin Team meetings to rank monitoring needs to meet program necessities within each basin group and programs represented. Priorities that each team analyzes and ranks include monitoring impaired, unimpaired, and unassessed waters; evaluating the effectiveness of restoration efforts; and assessing the needs of collaborating agencies and stakeholders when possible. Monitoring conducted within each river basin group is planned and coordinated annually by ADEM's Basin Teams. Annual basin team meetings were conducted for the 2017 sampling year in the end of August and the beginning on September 2016.

Rivers, Reservoirs, and Tributary Embayments Assessments

Seventy-seven mainstem reservoir stations on the Coosa, Tombigbee, and Mobile Bay River Basins were intensively monitored in FY2016. Each station was sampled monthly, from April through October within a one-week period to reduce weather-related variability in water quality conditions. Data collected through this project provides an estimate of the current water quality and trophic state of the tributary embayments of the basin. It also allows for determinations of compliance with established water quality compliance criteria. This information is used to update the Department's Integrated Monitoring and Assessment Report (CWA sections 303(d), 305(b), 314) and the ADEM Water Resources System – Alabama Water-Quality Assessment & Monitoring Data Repository, which is then exported to EPA's Water Quality Exchange database. Monitoring results are also used to determine which tributaries are most affected by nonpoint source pollution and to aid in the development of TMDLs for impaired tributaries.

At each sampling site, temperature, dissolved oxygen, specific conductance, and pH were measured in situ at multiple depths in the water column with a multi-parameter instrument. From this composite, water quality and water column chlorophyll A samples were collected monthly, hardness was collected semi-monthly, and agar gel precipitation test (AGPT) samples were collected once in August. Surface water *Escherichia coli* (*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 Non-wadeable Streams and Rivers Assessments

Fifty locations on wadeable flowing streams and rivers were sampled in FY2016. Fourteen sites on nine waterbodies were monitored to document water quality conditions prior to the implementation of CWA Section 319 watershed plans. Eight locations were monitored to develop TMDLs for seven waterbodies located throughout Alabama. Biological, chemical, and habitat data were monitored at nineteen established and candidate reference reaches located throughout the state to characterize least-impaired conditions within eight Level 4 and four Level 3 ecoregions. Monitoring locations were selected to provide data from priority Section 319 grant-funded projects, priority watersheds identified by Alabama's Soil and Water Conservation Districts and the Clean Water Partnerships, Strategic Habitat Units identified by the U.S. Fish and Wildlife Service, and an EPA/USDA-National Water Quality Initiative (NWQI) priority watershed. Data generated during this project will be used in developing and prioritizing watershed management plan goals and documenting successes. It will also be used to categorize wadeable stream and river assessment units in the Alabama Integrated Water Quality Assessment and Monitoring Report. New and legacy least-impaired reaches monitoring data will support ADEM's Ecoregional Reference Reach Program and be used to develop nutrient and sediment criteria, biological condition gradients, and assessment criteria for wadeable and non-wadeable streams and rivers. As applicable, data will also be used to assign CWA section 303(d) listings (Category 4a and Category 5) for impaired waters and to develop TMDLs.

Macroinvertebrate or fish assessments were conducted once at each station in May through early July. Habitat assessments were conducted at all sites during the biological assessment. 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*), semimonthly (total and dissolved metals), or quarterly (pesticides, semi-volatiles, and atrazine), March through October, to help identify any stressors to biological communities.

NPS Partnerships

ADEM Nonpoint Source Conference

The 27th Annual NPS Conference was held on January 20, 2016, at the Renaissance Hotel in downtown Montgomery. Many organizations and agencies participated in the conference including the U.S. EPA Region 4, the Mobile Bay National Estuary Program (NEP), the Alabama Cooperative Extension System (ACES), and the Alabama Department of Transportation (ALDOT). Attendees included more than 280 environmental engineers, biologists, geologists, municipal leaders, and water quality specialists. The event also included more than a dozen exhibits with displays and handouts.

The 2016 conference included an overview of the State's NPS Program, which has been in place since 1989. The conference offered attendees updates on efforts to improve water quality in local watersheds. These included presentations on the importance of cooperative partnerships, tools and technology, low impact development (LID) in urban projects, sediment reduction, and the development of watershed management plans to reduce NPS pollution.

National Water Quality Initiative in Alabama

The Alabama Department of Environmental Management continues to partner with the National Resource Conservation Service (NRCS) as part of the NWQI to target Cox Mill Creek-Hurricane Creek (HUC 03140201-1004) within the Upper Choctawhatchee River Basin and the Guntersville Lake-Scarham Creek Watersheds (8-digit HUC 06030001) within the Tennessee River Basin. Initially, the ACWP 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 continuing to provide funding for implementation practices, in addition to technical assistance and planning tools. The ADEM is providing monitoring of water quality to assess results and document improvements, as well as providing Section 319 funding targeting Upper Scarham Creek in the Guntersville Lake-Scarham Creek Watershed.

The Cox Mill Creek-Hurricane Creek Watershed includes over 15,700 acres within the watershed, with about 12,500 acres being agricultural land use. Approximately 75 percent of the agricultural land within the watershed is categorized as "high to potentially highly erodible land." Since 2014, NRCS has worked with farmers and landowners to apply best management practices that will improve the land and thus improve water quality.

The Upper Scarham Creek Watershed, within the Guntersville Lake Sub-basin, was selected as a priority by ADEM for the development of a watershed management plan in 2014. The Top of Alabama Regional Council of Governments completed the Upper Scarham Creek Watershed Management Plan in June 2015. In FY16, the DeKalb County Soil and Water Conservation District contracted with ADEM to implement the Upper Scarham Creek Watershed Project using Section 319 funding.

The EPA Region 4, ADEM, and USDA-NRCS met for a multi-agency coordination meeting for the National Water Quality Initiative for Alabama on May 20, 2016.

USDA NWQI PRACTICES SUMMARY FOR COX MILL CREEK-HURRICANE CREEK WATERSHED

Practices	Sum of Acres Applied
Access Control	172.1
Conservation Cover	299.4
Conservation Crop Rotation	585.4
Contour Farming	35.9
Cover Crop	1679.8
Critical Area Planting	425.7
Fence	48.4
Firebreak	69.5
Forage and Biomass Planting	339.3
Forage Harvest Management	28.1
Forest Stand Improvement	81.5
Grassed Waterway	96
Heavy Use are Protection	48
Herbaceous Weed Control	32.2
Integrated Pest Management (IPM)	63
Irrigation Pipeline	61
Irrigation Water Management	176.5
Land Smoothing	428.5
Livestock Pipeline	48
Nutrient Management	371.8
Pond	54.5
Prescribed Burning	260.9
Prescribed Grazing	5.8
Pumping Plant	22.6
Residue Management, Seasonal	96
Residue/Tillage Mgmt, No-Till	294.5
Residue/Tillage Mgmt, Reduced Till	1126.7
Sprinkler System	204.7
Terrace	418.8
Tree/Shrub Establishment	31.5
Tree/Shrub Site Prep	194.5
Underground Outlet	408.1
Water and Sediment Control Basin	65.6
Water Well	22.6
Watering Facility	48

USDA NWQI PRACTICES SUMMARY FOR GUNTERSVILLE LAKE-SCARHAM CREEK WATERSHEDS

Practices	Sum of Acres Applied
Animal Mortality Facility	116
Comprehensive Nutrient Management Plan	538.1
Conservation Crop Rotation	628.7
Cover Crop	123.3
Critical Area Planting	60.4
Fence	434.3
Firebreak	39
Forage and Biomass Planting	350.2
Forage Harvest Management	88.2
Forest Stand Improvement	68.6
Grade Stabilization Structure	17.4
Heavy Use are Protection	763.6
Herbaceous Weed Control	1134.3
Land Smoothing	575.2
Livestock Pipeline	282.4
Nutrient Management	1764.6
Prescribed Burning	39
Prescribed Grazing	1169.6
Pumping Plant	9.9
Residue/Tillage Mgmt, No-Till	298.1
Roofs and Covers	155.8
Stream Crossing	31.3
Terrace	12
Tree/Shrub Establishment	39
Tree/Shrub Site Prep	39
Underground Outlet	24
Waste Storage Facility	128.8
Water Well	29
Watering Facility	396.4

Additional 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:

- The **National Oceanic and Atmospheric Administration (NOAA)** is involved in specific nonpoint source projects through and with other state agencies. The 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** work in conjunction with the **Alabama Department of Conservation and Natural Resources (ADCNR)** 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 Moores Creek and the Mill Creek Subwatersheds (Chattahoochee Basin), the USACOE provides advice on Section 404 permitting requirements, as needed, for a stream restoration projects and has helped to identify solutions to siltation problems.
- The **Natural Resources Conservation Service** 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. The TVA's Regional Watershed Offices are responsible for carrying out the program. The TVA focuses on improving water and shoreline conditions so that people and aquatic life can benefit from having clean water. The TVA continues to work with several watershed projects in the Tennessee River Basin and is vital in gathering and providing water quality data.
- 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, has 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. The ADEM is working with the USFWS to coordinate these efforts through prioritization of data monitoring, information exchange, and in monitoring SHUs where 319 implementation projects have occurred.
- The **U.S. EPA Region 4** provides administrative oversight and support for the Section 319 Program in Alabama. The EPA also assists with the collaborative effort to evaluate the environmental conditions and solutions needed in the Village Creek Watershed in Jefferson County.

Alabama Clean Water Partnership

The Alabama Clean Water Partnership (ACWP) is a 501(c) (3) nonprofit organization composed of a dedicated and diverse alliance of public and private sector entities who seek to enhance, restore, and protect watershed health, water quality, and natural resources in Alabama using a voluntary management approach. The ACWP Executive Director and Basin Facilitators assist ADEM in identifying and mitigating NPS watershed and water quality threats and impairments. Support activities include acquisition and dissemination of data, information, and maps; estimating/modeling NPS pollutant load reductions; working with local entities to prioritize watersheds/water for protection and restoration; identifying appropriate programs, authorities, and project design and implementation assistance resources; and engaging citizen-based volunteer water quality monitoring and other activities. The following project highlights occurred in FY2016:

- The ACWP's Annual Conference was held at the Lanark Park Environmental Center in Millbrook on December 9, 2015, in conjunction with the Alabama Wildlife Federation. The 2015 publication, "The Alabama Clean Water Partnership: Celebrating 14 Years," was released at the watershed conference highlighting each basin Partnership along with statewide ACWP projects and partners.
- The ACWP agreement with the NRCS to support the NWQI was extended until September 30, 2016. The purpose of the agreement is to involve stakeholders in the prioritization of 12-digit hydrologic unit codes (HUCs) in each of the ACWP designated river basins in three categories: Agriculture and Forestry Conservation (sediment, nutrients), Urban Conservation (sediment/erosion control, low impact development), and Aquatic Resources (aquatic habitat restoration). Data verification is underway for the previously nominated "Top Five Streams".
- At least 22 basin steering committee meetings were held, in addition to 21 sub-basin committee meetings.

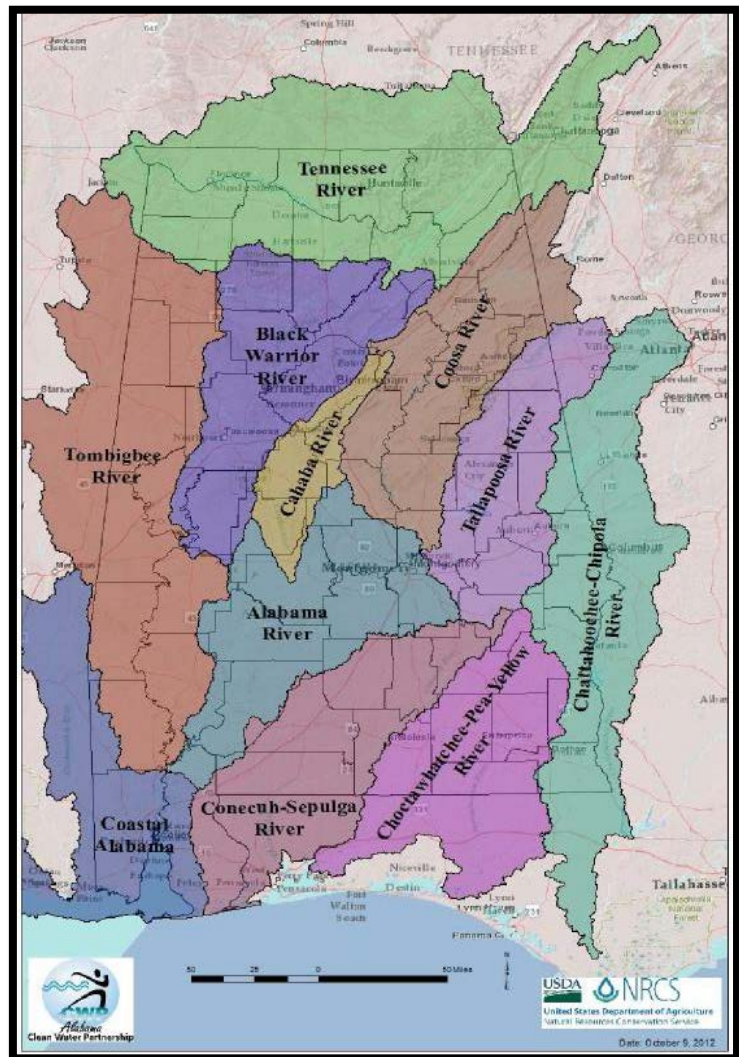


Figure 5: Alabama Clean Water Partnership Basins

- Approximately 40 education and outreach events were held by or assisted by the ACWP facilitators, including multiple lake and stream clean-up events, resource field tours, water festivals, rain barrel workshops, Living Stream workshops, wild hog workshops, and several presentations at conferences, meetings, and school programs.
- The ACWP facilitators participated with the implementation of at least seven watershed management plans and with the ongoing development of watershed management plans during this reporting period. Five of the plans being developed are in the Coastal Basin, in partnership with the Mobile Bay NEP.

Following the submittal of the final invoice for the ACWP CWA Section 319 grant workplan for fiscal workplan 2014 for activities conducted through March, no additional activities have been initiated under the ACWP CWA Section 319 grant workplan for fiscal workplan 2015. Currently, the ACWP is re-evaluating its business model and is coordinating with ADEM in modifying its project scope.

Education and Outreach Highlights

Groundwater and Water Festivals in Alabama

A key to providing protection for our surface and groundwater resources is education. The goal of a water festival is to educate fourth grade students, and indirectly their guardians and the community, on surface and groundwater issues including water sources and its protection, uses of water, and how to protect water from pollution. The Groundwater and Water Festivals are a culmination of classroom study and hands-on activities, allowing students the opportunity to experience first-hand through experimentation and problem-solving the complexity of surface and groundwater and its relationship to nature in general. This is the 19th year of Groundwater and Water Festivals in Alabama. Since January 2016, 26 counties have participated.



