Alabama Nonpoint Source Management Program

2011 Annual Report

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

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Wolf Bay - Baldwin County

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

The Alabama Nonpoint Source Management Program

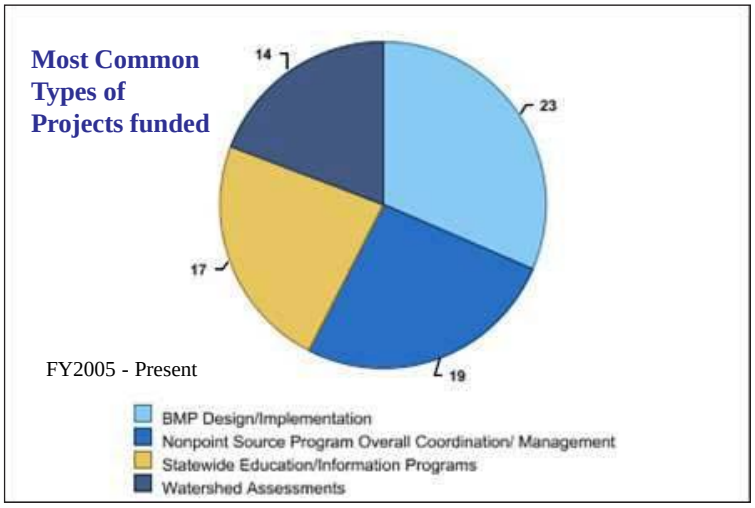
The Alabama Department of Environmental Management (ADEM) continues to implement an effective Nonpoint Source Management Program with the goal of addressing nonpoint source pollution in Alabama. This annual report highlights many achievements that have been made during the 2011 fiscal year and provides updates on the implementation of watershed management plans that support the installation of on-the-ground best management practices that are designed to improve water quality.

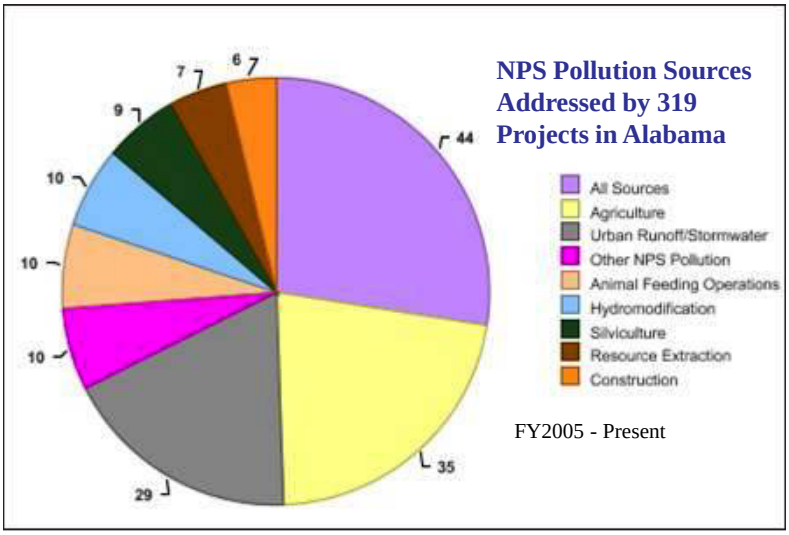
While the annual report highlights many achievements, the 2011 fiscal year also brought many challenges. A 27% reduction in federal funding required ADEM to make difficult funding decisions for many projects to include citizen-based volunteer water quality monitoring, erosion & sediment control training for developers/contractors, and forestry BMP training for foresters/landowners. These reductions in effort have the potential to undermine gains that have been achieved over the past years.

In spite of recent budget cuts, the staff in the ADEM Nonpoint Source Management Program will continue to coordinate with our valued stakeholders and work to implement on-the-ground projects. The ability to leverage resources will allow all stakeholders to accomplish more work and support our goal of improving water quality across Alabama.