Students at the Montgomery County Water Festival learn about water filtration by building a water filter.

Earth Day Activities

The Alabama Department of Environmental Management celebrated Earth Day 2016 by hosting a special event for more than 150 middle and high school students. On April 19, visiting students received guided tours and hands-on demonstrations from ADEM staff related to a wide-range of environmental programs including water quality sampling, fish tissue monitoring, air monitoring, recycling, solid waste disposal, and efforts that ensure Alabamians are provided with clean water. Also on April 19-20, ADEM employees participated in an Earth Day Safari at the Montgomery Zoo along with the Alabama Forestry Commission, the Montgomery Clean City Commission, and the Montgomery Museum of Fine Arts. People visiting the zoo on those two days were able to learn about various aspects of water treatment, recycling, plant and animal conservation, and air quality protection.

Alabama Envirothon

The ADEM's NPS Unit, in a joint effort with other agencies, continues to play a vital 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 6-8, 2016, at the 4-H Camp in Columbiana. The current issue of this year's Envirothon was "*Invasive Species: A Challenge to the Environment, Economy & Society*". Nonpoint source staff taught about the importance of invasive species in relationship to water quality protection and restoration. Bob Jones High School from Madison County was the overall state winner.

2016 Clear Water Alabama Erosion and Sediment Control Workshop



Workshop attendees tour a construction BMP demonstration site.

ADEM continued to provide support in the planning and organization of the annual "Clear Water Alabama Seminar and Field Day" as part of the Alabama Erosion and Sediment Control Partnership. The goal of the Partnership is to help planners, designers, contractors, inspectors, and others learn about the latest erosion and sediment control practices. Members include the Alabama Soil and Water Conservation Committee, the Natural Resources Conservation Service, ADEM, and the Alabama

Association of Conservation Districts, the Alabama Department of Transportation, the Home Builders Association of Alabama, the Associated General Contractors of Alabama and Auburn University – Alabama Cooperative Extension System.

This year's seminar and field days were held August 24-25, 2016, in Madison, Alabama. The first day's seminar included an update on regulation changes within the Stormwater Management Branch from ADEM, along with presentations on the Cahaba River and Tennessee River, an update on erosion and sediment research from Auburn University, low impact development and infiltration in clay soils, ALDOT specification changes, tips for better temporary and permanent cover, the City of Madison Stormwater Management Program, information about the formation of an Alabama Stormwater Association, and a presentation on Conserve Alabama. An exhibit area showcased erosion and sediment control technology representatives from across the Southeast. The second day of the workshop included a tour of several erosion and sediment control BMP and LID demonstration sites.

Watershed Management Plans

Large-scale management plans have been completed for each major river basin across the state. These plans continue to be used as a vital basis for background information for the smaller targeted 12-digit HUC plans and by stakeholder groups as they move to prioritize and target water quality problems and solutions in each river basin. A list of the targeted 12-digit HUC plans is shown below.

As outlined in the Section 319 workplans, the watershed management plans are in various stages of development and implementation. These workplans will incorporate, as applicable, EPA’s “a-i” elements for watershed management plans as outlined in the FY13 Section 319 grant guidance.

Alabama River Basin

• Baldwin Slough (031502010307)	17,280 acres	Complete
• Upper Pintlala Creek (031502010401, 031502010404)	55,437 acres	Complete
• Pursley Creek (031502030802)	48,429 acres	Complete
Total acres addressed	121,146 acres	

Black Warrior River Basin

• Brindley Creek (031601090105)	15,638 acres	Complete
• Long Branch (031601090303)	19,752 acres	Complete
• Black Branch-Cane Creek (031601090602)	40,670 acres	Complete
• Headwaters Ryan Creek-Alvis Branch (031601100501)	26,334 acres	Complete
• Bavar Creek-Ryan Creek (031601100502)	16,540 acres	Complete
• Graves Creek (031601110202)	37,766 acres	Complete
• Dry Creek (031601110203)	12,648 acres	Complete
• Big Scirum Creek-Upper Locust Fork (031601110208)	16,953 acres	Complete
• Village Creek (031601110408, 031601110410)	60,917 acres	In Progress
• Rock Creek-Crooked Creek (031601100401, 031601100402)	132,695 acres	Complete
• North River (031601120401, 031601120402, 031601120404)	121,967 acres	Complete
• Cottonwood Creek (031601130704)	28,428 acres	In Progress
• Dollar Hyde Creek (031601130801, 031601130803, 031601130804)	55,040 acres	Complete
Total acres addressed	585,348 acres	

Cahaba River Basin

• Little Shades Creek (031502020201)	39,908 acres	Complete
Total acres addressed	39,908 acres	

Chattahoochee-Chipola River Basins

• Moores Creek (031300020907)	11,558 acres	Complete
• Mill Creek (031300030101)	15,729 acres	Complete
Total acres addressed	27,287 acres	

Choctawhatchee-Pea-Yellow River Basins

- | | | |
|---|---------------------|----------|
| • Hurricane Creek-Dowling Branch (031402010704) | 15,647 acres | Complete |
| Total acres addressed | 15,647 acres | |

Coosa Basin

- | | | |
|---------------------------------------|---------------|----------|
| • Spring and Mud Creek (031501050807) | 10,880 acres | Complete |
| • Broken Arrow Creek (031501060602) | 38,903 acres | Complete |
| • Buxahatchee Creek (031501070502) | 45,663 acres | Complete |
| • Middle Coosa | 915,016 acres | Complete |

Targeting the following subwatersheds:

- Little Land Valley Creek (031501060103)
- Fisher Creek (031501060104)
- Whippoorwill Creek (031501060105)
- Little Wills Creek (031501060106)
- Black Creek (031501060107)
- Horton Creek (031501060108)
- Ball Play Creek (031501060201)
- Dry Creek (031501060202)
- Big Cove (031501060203)
- Turkey Town Creek (031501060204)
- Little Canoe Creek (031501060301)
- Headwaters Big Canoe Creek (031501060302)
- Upper Big Canoe Creek (031501060303)
- Lake Sumatanga-Little Canoe Creek (031501060304)
- Middle Big Canoe Creek (031501060305)
- Lower Big Canoe Creek (031501060306)
- Laymous Pond-Beaver Creek (031501060307)
- Shoal Creek-Coosa River (031501060308)
- Neely Henry Lake-Coosa River (031501060309)
- Upper Ohatchee Creek (031501060404)
- Lower Ohatchee Creek (031501060405)
- Woods Island-Coosa River (031501060409)
- Trout Creek (031501060601)
- Broken Arrow Creek (031501060602)
- Embry Bend-Coosa River (031501060603)
- Broken Arrow Shoals (031501060605)
- Rabbit Branch (031501060803)
- Jess Branch-Shoal Creek (031501060804)
- Upper Kelly Creek (031501060805)
- Hearthstone Creek-Wolf Creek (031501060806)
- Buckhorn Branch-Bear Creek (031501060807)
- Lower Kelly Creek (031501060808)
- Spring Creek-Coosa River (031501060810)

<ul style="list-style-type: none"> • Upper and Middle Coosa Watersheds (DeKalb Co.) 	340,026 acres	Complete
<ul style="list-style-type: none"> Targeting the following subwatersheds: ○ Lower West Fork Little River (031501050701) ○ Middle Fork Little River (031501050702) ○ Upper Little River East and West Forks (031501050703) ○ Upper East Fork Little River (031501050704) ○ Lower East Fork Little River (031501050705) ○ Yellow Creek (031501050801) ○ Upper Little River (031501050802) ○ Bear Creek (031501050803) ○ Johnnies Creek (031501050804) ○ Wolf Creek (031501050805) ○ Lower Little River (031501050806) ○ Yellow Creek (031501051001) ○ Headwaters Big Wills Creek (031501060101) ○ Upper Big Wills Creek (031501060102) ○ Little Sand Valley Creek (031501060103) 		
<ul style="list-style-type: none"> • Middle Coosa Priority Subwatersheds 	Acreage above	Complete
<ul style="list-style-type: none"> Targeting the following subwatersheds: ○ Dry Creek (031501060202) ○ Big Cove Creek (031501060203) ○ Turkey Town Creek (031501060204) ○ Little Canoe Creek (031501060301) ○ Headwaters Big Canoe Creek (031501060302) ○ Upper Big Canoe Creek (031501060303) ○ Middle Big Canoe Creek (031501060305) ○ Neely Henry Lake-Coosa River (031501060309) ○ Trout Creek (031501060601) ○ Broken Arrow Creek (031501060602) ○ Broken Arrow Shoals (031501060605) ○ Rabbit Branch (031501060803) ○ Jess Branch-Shoal Creek (031501060804) ○ Hearthstone Creek-Wolf Creek (031501060806) ○ Buckhorn Branch-Bear Creek (031501060807) ○ Easonville Creek (031501060290) 		
Total acres addressed	1,350,488 acres	

Mobile Basin

• Wolf Bay (031401070201, 031401070202,031401070203)	36,296 acres	In Progress
• Eightmile Creek (031602040304)	22,287 acres	Complete
• Three Mile Creek (031602040504)	19,002 acres	Complete
• D'Olive Creek (031602040505)	20,480 acres	Complete
• Dog River (031602050101, 031602050102, 031602050103, 031602050105)	61,735 acres	In Progress
• Fowl River (031602050104)	39,739 acres	Complete
• Weeks Bay (031602050201, 031602050202, 031602050203, 031602050204)	129,610 acres	In Progress
• Bon Secour (031602050206, 031602050207, 031602050208)	43,673 acres	In Progress
• Juniper Creek-Big Creek (031700080401)	5,936 acres	Being updated

• Bayou la Batre (031700090102)	19,562 acres	In Progress
• West Fowl River (031700090103)	20,489 acres	In Progress
• Dauphin Island (031700090202)	3,851 acres	In Progress
Total acres addressed	422,660 acres	

Tallapoosa Basin

• Town Creek (031500010301)	150 acres	Complete
• Little Tallapoosa River (031501080905, 031501081004)	61,735 acres	In Progress
• Wolf Creek-Copper's Rock (031501081004)	23,488 acres	Complete
• Moore's Mill Creek (031501100201, 031501100203, 031501100204)	7,360 acres	Complete
• Saugahatchee Creek (031501100201, 031501100202, 031501100203, 031501100204)	108,482 acres	Complete
• Parkerson Mill Creek (031500010301)	5,981 acres	Complete
Total acres addressed	207,196 acres	

Tennessee Basin

• Guess Creek (060300020105)	21,818 acres	Complete
• Cole Spring Branch (060300020201)	3,110 acres	Complete
• Brier Fork and Beaverdam Creek (060300020305, 060300020307)	67,290 acres	Complete
• Upper and Middle Flint River (060300020307, 060300020403)	54,648 acres	In Progress
• Hester Creek-Mountain Fork (060300020304)	53,838 acres	Complete
• Upper Hurricane Creek and Lower Hurricane Creek (060300020401, 060300020402)	46,873 acres	Complete
• Goose Creek (060300020404)	7,552 acres	Complete
• Yellow Bank Creek (060300020405)	6,208 acres	Complete
• Indian Creek (060300020505)	24,847 acres	Complete
• Hughes Creek (060300020601)	18,276 acres	Complete
• West Fork Cotaco Creek (060300020602)	34,573 acres	Complete
• Town Creek (060300020604)	23,442 acres	Complete
• French Mill Creek (060300020802)	26,908 acres	Being Updated
• Upper Scarham Creek (060300020803)	31,238 acres	Complete
• Shoal Creek-Sleighton Branch (060300021005)	10,140 acres	Complete
• Crowdabout Creek (060300021007)	31,180 acres	Complete
• Elam Creek (060300021009)	19,651 acres	Complete
• Upper and Middle West Flint Creek (060300021010, 060300021012)	56,260 acres	Complete
• Big Shoal Creek (060300021011)	12,967 acres	Complete
• Flat Creek (060300021013)	38,246 acres	Complete
• Village Branch (060300021014)	33,457 acres	Complete
• Swan Creek (060300021101)	35,928 acres	Complete
• Second Creek (060300021203, 060300021204)	37,714 acres	Complete
• Shoal Creek (060300040401)	39,088 acres	Complete
• Harris Creek (060300060201)	35,224 acres	Complete
Total acres addressed	770,476 acres	

Implementation of Watershed Plans

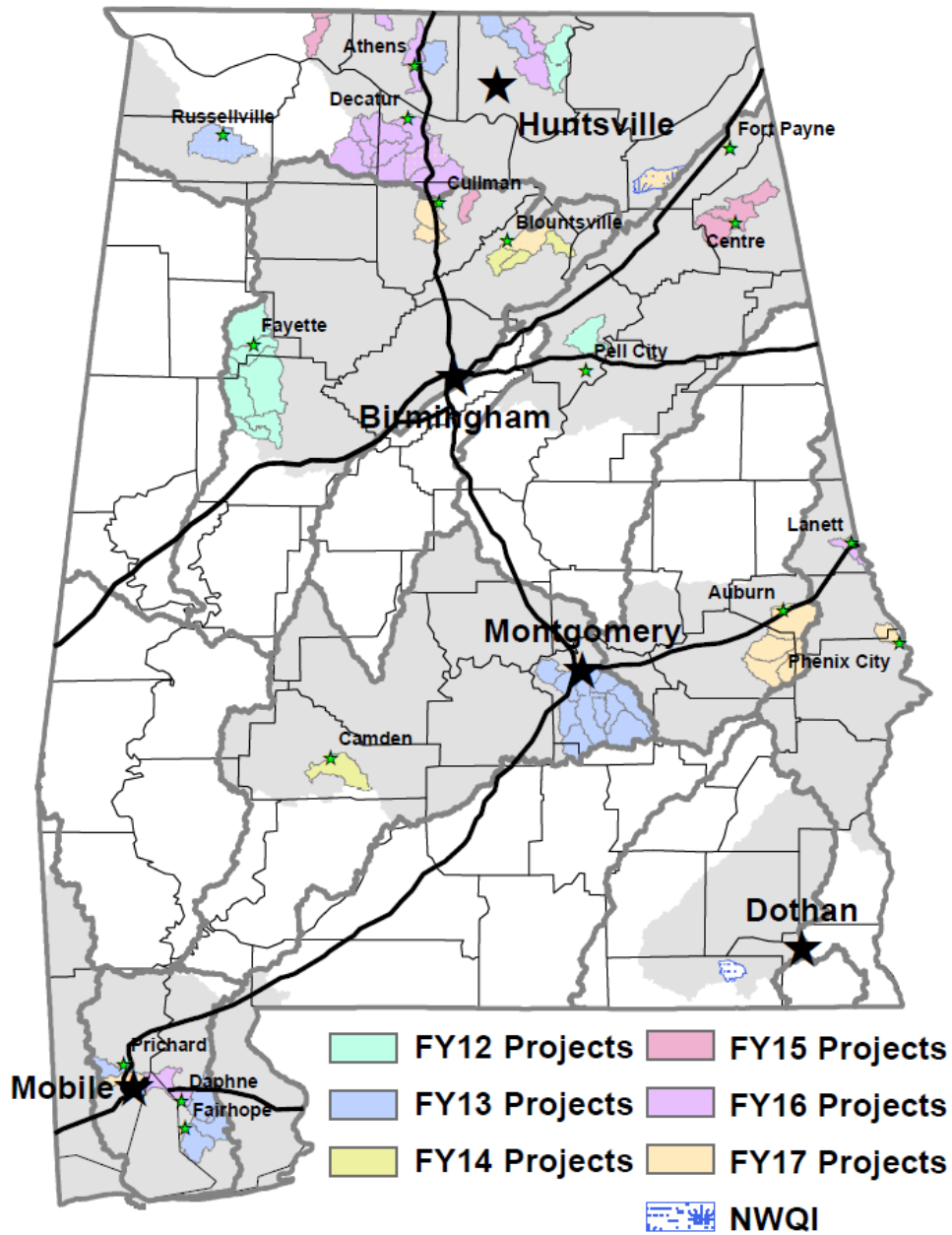


Figure 6: ADEM NPS Targeted 12-Digit HUCs

Alabama River Basin

Pintlala Creek & Catoma Creek Watersheds Project (FY13)



Pintlala Elementary students learn about the importance of soils at a farm in the Pintlala Creek Watershed.

Pintlala Creek begins in northern Crenshaw County and flows through Montgomery County into the Alabama River. Pintlala Creek is approximately 49 miles in total length, of which 26 miles is impaired. The drainage area of the impaired segments is 86.56 square miles. Pintlala Creek was first listed on the CWA section 303(d) list in 2006 based on data collected in 1999 and 2000 by the U.S. Geological Survey, which indicated the stream was impaired for fecal coliform. In 2010, further sampling studies by ADEM identified Pintlala Creek as being

impaired by pathogens due to pasture grazing, from its source to Pinchony Creek. A TMDL was developed from the *E. coli* data collected. The Pintlala Creek Watershed Project addresses two subwatersheds: Upper Pintlala Creek (HUC 03150201-0401) and Headwaters Pintlala Creek (HUC 03150201-0404).

The Pintlala Creek Project was originally a two-year project with the Montgomery County SWCD to address pastureland and septic systems sources of pathogens in south Montgomery County. Due to landowner participation issues and drought, additional time was requested to implement the original applications for practices. In addition, interest from the adjacent Catoma Creek Watershed (10-digit HUC 03150201-03), with the same pastureland land uses and sources of nutrients and pathogens, led to a request from the SWCD to expand the area of implementation. Catoma Creek, Ramer Creek, and an Unnamed Tributary to Catoma Creek are all impaired streams within the larger Catoma Watershed; all are impaired for pathogens and organic enrichment/low dissolved oxygen.

To date, Montgomery County SWCD has received 20 applications for cost-share funding with 6 practices completed. The practices completed during the last year include: 17,587 feet of livestock pipeline for water, 19,038 square feet of heavy use areas, 21 alternative watering sources, 2 pumping plants and water wells, and 6,839 feet of fencing.

The SWCD has organized and held several community outreach meetings at local churches and fire departments in the Pintlala Creek Watershed. Two septic tank workshops have been held, in conjunction with the Alabama Department of Public Health, ADEM, and the Alabama River Basin Clean Water Partnership. Thirty-two vouchers for septic tank pump-outs were distributed to those who attended the entire presentation. A Fencing and Grazing School for the Pintlala Creek Watershed landowners was also held, in addition to a Farm Field Day for students from Pintlala Elementary School's Blue Planet Defender's Club.

Cumulative Load Reductions:

- 3614.2 lbs/yr of nitrogen
- 367.7 lbs/yr of phosphorus
- 161 tons/yr of sediment

Black Warrior River Basin

Brindley Creek Watershed Project (FY15)

Brindley Creek is a part of the upper Black Warrior River Basin. It combines with Eightmile Creek east of the town of Cullman to form the Broglen River before it drains into Mulberry Fork. The Brindley Creek Watershed (HUC 03160109-0105) has an area of 24.83 square miles. Two segments of Brindley Creek have been identified as impaired for nutrients and pathogens associated with agricultural and urban runoff and storm sewers. Its use classification is Public Water Supply. A TMDL for Brindley Creek was completed for pathogens (2005) and requires a load reduction of 75 percent for the waterbody to meet its use classification. The TMDL for nutrients (2012) requires a total phosphorus load reduction of 66 percent.

The Brindley Creek Project is being implemented in cooperation with the Cullman County SWCD. At the date of this annual report, five applications have been received for drystacks, a grassed waterway, and heavy use areas, with four applications being approved for funding. One practice, a grassed waterway, has been completed and is in the process of being approved for payment. The remaining practices will begin once the conservation plans are completed. One drystack was not approved for funding because ADEM setbacks could not be met. Other landowners have been contacted and have obtained an application to submit for funding in the next year. Those practices will be completed in the next reporting period. Estimated load reductions will be completed in the next reporting as the practices are completed.

The Soil and Water Education Trailer has been completed and is being displayed at educational and other community events in the watershed and surrounding area. At the time of this report, a total of 1,600 people have toured the trailer. Of that total, 1,300 were students. Events included Farm Y'all (farming education field day), an 8th grade career fair, and a Chamber of Commerce Leadership Tour.



Soil and Water Education Trailer features a Rivers of Alabama section where the public can learn about rivers and polluted runoff.

Graves Creek Watershed Project (FY14)

Graves Creek, located within the Graves Creek Watershed (HUC 03160111-0202), is a tributary to the Locust Fork in the Black Warrior River Basin. Graves Creek begins approximately 1.5 miles northeast of the Town of Liberty in Blount County. It has a linear distance of 9.62 miles, a total of 9,486.03 acres, and a drainage area of 14.4 square miles. Graves Creek was originally placed on the 1992 CWA section 303(d) list of impaired waters for organic enrichment/low dissolved oxygen (OE/DO) from primarily agricultural sources. A TMDL completed in 2002 calls for a 70 percent reduction from nonpoint source loads. The goal of the Graves Creek project is to implement agricultural best management practices that address TMDL sources and causes based on a 2014 nine key element watershed management plan.

The Graves Creek project is being implemented in partnership with the Blount County SWCD and the NRCS. During the past year, 7.3 acres of pasture planting has been completed on a single farm, and 4,104 feet of cross fence and 1 water ramp each has been completed for 2 existing ponds on another farm. There are currently 3 additional applicants working on practices, which include 16 four-ball watering facilities and 4 two-ball watering facilities; 11,512 square feet of heavy use area for the watering facilities; 9,000 feet of pipeline for the watering facilities; 3,136 square feet of heavy use area for feeding cattle; and 15,514 feet of cross fencing. Water monitoring is also being conducted quarterly by the watershed coordinator at four sites using Alabama Water Watch protocol. Criteria being tested include temperature, pH, dissolved oxygen, alkalinity, hardness, turbidity, and bacteria (*E. coli*).



A “Future Dairy Farmer” from Hayden Elementary School interacting with “Maggie” the milk cow.

Count Fair. Additionally, the District helped to coordinate the 2016 Blount County Groundwater Festival on February 5, 2016, when over 582 Blount County 4th grade students and their teachers participated in hands-on learning activities for understanding aquifers and the water cycle. “The Soil Tunnel” was presented to Blount County and Oneonta 2nd graders on April 28, 2016, to educate them on the importance of soil and water protection for future generations. Educational activities for adults included the “Outreach Workshop for New and Beginning Farmers” on August 30, 2016, and the “Future Farmers of America Land Judging Workshop for Teachers” on July 19, 2016.

Several education and outreach activities have occurred in conjunction with the Graves Creek Project. On October 30, 2015, the District and the Blount County Young Farmers worked four stations of the “Ag in Action Trailer” at Hayden Elementary School. The school’s 3rd and 4th grade classes, plus their teachers, visited the trailer and learned about farming and conservation practices for soil and water protection in the Graves Creek Watershed. The “Ag in Action Trailer” also made stops on July 1, 2016, at Susan More Elementary School for the “Summer Reading Program” and September 13-17, 2016, at the Blount

Cumulative Load Reductions:

- 665.9 lbs/yr of nitrogen
- 102.3 lbs/yr of phosphorus
- 366.5 tons/yr of sediment

North River Watershed Project – Phase 2 (FY12)

The North River Watershed (11-digit HUC 03160112-204) drains an area of about 1,110 square kilometers in Fayette and Tuscaloosa Counties and is a major tributary of the Black Warrior River. A 43.48 mile segment of North River was initially identified on the CWA section 303(d) list for nutrients and siltation (habitat alteration) impairments from abandoned surface mining. A watershed assessment conducted by the Tuscaloosa SWCD Advisory Committee also ranked North River as their number one priority impaired subwatershed, estimating that 93,600 tons of sediment is coming from erosion each year. Erosion from forest harvesting and streambank degradation was identified as primary contributors to instream sedimentation. After this second phase of the North River Project was implemented, data collected and assessed by ADEM indicated that the impairments for siltation and nutrients did not currently exist, therefore the river was delisted as impaired. This project ended in July 2016.



Jim Jeter, Alabama Forestry Commission, taught on “Forestry Operations and BMPs” to the Watersheds Class at the University of Alabama.

The North River Project was implemented in cooperation with the CAWACO Resource, Conservation and Development Council in Birmingham. A watershed coordinator, Dr. Mary Wallace-Pitts, was hired through the University of Alabama (UA). As a result of the project, Dr. Pitts established and taught a hands-on watershed class at UA that is continuing to train students on watershed management planning and implementation, addressing several watersheds across the state. The students were vital to the success of the project through their volunteer time at litter clean-ups and water festivals, at public displays, and in giving informative presentations on the project. A 12-page brochure summarizing the North River Project was prepared in conjunction with project partners and made available to attendees at each event to promote community involvement.

Patton Geologics and the Geological Survey of Alabama also partnered as part of this project to assess and identify high-yielding NPS pollution priority sites in the subwatersheds draining to North River. As of July 2016, a total of 67 sediment basins had been installed along dirt roads in the identified areas. In addition, 2 USDA/NRCS forestry planting projects were completed, including a 42.2 acre tract and a 72 acre tract. Site preparation BMPs included water bars and vegetation along the access roads that were featured in local forestry tours.

Cumulative Load Reductions:

- 188 lbs/yr of nitrogen
- 72.4 lbs/yr of phosphorus
- 4,814.5 tons/yr of sediment

Coastal Basin

Tiawasee Creek Subwatershed Project (FY15)

Tiawasee Creek (HUC 03160204-0505) is a tributary of the D'Olive Creek Watershed, located primarily in Daphne, Alabama. Tiawasee Creek discharges into D'Olive Bay and then into Mobile Bay. The Tiawasee Creek Subwatershed is approximately 9.1 square miles in area and includes portions of the City of Daphne and Baldwin County. Since 2008, ADEM has included the entire length of Tiawasee Creek and an Unnamed Tributary to Tiawasee Creek on the CWA section 303(d) list of impaired waters for siltation due to habitat alteration from land development.

A 1,400 linear feet stream restoration site has been completed as part the Tiawasee Project. The restoration was funded in part by the Coastal Impact Assistance Program, the National Fish and Wildlife Foundation's Gulf Benefit Fund, and ADEM Section 319 funding. It was implemented with help from a multitude of partners, including the Mobile Bay NEP, the National Fish and Wildlife Foundation, the City of Daphne, the Alabama Department of Conservation and Natural Resources, ADEM, Baldwin County, North State Environmental, and Goodwyn, Mills, and Cawood. A constructed stormwater wetland was also installed near the stream restoration to aid with peak flow reduction. Several groups, including engineers, municipal officials, state and federal agencies, as well as Boy Scouts, have toured and discussed the highly-visible Tiawasee Creek stream restoration.



North State Environmental began the stream restoration on the UT to Tiawasee Creek in February 2016.



A picture from May of 2016 shows the restoration in maintenance phase.

The City of Daphne, the City of Daphne's Environmental Advisory Committee, and ACES have been working toward identifying education and outreach programs for Baldwin County Schools within the City of Daphne. Currently, partners are developing a teacher survey to assess the requirements of classroom learning/activities and are working to implement activities like "Engaging Young Engineers", Alabama Water Watch and 4-H's water monitoring programs, and other ACES programs. The City completed an Alabama Water Watch Bacteriological Training on October 14, 2016, in order to train volunteer monitors for testing waters within the D'Olive Creek Watershed and other Baldwin County streams. The City is also working to acquire stormwater

pond retrofit areas and have been working with Jade Engineering to develop the low impact development BMPs that will occur in the headwaters.

Cumulative Load Reductions:

- 2937 lbs/yr of nitrogen
- 896 lbs/yr of phosphorus
- 1446.2 tons/yr of sediment

D'Olive Creek Watershed Implementation Monitoring Project (FY12)

The D'Olive Creek Watershed (8-digit HUC 03160204) drains approximately 7,700 acres and is located in portions of the Cities of Daphne and Spanish Fort, as well as, Baldwin County. It includes three major tributaries within the watershed: D'Olive Creek, Tiawasee Creek, and Joes Branch. D'Olive Creek and Tiawasee Creek drain to Lake Forest Lake, while Joes Branch connects to D'Olive Creek after the Lake Forest Lake Dam. The stream then drains into D'Olive Bay and out to Mobile Bay. In 2008, Joes Branch (1.57 miles), D'Olive Creek (4.89 miles), UT to D'Olive Creek (1.22 miles), Tiawasee Creek (3.54 miles), and a UT to Tiawasee Creek (1.87 miles) were added to the CWA section 303(d) list for siltation (habitat alteration) as a result of land development.



The City of Daphne's Gator Alley low impact development project is pictured above.