2011 Nonpoint Source Management Program Highlights

- The ADEM NPS Unit closed out the Fiscal Year 2005, 2006, and 2007 Section 319 grants. All open grants and related tasks are on schedule.
- Watershed management plans that address EPA's Nine Key Elements have been developed, or are being developed, in 50 watersheds across Alabama.
- ADEM awarded $1,960,000 for watershed plan implementation projects and education/outreach projects in FY2011.
- This past year, the success story of the Robinson Creek Watershed Project in Morgan County was submitted to EPA. (www.epa.gov/owow/nps/Success319).





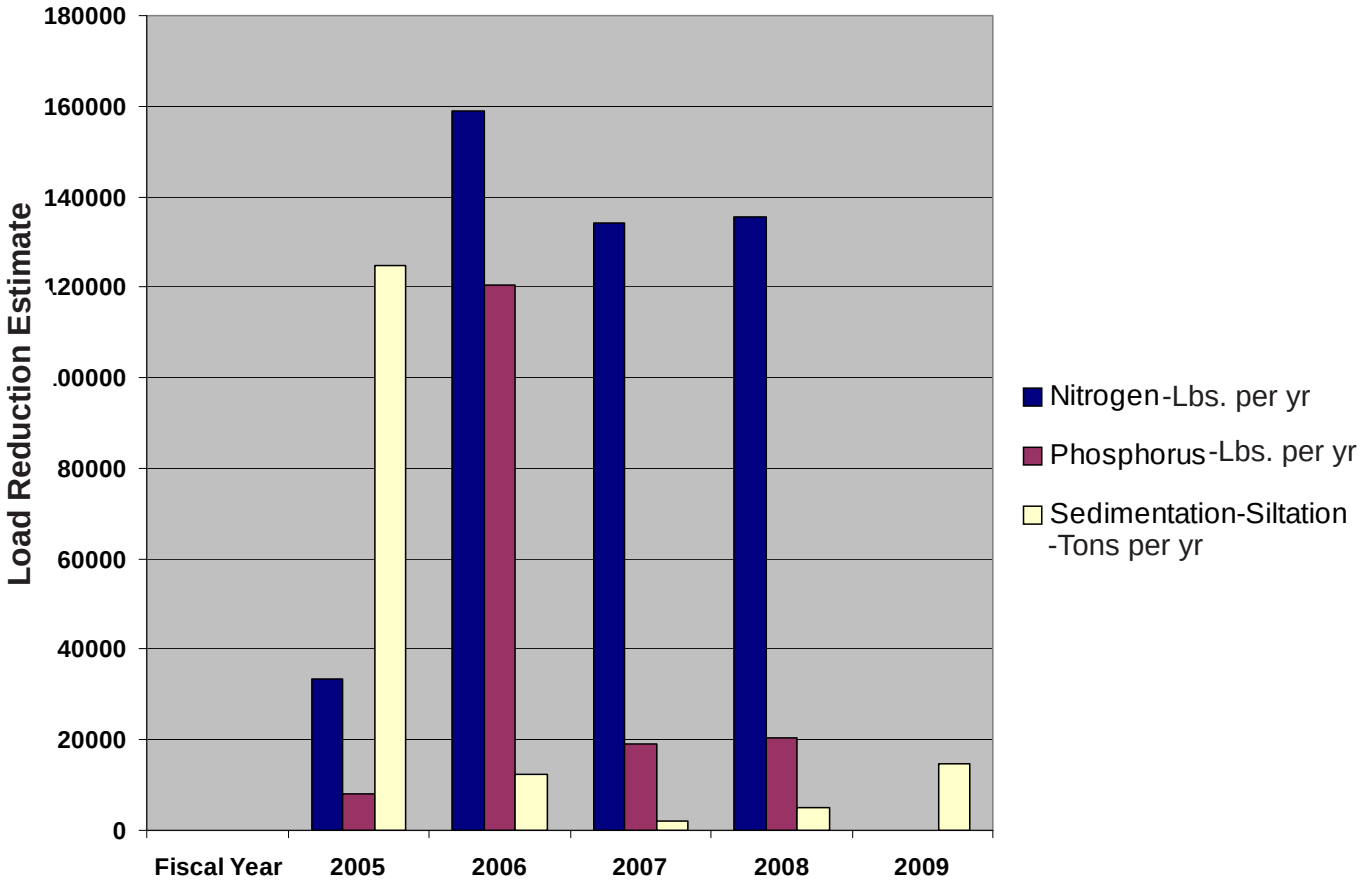
- The ADEM Field Operations Division completed the Rotational River Basin Assessments in the Mobile, Escatawpa, and Tombigbee River Basins in 2011.
- The statewide Nonpoint Source Management Plan is currently in the process of being updated.
- Low impact develoment (LID) education and implementation projects continued to be a focus in 2011. A Statewide LID Manual is being developed in partnership with Auburn University and LID workshops were held to promote this resource and practices. Watershed projects have implemented bioretention basins, rain barrels, rain gardens, permeable pavement, and tree filters to demonstrate these practices.
- ADEM continues to successfully partner with the Alabama Soil and Water Conservations Districts and the Alabama Clean Water Partnership to develop and implement projects across the state.