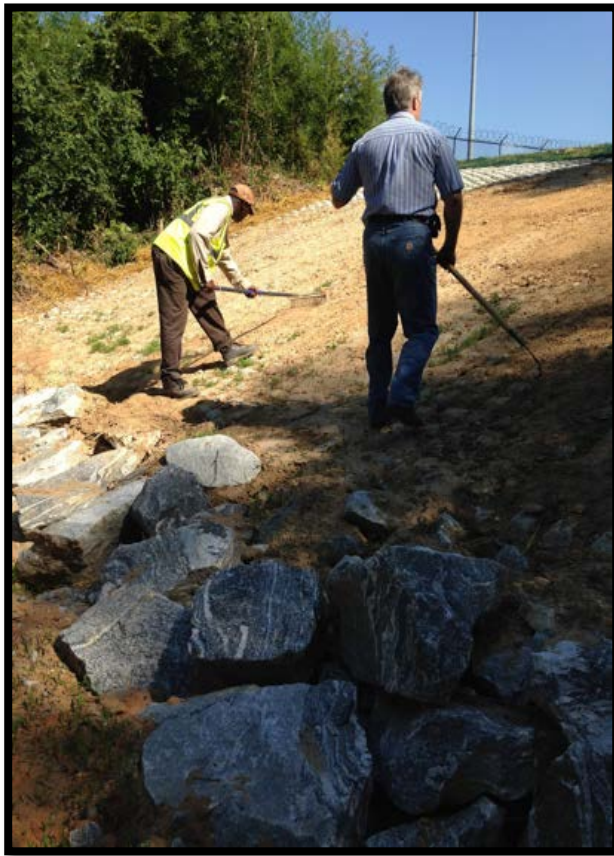
The funding for this project was used to acquire monitoring equipment to help evaluate the progress of the D'Olive Creek watershed restoration projects that have been implemented in cooperation with multiple partners: Mobile Bay NEP, ADEM, National Fish and Wildlife Federation, Coastal Impact Assistance Program, Alabama Department of Conservation and Natural Resources, Geological Survey of Alabama, Cities of Daphne and Spanish Fort, ALDOT, Baldwin County, et. al. The restoration has been guided by the nine key element watershed management plan for D'Olive Creek, Tiawasee Creek, and Joes Branch, finalized in August 2010.

Chattahoochee-Chipola River Basin

Mill Creek Watershed Project – Phase 2 (FY12)

The Mill Creek Watershed (HUC 03130003- 0101) drains an area of 24 square miles and is a major tributary to the Chattahoochee River-Bull Creek Sub-basin. In 2008, the entire 9.93 mile segment of Mill Creek was added to the Alabama CWA section 303(d) list of impaired waters. It is listed from the Chattahoochee River to its source. In 2010, ADEM determined that Mill Creek was impaired for organic enrichment/low dissolved oxygen due to urban development.

This project, completed in August of 2016, was implemented in partnership with ACES, the Cities of Smiths Station and Phenix City, Lee County, Columbus Water Works, Phenix City Schools, North State Environmental, Erosion Pros, Zink Environmental, Jennings Environmental, University of Georgia Extension System, and Auburn University. Eve Brantley, Katie Dylewski, and Alex James with ACES continued to guide the implementation of best management practices throughout the watershed for the duration of the project.



Bank stabilization at 14th Ave. in Phenix City included the addition of Flexamat[®] to the stream bank and the planting of low growing native vegetation.

by displaying new and innovative structures and techniques. North State Environmental, Auburn University, and ACES discussed the importance of stakeholder involvement and coordination, project sequence, site specific safety, and urban setting constraints, as well as materials and machinery. Participants learned about the specialized expertise needed to restore urban streams

Several urban BMPs were implemented to assist with the restoration of Mill Creek within the project period. Project BMPs implemented include the installation of gutters and two 500-gallon cisterns at Lakewood Elementary School, a stormwater wetland at Phenix City Intermediate School, a log vane improvement/stream stabilization from a previous project site at Broad Street in Phenix City, and a 100-foot stream segment enhancement at the intersection of Mill Creek and 14th Street in Phenix City. In February 2016, ACES, Alabama Power, ADEM, and Auburn University helped to plant 200 native plants and pick up trash along the banks of the Crawford Road project. In March 2016, a group of volunteers from Auburn University, the City of Smiths Station, ADEM, and ACES installed approximately 600 live stakes and wetland plugs on both sides of the stream bank for stabilization. In June 2016, Flexamat[®] was installed to stabilize the streambank at 14th Avenue in Phenix City.

Education and outreach activities included a Stream Restoration Education Demonstration and Planting Workshop at the Phenix City Intermediate School site, hosted by North State Environmental and ACES on April 13, 2016. The program promoted the stream restoration process in an urban setting

and watched the installation of a full boulder cross vane in the stream. Then, they participated by planting native stakes on both sides of the stream.

Cumulative Load Reductions:

- 206.0 lbs/yr of nitrogen
- 89.0 lbs/yr of phosphorus
- 130.7 tons/yr of sediment
- 495.6 lbs/yr biochemical oxygen demand (BOD)

Moore's Creek Watershed Project (FY14)

Moore's Creek Watershed (HUC 03130002-0907) drains approximately 18.06 square miles (11,558 acres) within the Middle Chattahoochee-Lake Harding River Basin. The ADEM identified Moore's Creek as being impaired by siltation due to habitat alteration for a length of 11.4 miles, from the Chattahoochee River to its source. Moore's Creek was first added to Alabama's CWA section 303(d) list of impaired waters in 2012 based upon 2007 habitat and macroinvertebrate data.

Phase one of the Moore's Creek Watershed Project focuses on a stream restoration of approximately 800 linear feet on the main stem of the creek located in the City of Lanett, between South 8th Avenue and Veterans Memorial Parkway. The stream restoration project will include debris removal, streambank stabilization, riparian buffer remediation, habitat rehabilitation, and placement of in-stream structures. The project implementation will also encompass about 200 linear feet of restoration of an unnamed tributary adjacent to the stream restoration area.

The Moore's Creek project has been stalled due to a complication with relocating a utility line that is located adjacent to the creek. There are several partners who are working hard to resolve the issues and come up with a timeline and reasonable solution that will be agreeable with all the parties involved. The stream contractor and engineers are ready to begin construction in March of 2017 if the situation with the utility line can be resolved.



Students from City of Lanett Schools have fun learning how to conduct water chemistry monitoring on Moore's Creek.

The Alabama Cooperative Extension System has been instrumental in all areas of this project. To date, a 60 percent design plan was developed; watershed and project coordination occurred among land owners, city officials, Alabama Power, local schools, and other project partners; reconnaissance visits took place throughout the watershed to help identify any additional sources of sediment to the stream; and several education and outreach activities involving

the community and local schools were developed and executed. Education and outreach opportunities have included Alabama Water Watch training and monitoring and presentations on the stream restoration project and nonpoint source pollution, as well as meeting with teachers to determine what type of educational program opportunities will fit into their course curriculum.

Coosa River Basin

Broken Arrow Creek Watershed Project (FY12)

Broken Arrow Creek is a small Fish and Wildlife stream located near Pell City within St. Clair County. Broken Arrow Creek Watershed (HUC 03150106-0602) discharges into Logan Martin Lake in the Coosa River Basin. It was first listed on the 2010 CWA section 303(d) list for siltation due to habitat alteration. During the 2005 Coosa Basin assessments, ADEM performed biological and water monitoring within Broken Arrow Creek and found that the overall habitat quality was poor. This project provided resources to implement needed best management practices targeting the siltation issues and protecting and improving water quality. The Broken Arrow Creek Watershed Project ended in October 2015.

The project was implemented in cooperation with the St. Clair County SWCD. Several agricultural BMPs were completed, including 4,632 feet of cross fencing for livestock, a 6300-square foot heavy use area, 85 feet of streambank stabilization, and 80 acres of pasture improvement. In addition, the project coordinator presented several education and outreach programs at local schools to teach the students about nonpoint source pollution and developed a water quality monitoring program at one of the ADEM monitoring sites. The St. Clair SWCD also partnered with the Alabama Forestry Commission to hold a forestry workshop in the watershed.



An 85-foot streambank stabilization site was completed on a farm as part of the Broken Arrow Creek Project.

Cumulative Load Reductions:

- 3430 lbs/yr of nitrogen
- 567.6 lbs/yr of phosphorus
- 5574.7 tons/yr of sediment

Lake Neeley Henry Project (FY15)



Students in DeKalb County learn about farming and the protection of natural resources.

In 1996, ADEM identified five of the six reservoirs on the Coosa River within the state of Alabama as being impaired. In October 2008, ADEM and EPA Region 4 released a Final Coosa River Basin TMDL for Neely Henry Lake, Logan Martin Lake, Lay Lake and Mitchell Lake to address the organic enrichment/dissolved oxygen (OE/DO), nutrient, and pH issues. Based on recent modeling conducted for the Coosa River Reservoirs, it has been determined that reductions in total phosphorus, without concurrent reductions in nitrogen, will result in the attainment of Weiss and Neely Henry Lake chlorophyll *a* targets (Coosa Lakes TMDL).

This project addresses the nutrient reduction in the subwatersheds in Middle Coosa River Basin in DeKalb County draining to Neely Henry Lake, which are the Big Wills Creek Subwatersheds (HUCs 03150106-0101, 03150106-0102, 03150106-0103).

This project, which began on April 6, 2016, is being implemented in cooperation with the DeKalb County SWCD. Agricultural best management practices are currently being installed, with seven applications received and six approved. Completed practices include 17.4 and 18.6 acres of pasture planting/pastureland improvement. Education and outreach is being conducted through targeted farm visits and through local school programs. The “Ag in Action” trailer is also being used in DeKalb County to educate students on agriculture and water quality.

Cumulative Load Reductions:

- 354.9 lbs/yr of nitrogen
- 62.7 lbs/yr of phosphorus
- 35 tons/yr of sediment

Tennessee River Basin

Brier Fork - Beaverdam Creek Watershed Project – Phase 3 (FY13)

Located in Madison County, the Brier Fork and Beaverdam Creek Watersheds (HUCs 06030002-0304, 06030002-0305, 06030002-0306) are just north of Huntsville in Madison County in the Wheeler Lake Watershed. Brier Fork is listed as impaired from the Flint River to the Alabama-Tennessee State Line (20 miles), while Beaverdam Creek is listed as impaired from Brier Fork to its source (19 miles). Both are listed for sediment from agricultural (row crop and pasture grazing) and land development activities. The main goal of the Brier Fork and Beaverdam Creek Project is to implement agricultural BMPs for addressing nonpoint sources of impairment based on a 2014 nine key element watershed management plan.



An alternative watering source and heavy use area was installed within the Brier Fork-Beaverdam watershed.

Two additional applicants have been approved for cost-share funding and are working on BMP implementation.

The goal of increasing public awareness of the water quality concerns of this watershed continues with the education and outreach efforts conducted by the project coordinator and all of the local watershed partners. These efforts will play a vital role in the success of this project. Education and outreach activities within the last year include the City of Huntsville's Earth Day activities on April 16, 2016; the Madison County Drinking Water Festival on May 12-13, 2016; a "Grazing Clinic" co-sponsored by Madison County SWCD, NRCS, ACES, and Alabama A&M University on May 14, 2016; a Ditto Landing Marina Day celebration exhibit on June 11, 2016; and the Flint River Conservation Association's canoe float and river cleanup on September 24, 2016.

Cumulative Load Reductions:

- 14,559 lbs/yr of nitrogen
- 6,178 lbs/yr of phosphorus
- 3,402 tons/yr of sediment

French Mill Creek Watershed Project (FY13)

The French Mill Creek Watershed (HUC 06030002-0802) is located within the larger Wheeler Lake Watershed of the Tennessee River Basin. In 1998, French Mill Creek was placed on the CWA section 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. Consequently,

a pathogen TMDL was developed by ADEM in December 2006. Based on the dominate land uses of agriculture and forest, the most likely sources of pathogen loadings are from agriculture and/or failing septic systems. The project is implementing a nine key element watershed management plan, completed in 2013.



Agricultural BMPs such as exclusion fencing were installed in the French Mill Creek Watershed.

In the last year, 8 alternative water sources; a concrete grid; 9,095 feet of exclusion/cross fencing; 3.65 acres of grassed waterways; 8 heavy use areas; 10.7 acres of land grading; 2,890 feet of livestock pipeline; and 10,310 feet of terracing have been installed. Education and outreach activities included a groundwater festival, a land judging contest, and a Cattlemen’s Association meeting.

To date, the project has resulted in 21 applications and conservation planning for 27 different farms within the watershed. Seven applicants operate more than one tract of land within the watershed. At this point in the

project, all Section 319 funding is obligated, and the Limestone County SWCD is working with the local stakeholders and applicants to implement the planned best management practices.

Cumulative Load Reductions:

- 28,695 lbs/yr of nitrogen
- 11,120 lbs/yr of phosphorus
- 2,943 tons/yr of sediment

Harris Creek Watershed Project – Phase 2 (FY13)

The Harris Creek Watershed (HUC 06030006-0201) is located within the larger Bear Creek Watershed of the Tennessee River Basin. In 1998, Harris Creek was placed on the CWA section 303(d) list for sedimentation and organic enrichment/low dissolved oxygen (OE/DO). TMDLs were developed in February 2002 for each pollutant. The Franklin County SWCD completed the first phase of the project in 2010, and the second phase of the project was initiated in November 2013. In the second phase of the project, more effort was made to prioritize project funding for best management practices located within 300 feet of the creek and its main tributaries. Based on the TMDLs, the most likely sources of siltation and OE/DO are pasture grazing, row cropping practices, and roadways. The project is implementing a 2013 nine key element watershed management plan.



A heavy use area was installed to reduce erosion and nutrients in the Harris Creek Watershed.

In the last year, two heavy use areas and one 800-foot grade stabilization structure were implemented. Regarding the education and outreach component of the project, the Franklin County Envirothon Training Day was held on March 8 in Red Bay at Cypress Cove Farm, with approximately 45 students and 20 volunteers present. The Franklin County Envirothon Testing Day was held March 15 at Northwest Shoals Community College in Phil Campbell, with the winning team being Red Bay High School.

Cumulative Load Reductions:

- 5,260 lbs/yr of nitrogen
- 368 lbs/yr of phosphorus
- 3,312 tons/yr of sediment
- 20,760 lbs/yr of BOD

Hurricane Creek (Flint River) Watershed Project (FY12)



A total of 10,203 feet of exclusion fencing for livestock was installed as part of the Hurricane Creek Watershed Project in the Tennessee River Basin.

ADEM in 2006. It is 7.31 miles in length and impaired from its confluence with the Flint River to Gurley Pike Road.

The Hurricane Creek Watersheds (HUCs 06030002-0401, 06030002-0402) are located east of the City of Huntsville in Madison County. Hurricane Creek is a tributary of the Flint River in the Wheeler Lake Reservoir of the Tennessee River Basin. It was initially placed on the 1998 CWA section 303(d) list as being pathogen (fecal coliform) impaired after data collected by TVA in 1997 indicated a violation of the water quality standard. Monitoring of Hurricane Creek by ADEM in 2003 also indicated an *E. coli* impairment. A pathogen TMDL was developed by

This project, completed in July 2016, was implemented in partnership with the Madison County SWCD. The Flint River Watershed Coordinator, Sam Sandlin, continued to guide the implementation of best management practices on farms in the watershed. Best management practices that were implemented during the project period included: 320 acres of vegetation improvements; 319 acres of cover crops; 1 acre of hardwood riparian planting; 9,600 feet of cross fencing; 10,203 feet of exclusion fencing; 18, 231 feet of livestock pipelines; 41 alternative watering sources; 48 heavy use areas; 700 feet of terraces on cropland; 1 acre of land smoothing with 570 feet of grassed waterway; and 500(+) acres of grazing land improvement by prescribed grazing.

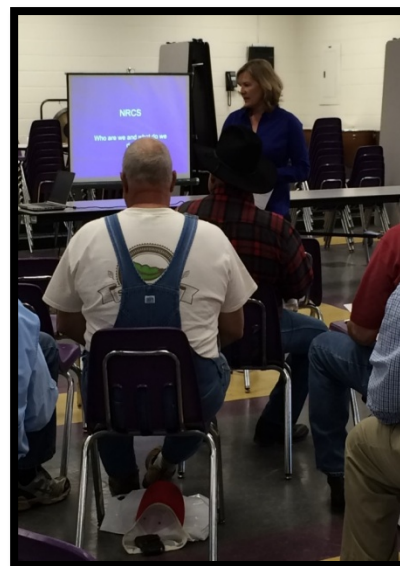
Cumulative Load Reductions:

- 25,990 lbs/yr of nitrogen
- 11,273 lbs/yr of phosphorus
- 6,966 tons/yr of sediment

Second Creek Watershed Project (FY15)

The Second Creek Watersheds (HUCs 06030004-1203, 06030004-1204) are located within the larger Wheeler Lake Watershed of the Tennessee River Basin. In 1998, Second Creek was placed on the CWA section 303(d) list for pathogens. Further sampling of Second Creek by ADEM in 2003 and 2004 revealed that the stream was not meeting the pathogen criteria for its use classification of Fish and Wildlife. Consequently, a pathogen TMDL was developed by ADEM in December 2006. Based on the dominate land uses of agriculture and forest, the most likely sources of pathogen loadings are from pastures that contain dense sources of livestock that have direct access to Second Creek. This project is implementing a 2015 nine key element watershed management plan developed by the Northwest Alabama Council of Local Governments.

The project, which began on January 5, 2016, is still in the initial phases of receiving and reviewing applications and completion of best management practices. Outreach meetings to promote the project included participation in five Lauderdale County Board meetings, a Northwest Alabama RC&D meeting, and a Cattlemen's Association meeting. In addition, a mass postcard mail-out was sent to over 3,500 watershed residents to give a brief description of the project and an invitation to attend a public meeting for those wanting more information. Other education and outreach activities included participation in a Future Farmers of American Field Day, the 4-H Round-Up Day, the Farmer's Market Outreach Day, the Central High School Community Garden Outreach Event, and a groundwater festival



Local residents learn more about the Second Creek Watershed Project during an outreach meeting.

Shoal Creek Watershed Project (FY14)



Fourth grade students learn more about the water around them through the Wetland Wanderers Program.

The Shoal Creek Watershed (HUC 06030002-1005) is located within the larger Wheeler Lake Watershed of the Tennessee River Basin. Biological assessments conducted by the Tennessee Valley Authority in 1994-95 indicted areas of poor fish health with polluted surface water runoff from agricultural and urban land uses identified as significant problems. In 1996, Shoal Creek was placed on the CWA section 303(d) list for organic enrichment/low dissolved oxygen and pathogens. Consequently, a TMDL for each pollutant was developed by the U.S. EPA in September 2003. Based on the dominate land uses of pasture and hay, deciduous forest, and low intensity industrial and residential, the most likely sources of pollution are from agriculture and urban runoff/storm sewers. This project is implementing a 2015 nine key element watershed management plan.

In the last year, 2 cisterns, 100 tons of rock barrier, and 1,150 square yards of filter strip have been installed. In addition, education and outreach activities that have been completed include the Flint Creek Wetland Mitigation Bank Program, the Wetland Wanderers Program, and the Wetland Explorers Program.

Cumulative Load Reductions:

- 34.73 lbs/yr of nitrogen
- 11.65 lbs/yr of phosphorus
- 47.05 tons/yr of sediment
- 107.4 lbs/yr BOD

Upper Scarham Creek Watershed Project (FY14)

Scarham Creek is located in the northeast portion of Alabama near the Guntersville Lake Reservoir. The Scarham Creek Watershed is approximately 90 square miles with the headwaters in DeKalb County and the downstream in Marshall County. The two major populated areas in the watershed include the towns of Geraldine and Crossville. This project will focus on the Upper Scarham Creek Watershed in DeKalb County (HUC 06030001-0803), which includes 9.12 miles of the total 24 mile stream length. Scarham Creek was first listed on the 1996 CWA section 303(d) list of impaired waters. The stretch of Scarham Creek from Short Creek to its source was identified as being impacted by pesticides, ammonia, siltation, low dissolved oxygen/organic enrichment (OE/DO) and pathogens from numerous agricultural sources. TMDLs that address pesticides, ammonia, OE/DO, and pathogen impairments were approved in 2002, and a siltation TMDL was approved in 2003. The sources of impairment include non-irrigated crop production, specialty crop production, feedlots, and animal holding/management areas.



A waste storage structure was constructed to address issues with poultry litter runoff and nutrient management.

Agriculture BMPs are being implemented, and education and outreach projects are reaching stakeholders throughout the watershed. Nineteen agriculture applications have been received and fourteen approved at this time. Best management practices that have been completed include 9,960 square feet of heavy use area for livestock watering, a waste storage facility for poultry litter, an alternative watering facility, and 11.6 acres of pasture planting. The Project Coordinator is also working with the One World Adventure to promote water quality as a part of the Wonders of Water (WOW) Water Festival. The program works with fourth grade students from the Fort Payne City School System. Many aspects of farming as well as the importance of conserving natural resources is taught and discussed with the students.

Cumulative Load Reductions:

- 62,289 lbs/yr of nitrogen
- 11,443 lbs/yr of phosphorus
- 145 tons/yr of sediment

Village Branch Watershed Project (FY12)



Cover crops, pasture planting, and herbaceous weed control BMPs were implemented as part of the Village Branch Watershed Project.

The Village Branch Watershed (HUC 06030002-1014) is located within the larger Wheeler Lake Watershed of the Tennessee River Basin. In 1998, Village Branch was placed on the CWA section 303(d) list for siltation and organic enrichment/low dissolved oxygen (OE/DO). Consequently, a siltation TMDL was developed by ADEM and Tetra Tech in September 2002, and an OE/DO TMDL was developed by the U.S. EPA in September 2003. Based on the dominate land uses of agriculture and forest, the most likely sources of siltation and OE/DO loadings are from agricultural lands. Other NPS pollutant sources may be failing septic systems and wildlife. The project is implementing a 2013 nine key element watershed management plan.

Over the duration of the project, 2 alternative water sources; 255 acres of tree/pasture planting; 10,838 feet of exclusion/cross fencing; a watering pond; 1,350 feet of stream crossing; 200 acres of herbaceous weed control; 3 heavy use areas; 20 acres of cover crops; and 0.3 acres of critical area planting have been installed. In addition, education and outreach was provided at five Tennessee Basin Clean Water Partnership meetings, three Wet-N-Wild Festivals, two Wetland Wanderers Programs, a Wetland Explorers Program, and an Enviroscene presentation.

Cumulative Load Reductions:

- 68,174.7 lbs/yr of nitrogen
- 5,587.0 lbs/yr of phosphorus
- 1436.0 tons/yr of sediment
- 8,578.0 lbs/yr of BOD

Alabama Coastal Nonpoint Source Pollution Control Program

The State of Alabama continues to develop its Coastal Zone Management Program under the Coastal Zone Management Act (CZMA) of 1972. The CZMA requires the state to develop and implement its Alabama Coastal Nonpoint Pollution Control Program (ACNPP) under Section 6217 of the Coastal Zone Act Reauthorization Amendment of 1990 (CZARA). Section 319 funds are used to assist in the implementation of management measures contained in these programs. The ADEM NPS program staff works closely with coastal nonpoint program staff to integrate and coordinate both the ACNPP and the Alabama NPS Management Program.

Section 319 program funds are obligated in the coastal area to address specific priorities of Alabama's Coastal NPS Management Program. The ACNPP and ADEM NPS program work to assist stakeholders in identifying specific coastal NPS problem areas and issues and to provide resources to plan and implement corrective NPS management measures and practices. Focused targeting of Section 319 program funds advances the goal towards full approval of the ACNPP under CZARA by:

- Identifying specific NPS stressors and targeting locations or intensity, including GIS mapping and data layers where available (with consideration for maintaining citizen privacy issues).
- Strategically focusing on and clearly articulating BMP remedies to meet state water quality standards.
- Leveraging, integrating, and aligning planning and priority-setting funding to make the best use of available human and financial capital to control NPS pollution.
- Facilitating key stakeholder “ownership” of NPS problems and concerns by balancing NPS staffing and actions to deliver measurable environmental results.
- Facilitating delivery of targeted-audience education and outreach and providing technical assistance.
- Partnering to improve project accountability, tracking, and reporting results (including success stories) to demonstrate project progress and success.

During this past year, the ACNPCP has continued to serve as national chair of the *Coastal NPS (6217) Work Group*. This position serves the national Coastal NPS Work Group (coordinating directly with the federal NOAA and EPA representatives; Coastal States Organization’s director, counsel, staff, and subcommittees; as well as other state representatives) to provide monthly teleconferences directed toward the promotion, approval, and implementation of State CNPCPs. The ADEM NPS program staff actively participate in this ongoing forum for all coastal states’ NPS programs, with over 105 work group members engaged through the server and an average of 26 participants per teleconference. This unique forum provides interstate networking to address mutual NPS issues focused on coastal areas and waters.

Coastal Alabama Regional No-till Grain Drill (NTGD) Project (FY13)

In 2015, two no-till seed and grain drills were purchased to help reduce erosion and sedimentation impacts to targeted waterbodies (Red Creek-Eightmile Creek Subwatershed, HUC 03170008-0402/Mobile County; Fish River Subwatersheds, HUCs 03160205-0201, 03160205-0202, 03160205-0203, 03160205-0204/Baldwin County). Through the ACNPCP, ADEM 319 program contracts were developed and executed for both the Baldwin County Conservation District and the Mobile County Conservation District.

Throughout 2016, the County Conservation Districts in Baldwin and Mobile Counties have facilitated this project through their management, maintenance, and stewardship while providing public access to the no-till drill machinery. The Districts, with the help of local partners, have also held several successful workshops and field demonstrations to enhance and provide informative presentations and/or handouts to assist agriculture land users. Topics included information on soils and soil health, along with technical information to improve water quality, reduce soil loss, and reduce the use of synthetic fertilizers.

The Baldwin County Conservation District was able to implement use of the no-till drill on 235 acres in 2 of the targeted Fish River Subwatersheds. This resulted in an erosion reduction estimate of approximately 3,943.1 tons per year using USDA-RUSLE2 calculations. When including additional reductions for the other county subwatersheds participating in this project, the completed BMP totals county-wide were recorded for 1308.0 acres in 9 subwatersheds, providing

a total erosion reduction estimate of approximately 8,266.3 tons of soil per year for Baldwin County.

The Mobile County Conservation District's implementation and use of this machinery was documented on 39.0 acres of the targeted Eightmile Creek Subwatershed. These efforts resulted in a soil erosion reduction estimate of approximately 130.5 tons per year using USDA-RUSLE2 calculations. The completed county-wide implementation was documented for 1352.0 acres in 5 subwatersheds, providing a total erosion reduction estimate of approximately 5,687.5 tons per year for Mobile County.

The promotion and usage of the no-till grain drill equipment has been well received. To date, 2,660 acres have been planted with this equipment within the ACNPCP Management Area, with an estimated soil erosion reduction of 13,953.8 tons per year. The participating Conservation Districts of Baldwin and Mobile Counties plan to continue their implementation of this project, with cooperative monitoring and tracking of its use planned for the next ten years.

Coastal Alabama Onsite Sewage Distribution Systems Inspection & Maintenance Program (FY14)

Section 319 program funds are also being provided to address coastal Onsite Sewage Distribution Systems (OSDS) by engaging nonpoint source programmatic priorities, partnerships, opportunities, and challenges. Specifically, Section 319 set-aside program funds are being used by the Baldwin County and Mobile County Conservation Districts to implement the Coastal Alabama OSDS Inspection & Maintenance Program as follows:

- Implement an intensive "on-the ground" county-wide septic tank inspection and maintenance program in designated priority 8-digit HUC subwatersheds.
- Provide mapping to identify hydric soils region profiles in prioritized 8-digit HUC watersheds as Geographic Sewer Areas targeted for implementation by sector.
- Develop a Memorandum of Understanding (MOU) with pumpers and nine major partners in preparation for the Sector 1 Workshop inspections and maintenance activities that were implemented starting November 2015 through March 2016.
- Develop project planning, promotion materials, and advertising, and complete implementation for Sector 1, including the presentation of 14 educational onsite systems maintenance/pump-out workshops for over 300 members of the public.
- Successful issuance of 254 inspection/pump-out vouchers to qualifying home owners and reimbursement dispersals administered to the Alabama Onsite Wastewater Board (AOWB)-certified pumpers that complete voucher pump-outs.

Both Baldwin and Mobile County Health Departments were also contracted to implement the Coastal Alabama OSDS Inspection & Maintenance Program by providing technical assistance and regulatory authority for program development and implementation, providing coordination with the AOWB, identifying and securing the services of the state-certified pumpers, developing the MOUs, and setting the pumper fees with vital partners in preparation for the Sector 1 Workshops.

Based upon the final Sector 1 data reported by the Program Contractors:

- Over 5,310 certified OSDS inspections were conducted during this project in both counties.
- Combined, the health departments conducted approximately 1,132 OSDS inspections in the targeted Sector 1 watersheds.
- Each county gained an additional increase of inspections due to implementation of this Sector 1 Project:
 - Baldwin County estimated an extra 4.17 percent increase county-wide for OSDS inspections, reflecting a 21.32 percent increase in Sector 1.
 - Mobile County yielded an increase of 6.18 percent county-wide and a 43.59 percent increase for their Sector 1 OSDS inspections due to this project.
- Total numbers from both counties show an increase of 4.78 percent for OSDS inspections for the ACNPCP Management Area and an overall increase of 22.44 percent for the targeted Sector 1 watersheds.

This project is planned for implementation within Sector 2 during FY17.