Pollutant Load Reductions

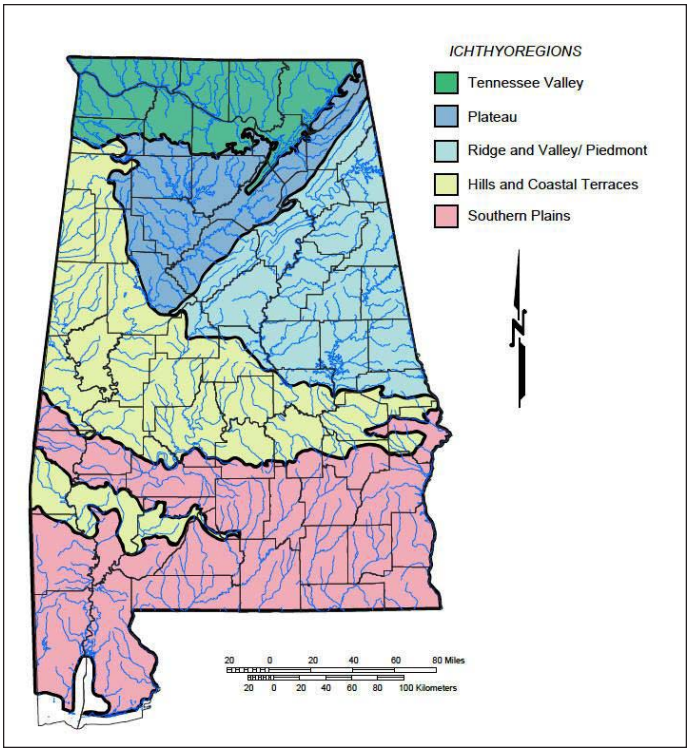
The projects/activities outlined in this report provide a brief overview of the Department's efforts to address nonpoint source pollution in Alabama. However, in order to provide a numerical measure of the effectiveness of these efforts, EPA 319 guidance calls for a report of the "annual reduction in lbs/tons of nitrogen, phosphorus, and sediment from nonpoint sources to waterbodies." In cooperation with its 319 partnerships, pollutant load reductions have been estimated using developed methodologies for past and ongoing projects. The charts 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 given on page 41.