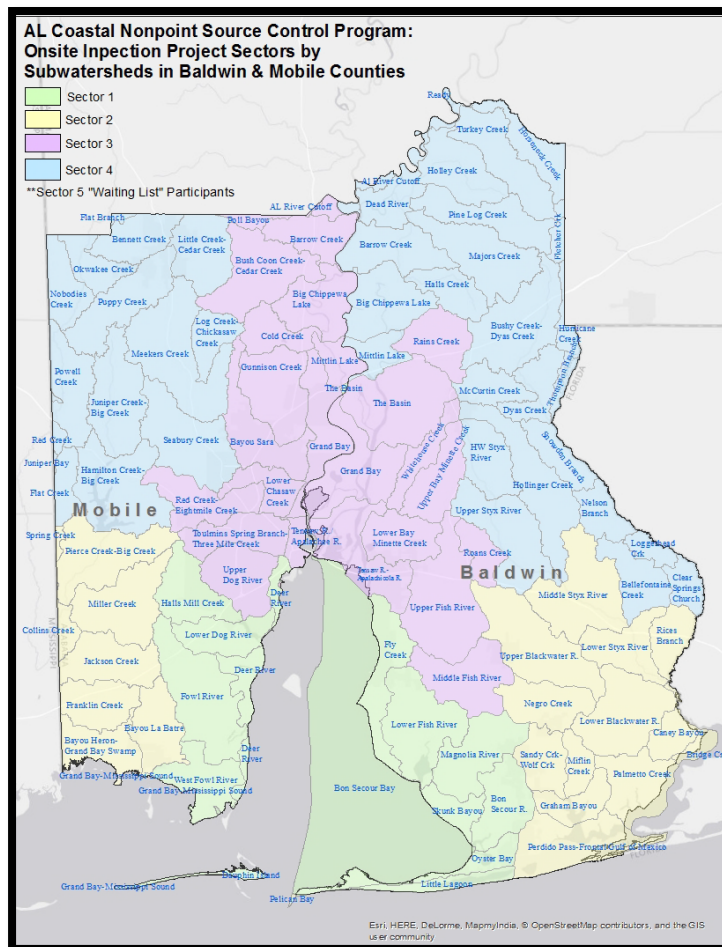


Figure 7: Coastal Alabama Onsite Inspection Project Sectors for Mobile and Baldwin Counties

Efforts in 2016 to Achieve 2014 -2019 Alabama NPS Management Program Goals and Objectives

Goal 1: Continue To Collect Surface Water and Groundwater Data Using a Five-Year Rotational Major River Basin Monitoring Approach To Assess Whether State Waters Meet State Water Quality Standards and Use Classifications.

**Beginning in FY2015, the ADEM Water Quality Monitoring Strategy was revised from a Five-Year Basin Rotation Strategy to an Annual Statewide Monitoring Strategy. This change will result in minor modification to the Alabama NPS Management Plan and to the Goals and Objectives tables, to show up in the each of the subsequent annual reports.*

Objectives	Status	Implementation Strategies to Ensure Continued Statewide Program Progress	NPS Success Measures and Indicators Targeted (Derived from Table 8.8 of the 2014 AL NPS Management Program)
<p>Long-term Objective 1: Continue to collect WQ monitoring data to characterize the chemical, physical, and biological conditions of subwatersheds in a priority major river basin and to help evaluate whether waters fully or partially meet state water quality standards and water use classifications.</p> <p>Timeline: Indeterminate: Replicates Every five year Basin Assessment Rotation Iteration.* Rivers and Reservoir monitoring is on a three year rotation.</p>	<p>Seventy-seven mainstem reservoir stations on the Alabama, Cahaba, Tallapoosa, and Tennessee River Basins were intensively monitored in FY2016. Fifty locations on wadeable flowing streams and rivers were sampled in FY2016.</p> <p>WQ data being QAC'd and entered into ADEM and EPA reporting venues.</p> <p>Macroinvertebrate ID's continue.</p>	<p>FY15 Section 319 Workplan Project 2 (wadeable waters), Project 3 (nonwadeable waters), and Project 4 (Coastal programs monitoring).</p>	<p>I. Water Quality Improvements from NPS Controls: a: ...WQ standards attainment b: ...impairments and threats c: ...N, P, and sediment loadings d: ...303(d) delisting e: ...leveraged funds/resources f: ...USDA-NWQI priorities h: ...CZARA 6217/Coastal NPS i: ...lakes/reservoirs/shorelines j: ...marine, coastal, wetlands l: ...drinking water sources m: ...fish/shellfish advisories</p> <p>II. Interim Water Quality Protection and Restoration a: ...results of installed BMPs b: ...success story documentation c: ... watershed plan progress d: ...priority NPS/TMDL pollutant f: ...WQ trend data and tracking g: ...trophic data</p>
<p>Short-term Objective 1.1: Continue to collect WQ data to identify, list and categorize NPS threats and impacts to surface waters and groundwaters of the state in the latest CWA Section 305(b)/Integrated Water Quality Monitoring and Assessment Report (IR).</p> <p>Timeline: Biennial CWA Section 305(b) Report; Replicate as a continuing component of the 5-year rotating basin schedule.*</p>	<p>Continues</p> <p>Current IR 4/1/2016</p>	<p>FY15 Section 319 Workplan Project 2 and Project 3.</p> <p>The 2016 Section 303(d) List of Impaired was approved by EPA and final on 09/06/2016.</p>	
<p>Short-term Objective 1.2: Continue to collect or assess WQ data</p>	<p>WQ data supported the</p>	<p>Contracts executed</p>	

<p>from a priority CWA Section 303(d) listed HUC-12 subwatershed to support the development or implementation of a watershed-based management plan that incorporates Section 319 grant guideline Nine-key watershed-based plan elements.</p> <p>Timeline: Annual</p>	<p>development or updating of requisite watershed-based plans to apply for Section 319 funding.</p>	<p>to initiate FY15 Section 319 funded Watershed-based Projects:</p> <p>7 – Second Creek 8 – Brindley Creek 9 – Tiawasee Creek 10 – Lake Neely Henry Nutrient Reduction (Middle Coosa)</p>	<p>h: ...Coastal plan/implementation</p> <p>III. Protection of High Quality Waters</p> <p>a: ...ensure continued high quality b: ...threat prevention c: ...valid data collection process d: ...high quality water listing</p> <p>VI. Nonpoint Source Education and Outreach</p> <p>c: ...enhance partnerships d: ...specific audiences targeted f: ...enhance data collection g: ...TMDL/watershed plan based</p>
<p>Short-term Objective 1.3: Continue to collect or assess Section 319 grant-funded watershed project WQ data to track restoration progress and successes (e.g., achieve priority TMDL and Section 319 pollutant load reductions; meeting state water quality standards, etc).</p> <p>Timeline: Annual</p>	<p>Continuing</p>	<p>Beginning in FY2014, the ADEM Water Quality Monitoring Strategy was revised from a Five-Year Basin Rotation Strategy to an Annual Statewide Monitoring Strategy.</p> <p>Intensive WQ monitoring of ongoing and completed watershed-based projects included, as requested and prioritized.</p>	
<p>Short-term Objective 1.4: Collect data to target and leverage Section 319 and other public and private funds and resources to gain NOAA/EPA final program approval of the Alabama Coastal Nonpoint Pollution Control Program (including meeting and sustaining implementation of Interim Decision Document recommendations) relative to Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990.</p> <p>Timeline: Annual</p>	<p>Continuing</p>	<p>FY15 Section 319 Project 4 (Coastal Programs Monitoring)</p> <p>ADEM staff serves as the national Coastal States Organization - Coastal NPS Work Group Chair for all conditionally-approved states seeking final EPA/NOAA program approval.</p> <p>On 2/9/2015, the ADEM submitted package which addresses the Agriculture category for Alabama's Coastal Nonpoint Pollution Control Program. On 11/13/15, the EPA acknowledged that ADEM obtained interim approval of the agricultural management measures.</p>	
<p>Short-term Objective 1.5: Continue to partner with USDA-NRCS to monitor priority National Water Quality Initiative watersheds to help document pre- and post-conservation practice implementation effectiveness.</p> <p>Timeline: Annual</p>	<p>Continuing</p> <p>(Implementation of BMPs in the Upper Scarham Creek Watershed was contracted with FY2014 funds.)</p>	<p>FY15 Section 319 Projects 1, 6 (Admin), and 5 (Alabama Clean Water Partnership).</p> <p>ADEM is targeting WQ monitoring resources to assess NWQI priority Cox Mill/Hurricane Creek and Cross Creek watersheds.</p>	

Goal 2: Target and Leverage Nonpoint Source Management Resources to Restore, Protect, and Maintain Beneficial Uses of Waters			
Objectives	Status	Strategies to Make Continued Progress	NPS Success Measures and Indicators Targeted (Derived from Table 8.8 of the 2014 AL NPS Management Program)
<p>Long-term Objective 2: Continue to leverage NPS management measure and practice resources to help ensure the public of clean and safe waters in accordance with the following authorities such as:</p> <ul style="list-style-type: none"> • Clean Water Act Section 319 • Alabama Water Pollution Control Act • Other relevant NPS pollution federal and state laws, rules, regulations, ordinances, or policies and guidelines. <p>Timeline: (Sustain, Replicate Annually)</p>	Continuing	<p>FY15 Section 319 Projects 7, 8, 9, and 10.</p> <p>ADEM partners with ADCNR, ADPH, and GSA (Dec 2015/Biennial State Water Quality Meeting) to continue to align state water quality goals and objectives.</p>	<p>I. Water Quality Improvements from Nonpoint Source Controls:</p> <p>g: ... riparian areas/filter buffers</p> <p>h: ...CZARA 6217 implementation</p> <p>i: ...lakes/reservoirs/shorelines</p> <p>j: ...marine, estuaries, wetlands</p> <p>k: ...beaches/human contact</p> <p>l: ...groundwater, drinking water</p> <p>m: ... fish/shellfish advisories</p> <p>n: ...threats to shellfish beds</p> <p>o: ...LID/green infrastructure</p> <p>II. Interim Water Quality and Protection and Restoration</p> <p>b: ...incremental restoration progress</p> <p>c: ...incremental plan implementation</p> <p>d: ...incremental load reductions</p> <p>e: ...phased implementation</p> <p>h: ...coastal program approval</p> <p>III: Protection of High Quality Waters</p> <p>a: ... protection against treats</p> <p>b: ...regulations/criteria/programs</p> <p>c: ...science-based data</p>
<p>Short-term Objective 2.1: Continue to develop the NPS components of nine-key element watershed plans that will not/do not require or request a commitment of Section 319 grant funded implementation resources.</p> <p>Timeline: Annual</p>	No Nine-Key Element Plans have been developed to date that do not primarily rely on Section 319 funds to assist in implementation.	<p>ADEM partnered with the Alabama Regional Council of Governments to develop two Watershed Management Plans using Section 604(b) funding.</p> <p>ADEM partnered with the ACWP to assist restoration of T&E species and habitat in the North River Watershed by GSA, ADCNR, and the USFWS.</p> <p>ADEM continues to partner with TVA and GSA to mutually assess threats to the Bear Creek Watershed.</p> <p>ADEM partners with multiple agencies to provide WQ data for the EPA/NEP Mobile Bay Healthy Watershed Initiative Report.</p>	

		<p>Components of watershed plans are continually being implemented through local municipalities, NRCS, public and private fund leveraging.</p>	<p>d: ...verification and listings</p> <p>IV. Nonpoint Source Pollutant Load Reductions</p>
<p>Short-term Objective 2.2: Continue to leverage public and private sector resources to implement NPS best management practices to restore impaired Section 303(d) listed waters per a Total Maximum Daily Load (TMDL) or to protect high quality waters identified in Section 305(b) Integrated Reports.</p> <p>Timeline: Annual</p>	<p>No Section 319 funds primarily target watershed “protection” of high quality waters (Tier 3), but continues to focus on “restoration” of NPS-impaired waters (Section 303(d) listed or TMDLs).</p>	<p>FY15 Section 319 Projects 1, 6 (Admin) and 5 (Alabama Clean Water Partnership).</p> <p>FY15 Section 319 Projects 7, 8, 9, and 10.</p> <p>ADEM partnered with multiple agencies to provide WQ monitoring data for the EPA/NEP Mobile Bay Healthy Watershed Initiative and to help prevent future threats to WQ and throughout the Alabama River Basin.</p> <p>ADEM partners with the Middle Tallapoosa Clean Water Partnership, funded by the City of Alexander City, to continually target projects to protect Lake Martin, a Treasured AL Lake.</p> <p>The USFW and the Nature Conservancy are working to restore the habitat connectivity in the Paint Rock River (OAW) as part of the Fish Barrier Removal Program. The Weeks Bay Reserve and the Weeks Bay Foundation continually work to implement the Weeks Bay (OAW) Management Plan and purchase various riparian areas for protection through the Forever Wild Program.</p> <p>ADEM partners with the Clean Water Partnerships, local organizations, and</p>	<p>a: ...Section 303(d)/TMDLs</p> <p>b: ...N, P, and sediment</p> <p>c: ...BMPs target critical areas</p> <p>d: ...meet water quality standards</p> <p>e: ...lakes and reservoirs</p> <p>f: ...pollution prevention</p> <p>g: ...major river basins</p>

		other state agencies to assist with programs to protect Outstanding Alabama Waters, such as the Cahaba River, Paint Rock River, and the Tensaw River.
<p>Short-term Objective 2.3: Continue to leverage Section 319 grant resources to achieve priority NPS (i.e., nitrogen, phosphorus, and sediment) and TMDL pollutant of concern load reductions.</p> <p>Timeline: Annual</p>	Continuing	<p>FY15 Section 319 Projects 1, 6 (Admin) and 5 (Alabama Clean Water Partnership).</p> <p>FY15 Section 319 Projects 7, 8, 9, and 10.</p> <p>All Section 319 funded watershed-based projects target priority NPS components of TMDLs.</p> <p>N, P, and Sediment pollutant load reductions are reported in GRTS prior to Feb 15th annually.</p>
<p>Short-term Objective 2.4: Continue to place strong emphases on restoring NPS impaired HUC-12 delineated watersheds by facilitating and leveraging funding, BMP implementation, education and outreach, technology transfer, and technical assistance resources.</p> <p>Timeline: Annual</p>	Continuing	<p>FY15 Section 319 Projects 1, 6 (Admin), and 5 (Alabama Clean Water Partnership).</p> <p>*Examples of technology transfer/education and outreach activities conducted with partners to target impaired waterbodies in FY2016 include:</p> <ul style="list-style-type: none"> -NEMO and Stormwater presentations (MS4 Communities) -AL Erosion and Sediment Control Workshops (AL Soil & Water Conservation Committee) -BMP Manuals distribution (as requested) -STEPL training (as part of project cooperater training) -LID/Stormwater Workshops (Auburn University Cooperative Extension System) -Septic Tank Workshops (Pintlala Creek Watershed

		<p>Project, Coastal Program Projects) -Alabama Water Watch (assistance with training workshops)</p> <p>FY15 Section 319 Projects 7, 8, 9, and 10.</p> <p>All Section 319 funded watershed-based projects targeted “manageable” HUC-12 scale watersheds to best ensure improved WQ and project implementation success.</p>	
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Goal 3: Implement NPS Management Measures and Practices to Restore and Protect Watershed Health and Water Quality			
Objectives	Status	Strategies to Make Continued Progress	NPS Success Measures and Indicators Targeted (Derived from Table 8.8 of the 2014 AL NPS Management Program)
<p>Long-term Objective 3: Continue to facilitate a partnership approach to implement NPS measures and practices to restore watersheds and water quality and protect human health from nonpoint sources of pollution.</p> <p>Timeline: (Replicate Successes per five-year Programmatic Update Iterations)</p>	Continuing	<p>FY15 Section 319 Projects 1, 6 (Admin), and 5 (Alabama Clean Water Partnership).</p> <p>FY15 Section 319 Projects 7, 8, 9, and 10.</p> <p>Conducted Annual Statewide NPS Conference (over 250 attendees).</p> <p>Works closely with the AL Clean Water Partnership and other basin partners to assist in meeting program and project goals.</p> <p>Staff attended and/or presented at several NRCS Annual Meetings.</p>	<p>I: Water Quality Improvements from Nonpoint Source Controls g: ... riparian areas/filter buffers h: ...CZARA 6217 implementation i: ...lakes/reservoirs/shorelines j: ...marine, estuaries, wetlands k: ...beaches/human contact l: ...groundwater, drinking water m: ... fish/shellfish advisories n: ...threats to shellfish beds o: ...LID/green infrastructure</p> <p>II: Interim Water Quality and Protection and Restoration g: ...Riparian areas/filter buffers</p>
<p>Short-term Objective 3.1: Implement BMPs in at least one HUC-12 subwatershed, exclusive of Section 319 grant funding, to restore water quality and watershed productivity and resilience.</p> <p>Timeline: Annual</p>	Continuing	<p>NRCS targets the Cross Creek Watershed for NWQI funding.</p> <p>NRCS targets Gulf of Mexico Initiative (GOMI) funds in the NPS impaired Weeks Bay</p>	

		<p>(Upper/Middle/Lower Fish River Watersheds).</p> <p>Several watershed litter cleanup projects were coordinated and held by partners to increase awareness and address water quality.</p> <p>A stream restoration was completed in the Headwaters Cahaba Basin in the City of Trussville through the support of several local partners, through contracts with Auburn University and Jennings, Environmental.</p> <p>The City of Auburn and Auburn University have implemented several BMPs that target the Saugahatchee Creek Watersheds and the Parkerson Mill Creek Watershed.</p>	<p>IV. Nonpoint Source Pollutant Load Reductions</p> <p>a: ...Section 303(d)/TMDLs</p> <p>b: ...N, P, and sediment</p> <p>c: ...BMPs target critical areas</p> <p>d: ...meet water quality standards</p> <p>e: ...lakes and reservoirs</p> <p>f: ...pollution prevention</p> <p>g: ...major river basins</p> <p>V. Implementation of Nonpoint Source Controls</p> <p>a: ...project planning</p> <p>b:...inclusive partnerships</p> <p>c: ...statewide and coastal</p> <p>d: ...local funds/capacity</p> <p>e: ...priority impaired areas</p> <p>f: ...USDA Farm Bill/NWQI</p> <p>g:...Coastal Program approval</p> <p>h:...National Estuary Program</p> <p>i: ...Clean Water Revolving Fund</p> <p>j:pervious surfaces</p> <p>k: ...T&E species and habitat</p> <p>l: ...invasive species</p> <p>m:LID</p> <p>n: ...resources integrated/leveraged</p> <p>o: ...BMP maintenance</p> <p>p: ...locally-led and implemented</p> <p>q: ...fiscal accountability</p>
<p>Short-term Objective 3.2: Employ a suite of measures (including retrofits) to protect, maintain and restore the ecological integrity of aquatic systems in the state's rivers, lakes, wetlands, streams, and estuarine waters.</p> <p>Timeline: Annual</p>	<p>Continuing</p> <p>Specific riverine, lake, wetland, or estuarine restoration projects were not funded by Section 319 in FY2015.</p>	<p>FY15 Section 319 Projects 7, 8, 9, and 10.</p> <p>FY15 Project 5 ACWP works with the Strategic Habitat Units (SHU) Project as part of the Alabama Rivers and Streams Network to restore and recover aquatic species.</p> <p>The Deepwater Horizon (BP) Oil Spill Liability Trust Fund continues to target restoration of natural resources along the coast.</p> <p>Section 319 funded watershed-based projects employ a suite of BMPs to mitigate NPS runoff to impaired streams.</p> <p>ADEM works with Gulf of Mexico Alliance (GOMA) to address coastal water issues on a multistate/ regional basis.</p>	

Goal 4: Enhance Institutional Capacity to Implement a Sustainable Statewide Nonpoint Source Pollution Management Program			
Objectives	Status	Strategies to Make Continued Progress	NPS Success Measures and Indicators Targeted (Derived from Table 8.8 of the 2014 AL NPS Management Program)
<p>Long-term Objective 4: Continue to enhance programmatic efficiency and effectiveness by updating programmatic Goals and Objectives by September 30, 2014.</p> <p>Timeline: (Replicate every five years.)</p>	The AL NPS Management Program was approved by EPA in August 2014.	<p>Completed.</p> <p>Staff continues to discuss and document revisions needed to the AL NPS Management Program.</p>	<p>I. Water Quality Improvements from Nonpoint Source Controls: e: ...leverage Section 106 and other WQ resources f: ...leverage NWQI resources h: ...coordinate CZARA 6217</p>
<p>Short-term Objective 4.1: Continue to enhance Section 319 grant transparency, program accountability, and fiscal management by implementing iterative technology-based approaches.</p> <p>Timeline: Annual</p>	Continuing	<p>FY15 Section 319 Projects 1 and 6.</p> <p>All required Section 319 grant and project data is entered into GRTS prior to Feb 15th annually.</p> <p>ADEM NPS staff develop and update dedicated Section 319 grant and project specific tracking systems to help ensure accountability and provide timely information.</p>	<p>V. Implementation of Nonpoint Source Controls e: ...voluntary citizen approach f: ...align with USDA-Farm Bill g: ...coordinate with CZARA h: ...coordinate with NEP</p>
<p>Short-term Objective 4.2: Continue to track the diversity of watershed planning and implementation partnerships. (e.g., agency, university, advisory, others).</p> <p>Timeline: Annual</p>	Continuing	<p>ADEM (Projects 1 and 6) partners with the AL Clean Water Partnership (Project 5) to identify, sustain, and support many and varied NPS partners, interest, and input.</p> <p>ADEM submitted FY2016 Section 319 workplans to EPA-Region 4 that incorporate a myriad of NPS partners and mitigation resources (<i>approved on 9/23/2016</i>).</p> <p>ADEM partnered with the University of Alabama, the Alabama Museum of Natural History and Discovering Alabama, to assist with a TV documentary production on North River in Tuscaloosa,</p>	<p>i: ...Clean Water Revolving Fund n: ...resource integration and leveraging p: ...local solutions to local problems using local resources q: ...fiscally responsible</p> <p>VI. Nonpoint Source Education and Outreach a: ...targets watershed and WQ b: ...increase awareness and knowledge c: ...partnerships d: ...specific and target audiences e: ...pollution prevention f: ...enhance data monitoring</p>

		<p>as part of the North River Project, Phase 2.</p> <p>The NPS Annual report documents and highlights the project partners across the state that are involved in nonpoint source program implementation. The report is placed on the ADEM website and advertised at basin meetings and at conferences.</p>	<p>g: ...TMDLs, watershed based plan, public health and safety</p>
<p>Short-term Objective 4.3: Continue to track successful completion of planned NPS water quality restoration outcomes (e.g., materials developed, reports generated, practices implemented, conferences/meetings facilitated or attended, etc.).</p> <p>Timeline: Annual</p>	Continuing	<p>FY15 Section 319 Projects 1, 5 and 6.</p> <p>Specific Section 319 project outputs are presented in interim and closeout reports. Final reports are submitted to EPA R-4 at grant closeout.</p>	
<p>Short-term Objective 4.4: Continue to convey institutional capacity by developing or submitting final TMDL and Section 319 NPS watershed planning and pollutant load reduction success stories to EPA.</p> <p>Timeline: Annual</p>	Continuing	<p>FY15 Section 319 Projects 1 and 6.</p> <p>Submitted a Cane Creek/Black Branch (WQ-10) success story to EPA-Region 4 on 10/29/2015 for review and comments. Accepted by EPA Region 4 and posted to the NPS Success Story website in October 2016.</p>	

<p>Goal 5: Facilitate statewide Education and Outreach (E&O) activities to increase the public's knowledge and awareness about nonpoint source pollution, watershed health, water quality protection and restoration, and natural resource stewardship.</p>			
<p>Objectives</p>	<p>Status</p>	<p>Strategies to Make Continued Progress</p>	<p>NPS Success Measures and Indicators Targeted (Derived from Table 8.8 of the 2014 AL NPS Management Program)</p>
<p>Long-term Objective 5: Continue to facilitate the delivery of statewide and coastal zone NPS program communication materials and actions to enhance citizen education (e.g. awareness and knowledge; decision-making, problem solving, etc.) and outreach (e.g., dissemination of information;</p>	Continuing	<p>ADEM staff coordinate 2014 Section 319 (Project 1, 4, and 6) project efforts with the AL Clean Water Partnership (Project 5) relative to many and varied audience outreach and training events.</p>	<p>V. Implementation of Nonpoint Source Controls a: ...project planning b: ...inclusive partnerships c: ...statewide and coastal</p>

<p>seeking input and active participation.</p> <p>Timeline: (Replicate Processes Every five years)</p>		<p>The Coastal Program 319 funding was used to help purchase two no-till drills to assist with erosion and sedimentation from cropland in impaired watersheds. In addition, funding is being used in Mobile and Baldwin Counties to implement a Coastal Alabama Septic Tank Inspection and Maintenance Program to identify problem areas and to provide a septic tank pump-out program to promote the maintenance needs.</p>	<p>d: ...local funds/capacity</p> <p>VI. Nonpoint Source Education and Outreach</p> <p>a: ...targets watershed and WQ</p> <p>b:... increase awareness and knowledge</p> <p>c:...Partnerships</p> <p>d:...Specific and target audiences</p> <p>e: ...pollution prevention</p> <p>f: ...enhance data monitoring</p> <p>g: ...TMDLs, watershed based plan, public health and safety</p>
<p>Short-term Objective 5.1: Continue to leverage Section 319 grant resources to plan, produce, or disseminate water quality based E&O products that target specific audiences (e.g., NPS pollution category or place-based issues).</p> <p>Timeline: Annual</p>	Continuing	<p>FY 2015 Section 319 Admin/Management (Project 1 and 6) and AL Clean Water Partnership (Project 5).</p>	
<p>Short-term Objective 5.2: Continue to leverage public and private sector resources to develop and deliver E&O presentations, models, documents, and technologies.</p> <p>Timeline: Annual</p>	Continuing	<p>2015 Section 319 Admin/Management (Project 1 and 6) and AL Clean Water Partnership (Project 5).</p>	
<p>Short-term Objective 5.3: Continue to deliver E&O activities that target specific Section 319 and TMDL priority pollutants in at least one NPS impaired HUC-12 subwatershed.</p> <p>Timeline: Annual</p>	Continuing	<p>2015 Section 319 Admin/Management (Project 1 and 6) and AL Clean Water Partnership (Project 5).</p> <p>Section 319 Projects: 7 – Second Creek 8 – Brindley Creek 9 – Tiawasee Creek 10 – Lake Neely Henry</p>	
<p>Short-term Objective 5.4: Continue to facilitate E&O activities to strengthen working relationships and linkages to appropriate interstate, state, regional, and local entities (i.e., everyone “works-off-the-same-page”).</p> <p>Timeline: Annual</p>	Continuing	<p>2015 Section 319 Admin/Management (Project 1 and 6) and AL Clean Water Partnership (Project 5).</p>	

Progress in Achieving Annual Milestones of the Alabama NPS Management Program and Section 319 Grant Program

(1) Statewide NPS Programmatic Water Quality Annual Milestones		Year 2016	
Measure: Water Quality Monitoring Data Indicates a Primarily NPS Impaired Waterbody or Segment Is Now Fully or Partially Meeting State Water Quality Standards			
(Baseline is 2013)	Indicator	Waterbody / HUC	Comments
a) Number of Waterbodies identified in AL's 2000 or later year Integrated Reports (IR) as being primarily NPS impaired that now meets state water quality standards and designated uses (WQ-10): (Goal is minimum 1/year): (i.e., Category 5/ Section 303(d) listed Impaired Waters):	1	Cane Creek (AL03160109-0404-101, -102 and -103)/ Black Branch (03160109-0404)	More recent data indicated water quality standards were met for Black Branch for siltation and metals, and Cane Creek for metals, nutrients, pH, organic enrichment and siltation.
Number of WQ-10 Waterbodies Fully/Partially Restored or Meets State Water Quality Standards or Designated Uses:	1	Cane Creek (AL03160109-0404-101, -102 and -103)/ Black Branch (03160109-0404)	Watershed Project restoration efforts were funded by a 2001 Section 319(h) funds in conjunction with contributions by the Abandoned Mine Land Reclamation Program within ADIR's Mining and Reclamation Division. All restoration activities took place from June 2006 to May 2011.
Number of WQ-10 NPS/Section 319 Success Stories Developed as a Result of Full/Partial Restoration:	1	Cane Creek (AL03160109-0404-101, -102 and -103)/ Black Branch (03160109-0404)	WQ Standards were attained due to NPS and other partnerships in restoration activities.
Number of WQ-10 NPS/Section 319 Success Stories That Are Being Developed as a Result of Full/Partial Restoration:	1	Crowdabout Creek / 06030002-1006	A Crowdabout Creek WQ-10(a) Success Story is being prepared for submittal to EPA R-4 for partial restoration due to attainment of DO standards.
Number of WQ-10 NPS/Section 319 Success Stories Submitted to EPA Region 4 as a Result of Full/Partial Restoration:	1	Cane Creek (AL03160109-0404-101, -102 and -103)/ Black Branch (03160109-0404)	Submitted to EPA R-4 on October 29, 2015 for review and comments.
Number of WQ-10 NPS/Section 319 Success Stories Listed by EPA-HQ as Result of Full/Partial Restoration:	1	Cane Creek (AL03160109-0404-101, -102 and -103)/ Black Branch (03160109-0404)	Accepted by EPA Region 4 and posted to the HQ website in October 2016.

b) Number of Waterbodies identified in AL's 2002 IR as not attaining water quality (WQ) standards where state water quality standards are now partially attained using a watershed-based approach (SP-12): (Goal is minimum 1/year): (i.e., Category 5/Section 303(d) listed Impaired Waters):	0		
Number of Waterbodies Where the Watershed Approach Was Used to Target or Restore Impairments to Water Quality:	0		
Number of SP-12 NPS/Section 319 Success Stories Developed to Proclaim WQ Standards are Partially Restored:	0		
Number of SP-12 NPS/Section 319 Success Stories That Are Being Developed to Proclaim WQ Standards are Partially Restored:	0		
Number of SP-12 NPS/Section 319 Success Stories Submitted to EPA Region 4 as a Result of WQ Standards Now Being Partially Restored:	0		
Number of SP-12 NPS/Section 319 Success Stories Listed by EPA-HQ as Result of WQ Standards Being Partially Restored:	0		

(2) Nonpoint Source Pollutant Load Reductions		Year 2016	
Measure: Cumulative Estimated Statewide NPS Load Reductions			
(Baseline is FY 2013)		Indicator	Comments
a) Pounds of Nitrogen (N) Pollutant Load Reductions Annually from Nonpoint Sources Using Section 319 Grant Watershed Project Funds (WQ-9a):		108,056 lbs/year	Cumulative "N" for all ongoing Section 319 grants (2012 - 2016). 2013-2016 project load reductions are pending additional implementation.
Number of Section 319 Funded Projects Reporting "N" Pollutant Load Reductions (Total Watershed Projects/Total Projects Targeting "N"):		15	
Load Reductions Entered in GRTS by Feb 15		Yes	
b) Pounds of Phosphorus (P) Pollutant Load Reductions Annually from Nonpoint Sources Using Section 319 Grant Watershed Project Funds (WQ-9b):		27,187 lbs/year	Cumulative "P" Total for all "open" Section 319 grants (FY2012 – 2016) reported in GRTS. 2013-2016 project load reductions are pending additional implementation.
Number of Section 319 Funded Projects Reporting "P" Pollutant Load Reductions (Total Watershed Projects/Total Projects Targeting "P"):		15	
Load Reductions Entered in GRTS by Feb 15		Yes	
c) Tons of Sediment (S) Pollutant Load Reductions Annually from Nonpoint Sources Using Section 319 Grant Watershed Project Funds (WQ-9c):		23,995 tons/year	Cumulative "S" Total for all "open" Section 319 grants (FY2012 – 2016) reported in GRTS.

Number of Section 319 Funded Projects Reporting (S) Pollutant Load Reductions (Total Watershed Projects/Total Projects Targeting “S”):	16	2013-2016 project load reductions are pending additional implementation.
Load Reductions Entered in GRTS by Feb 15	Yes	
d) Number of Impaired Waterbodies/Segments Where “Other” NPS Pollutant Load Reductions are Achieved (#):		
Priority TMDL Pollutants of Concern (Pollutants Other than N, P and Sediment) Were Mitigated Using Leveraged Section 319 Watershed Project Funds:	Yes	Biological Oxygen Demand (BOD) was sometimes reported by projects since it is included in STEPL results. All watershed-based projects leverage the resources of two or more resource agencies. **“Other” narratives/data reporting address pathogens, OE/DO, and aquatic habitat.
Section 319 Watershed Project Funds Compliments and Leverages Technical and Financial Assistance from 2 or more Federal and State Resource Agencies:	Yes	
“Other” Pollutant Project Narrative/Data included in the NPS/Section 319 Annual Report:	Yes	

(3) Project-Level Water Quality Planning and Restoration and Activities		Year 2016
Measure: Watershed Project Funds Target NPS Impaired or Mixed Source Impaired Section 303(d) Listed Waters		
Baseline is FY2013 and 2002 Impaired Waters List	Indicator	Comments
a) Watershed-based Plans or Acceptable Alternative Plans are Completed Prior to Beginning to Implement On-The-Ground Projects with Section 319 Watershed Project Funds:	Yes	<p>Nine-key element Watershed-based Plans submitted to ADEM to mitigate NPS impacts and improve water quality with 2015 or 2016 grant funds include:</p> <ul style="list-style-type: none"> • Brindley Creek WMP • Second Creek WMP • Middle Coosa–DeKalb Co WMP (Neely Henry) • Upper Middle Flint River (Chase) WMP (completed 2016)* • Shoal/Swann Creek WMP (completed 2016)* • D'Olive, Tiawassee, & Joe's Branch WMP <p>Collaboration and coordination continues to ensure early and sustained buy-in from many and varied resource agencies, landowners, and other entities.</p> <p>All mandated data elements entered into GRTS prior to Feb 15, 2016.</p>
At least two (2) EPA nine-key Element Watershed-based Plans are Drafted or Final Plans Developed Annually:	2*	
At least two (2) EPA nine-key Element Watershed-based Plans Begin Implementation Annually:	6	
Appropriate Stakeholders Were Involved in Watershed Planning and Implementation Processes:	Yes	
All current mandated project data elements are entered into GRTS with no exceptions associated with the previous year Section 319 grant award noted by Region 4 or EPA HQ remaining unresolved:	Yes	
Progress schedules reasonably ensure completion within the grant funding periods:	Yes	

(4) Program Management and Accountability		Year 2016
Measure: The NPS Management Program Increases Implementation Efficiencies		
Baseline is FY2013	Indicator	Comments
a) Program Performance Issues/Concerns and Associated Corrective Actions Continue to Be Addressed to Meet Foundational Aspects of Section 319 Grant Guidelines and Funding/Management Requirements:	Yes	The 2016 Section 319 RFP notice as well as the Inter-governmental Clearinghouse Review was executed.
A statewide NPS project workplan RFP is submitted to the public within 6 months of the fiscal year begin data (prior to Sept 30):	Yes	Watershed projects were selected for FY16 funding. Final EPA budget was approved on September 23, 2016 and projects are currently being contracted.
Previous Year Section 319 funds were obligated by ADEM within one (1) year of the date of receipt from EPA Region 4:	Yes	The ADEM NPS Unit uses/refines dedicated Section 319 grant/project tracking databases as well as coordinates invoice payments with the Fiscal Office.
Programmatic and financial systems are developed, evaluated, revised or updated to enhance project tracking and reporting:	Yes	All mandated data elements are entered into GRTS as grant and project-specific information is acquired by ADEM staff.
Mandated project elements entered into GRTS at least biannually:	Yes	
NPS staff facilitate or participate in at least one (1) NPS related education and outreach or training program activity at least one (1) time per month to enhance public awareness and knowledge:	Yes	ADEM NPS Staff facilitates or participates in E&O activities multiple monthly.
Annual Regional and National GRTS and NPS Program/Section 319 Managers Meetings are Attended as scheduled:	Yes	The EPA GRTS Training Meeting was not scheduled by the EPA during this time period and NPS Staff are scheduled to attend the National NPS Training Meeting in October 2016.
Environmental data collected to assess NPS water quality impacts continues to be input into ADEM-specific, STORET or other publicly available databases or reporting formats:	Yes	Data continues to be QA'd and entered into ADEM-specific and national /EPA reporting databases.
ADEM partners with USDA-NRCS to select and/or monitor water quality for at least one (1) NWQI priority watershed:	Yes	The Cross Creek/Upper Scarham Creek Watershed (10-digit HUC) was approved in 2014 as an additional NWQI site to be monitored. Cross Creek was monitored in FY2016. Upper Scarham, which is listed as a NWQI site, is also a Section 319 ongoing implementation project in FY2016. The Cox Mill Creek/Hurricane Creek Watershed continues to be monitored as a NWQI site.

The Alabama NPS Management Program Projects, Percent Completion, and Federal/Non-Federal Funds

	Projects	Percentage of Project Completed	Obligated Federal Funds	Required Matching Funds	Project Completion Date
FY12	Planning Administration/Management	100%	\$ 563,655	\$ 375,770	09/30/2012
	Rotational River Basin Approach: Surface Water Assessment for Black Warrior and Cahaba River Basins	100%	\$ 250,291	\$ 166,860	11/30/2013
	Surface Water Screening Assessment of Black Warrior and Cahaba Basins and WQ of Alabama Reservoirs for Nutrient Criteria and TMDL	100%	\$ 275,420	\$ 183,613	01/31/2016
	NPS Management Program Flexibility for Emerging Issues	100%	\$ 20,634	\$ 13,757	09/30/2013
	Project Grant Implementation Management	100%	\$ 253,268	\$ 168,845	09/30/2012
	Alabama Clean Water Partnership	100%	\$ 315,236	\$ 210,157	10/19/2014
	Broken Arrow Creek Watershed Project	100%	\$ 120,255	\$ 80,170	10/19/2015
	Village Branch (Flint Creek)	100%	\$ 253,800	\$ 169,200	05/01/2016
	North River - Phase 2	100%	\$ 315,420	\$ 210,280	07/31/2016
	Hurricane Creek (Flint River)	100%	\$ 330,000	\$ 220,000	05/08/2016
	Mill Creek	100%	\$ 288,966	\$ 192,644	08/31/2016
Monitoring of the implementation for Watershed Management Plan for D'Olive Creek, Tiawasee Creek, and Joe's Branch Watershed Management Plan	100%	\$ 87,055	\$ 58,037	09/30/2016	
FY13	Planning Administration/Management	100%	\$ 563,955	\$ 375,970	09/30/2013
	Rotational River Basin Approach: Surface Water Assessment for TN River Basin	100%	\$ 129,373	\$ 86,249	11/30/2015
	Rotational River Basin Approach: WQA of TN Reservoirs for Nutrient Criteria and TMDL	96%	\$ 147,847	\$ 98,565	03/31/2017
	Coastal Monitoring	82%	\$ 108,825	\$ 72,550	09/30/2017
	Project Grant Implementation Management	100%	\$ 253,267	\$ 168,845	09/30/2013
	Alabama Clean Water Partnership	100%	\$ 315,236	\$ 210,158	11/01/2015
	West Flint Creek Watershed-Phase II	94%	\$ 207,263	\$ 138,176	09/11/2017
	French Mill Creek Watershed	100%	\$ 226,000	\$ 150,667	01/13/2017
	Harris Creek Watershed - Phase II	77%	\$ 239,920	\$ 159,947	11/19/2016
	Eight Mile (Mobile) and Fish River (Baldwin)	74%	\$ 91,100	\$ 60,734	12/15/2016
	Brier Fork-Beaverdam Phase 3	84%	\$ 230,000	\$ 153,334	09/30/2017
Pintlala	39%	\$ 401,214	\$ 267,476	07/08/2017	
FY14	Planning Administration/Management	100%	\$ 662,769	\$ 441,846	09/30/2014
	Statewide Surface Water Quality Monitoring of Priority Wadeable Streams and Rivers	100%	\$ 304,140	\$ 202,760	11/30/2016
	Surface Water Quality Assessment of Rivers, Reservoirs and Tributary Embayments on a Statewide Rotation	80%	\$ 150,592	\$ 100,395	03/31/2017
	Coastal NPS Program Approval (Septage Category I)	59%	\$ 100,000	\$ 66,667	09/30/2018
	Alabama Clean Water Partnership	100%	\$ 272,999	\$ 203,411	01/01/2017
	Project Grant Implementation Management	100%	\$ 168,844	\$ 112,563	09/30/2014
	Moore's Creek	10%	\$ 522,322	\$ 348,215	06/08/2017
	Upper Scarham Creek	50%	\$ 269,820	\$ 179,880	08/05/2017
	Graves Creek	56%	\$ 179,583	\$ 119,722	03/27/2017
	Shoal Creek	51%	\$ 158,800	\$ 105,867	03/20/2017
	Pursley Creek	24%	\$ 191,131	\$ 127,421	08/07/2017

	Projects	Percentage of Project Completed	Obligated Federal Funds	Required Matching Funds	Project Completion Date
FY15	Planning Administration/Management	100%	\$ 615,724	\$ 410,483	09/30/2015
	Statewide Surface Water Quality Monitoring of Priority Wadeable Streams and Rivers	75%	\$ 359,140	\$ 239,427	11/30/2017
	Surface Water Quality Assessment of Rivers, Reservoirs and Tributary Embayments on a Statewide Rotation	80%	\$ 152,387	\$ 101,592	12/31/2017
	Coastal NPS Program Approval (Septage Category II)	0%	\$ 100,000	\$ 66,667	09/30/2019
	Alabama Clean Water Partnership	0%	\$ 247,999	\$ 165,333	04/01/2018
	Project Grant Implementation Management	100%	\$ 193,746	\$ 129,164	09/30/2015
	Second Creek	15%	\$ 205,829	\$ 137,219	01/05/2018
	Brindley Creek	16%	\$ 259,004	\$ 172,669	01/12/2018
	Tiawassee Creek	49%	\$ 596,671	\$ 397,781	02/05/2018
	Middle and Upper Coosa	24%	\$ 220,000	\$ 146,667	04/06/2018
FY16	Planning Administration/Management	100%	\$ 786,252	\$ 524,168	09/30/2016
	Statewide Surface Water Quality Monitoring of Priority Wadeable Streams and Rivers	50%	\$ 274,955	\$ 183,304	12/31/2018
	Surface Water Quality Assessment of Rivers, Reservoirs and Tributary Embayments on a Statewide Rotation	60%	\$ 115,794	\$ 77,196	12/31/2018
	Coastal NPS Program Approval (Septage Category III)	0%	\$ 100,000	\$ 66,667	09/30/2020
	Alabama Clean Water Partnership	0%	\$ 247,999	\$ 165,333	*
	D'Olive Creek	0%	\$ 197,227	\$ 131,485	*
	Moore's Phase II	0%	\$ 296,682	\$ 197,788	*
	Upper and Lower Flint River	0%	\$ 248,000	\$ 165,334	11/09/2018
	Shoal/Swann Creek (Limestone Co.)	0%	\$ 360,000	\$ 240,000	11/10/2019
	West Flint - Phase III	0%	\$ 300,000	\$ 200,000	*
	Three Mile Creek	0%	\$ 46,041	\$ 30,694	12/01/2018
Joes Branch	0%	\$ 77,050	\$ 51,367	12/30/2016	
FY17	Planning Administration/Management	25%	\$ 766,742	\$ 511,162	09/30/2017
	Statewide Surface Water Quality Monitoring of Priority Wadeable Streams and Rivers	25%	\$ 262,130	\$ 174,754	11/31/2019
	Surface Water Quality Assessment of Rivers, Reservoirs and Tributary Embayments on a Statewide Rotation	0%	\$ 176,776	\$ 117,851	12/31/2019
	Coastal NPS Program Approval (Septage Category IV)	**	\$ 100,000	\$ 66,667	**
	Alabama Clean Water Partnership	**	\$ 247,999	\$ 165,333	**
	Ryan Creek	**	\$ 204,164	\$ 136,109	**
	Three Mile Creek	**	\$ 152,339	\$ 101,560	**
	Mill Creek Phase 3	**	\$ 260,276	\$ 173,518	**
	Graves Creek Phase 2	**	\$ 407,200	\$ 271,467	**
	Crowdabout-Phase 3	**	\$ 160,300	\$ 106,867	**
Scarham Creek Phase 2	**	\$ 249,897	\$ 166,598	**	
Parkerson Mill Creek	**	\$ 152,091	\$ 101,394	**	

*FY16 Funds were released by the EPA on 9/23/2016. Contracting is currently ongoing.

**FY17 319 Application submitted to the EPA on 9/30/2016. Pending approval.



The Alabama Nonpoint Source Management Program

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