Alabama Load Reductions
2005 to 2009

Load Reduction Estimate			
	Nitrogen	Phosphorus	Sedimentation-Siltation
Fiscal Year	LBS/YR	LBS/YR	TONS/YR
2005	33,564	8,147	124,710
2006	158,780	120,317	12,490
2007	134,176	19,216	2,108
2008	135,580	20,449	4,929
2009			14,875
Grand Total	**462,099**	**168,129**	**159,111**



NPS Data Collection, Assessment, and Watershed Plan Development



Calibration of the Integrated Biotic Integrity (IBI) as a Statewide Biomonitoring Tool for Alabama

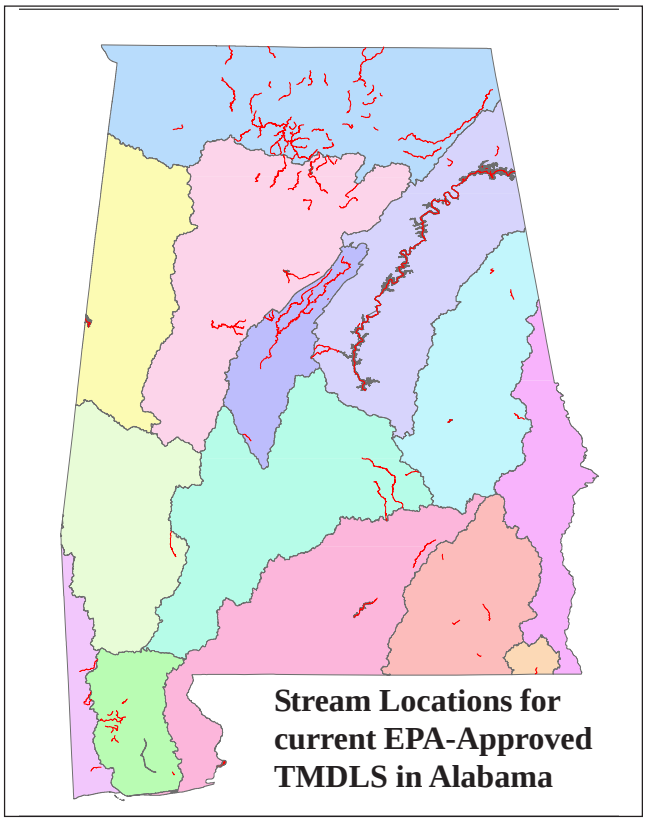
The purpose of this project is to create a comprehensive fish community bioassessment tool using the Index of Biotic Integrity (IBI) methodology to help agencies better assign designated water-use classifications to all State waters, manage water quality more efficiently, and communicate to the public the benefits of strong water resources protection and management.

The Plateau ichthyoregion in north Alabama was sampled from 2008 through 2011 to develop data for creating and calibrating the IBI. Eighty-seven sites were selected to represent a range of watershed areas and levels of human disturbance. Watershed areas at the sampled sites ranged from 3.90 square miles up to 921 square miles. Rapid habitat assessments were completed for each sample and eight measures of human disturbance were derived for each site from a geographic information system. During 2011, the Plateau IBI and the calibrated IBI for the Ridge and Valley/Piedmont ichthyoregion was completed. Currently, the Hills and Coastal Terraces data is being finalized and should be completed in November 2011.

Alabama's Total Maximum Daily Load (TMDL) Program Update

Section 303(d) of the Clean Water Act (CWA) requires states to list waters for which technology-based limits alone do not ensure attainment of applicable water quality standards. The 303(d) List includes priority rankings for the listed waters. Once the impaired waters are identified, states are required to establish total maximum daily loads (TMDLs) that will ensure water quality standards are met for each listed waterbody, considering seasonal variations and a margin of safety that accounts for uncertainty.

During fiscal year 2011, ADEM finalized and received EPA approval on 11 TMDLs for the following waterbodies for pathogens: Pintlalla Creek, Pursley Creek, and Town Creek in the Alabama River Basin; Mud Creek and Spring Creek (two segments) in the Coosa Basin; Ryan Creek in the Black Warrior Basin; and Pepperell Branch, Parkerson Mill Creek,and Cubuahatchee Creek in the Lower Tallapoosa Basin. Including the 11 TMDLs completed in FY2011, the total number of waterbody-pollutant combinations with approved TMDLs in Alabama is 219. A more detailed description of all completed TMDLs is provided at www.adem.state.al.us/WaterDivision/WQuality/TMDL/ApprovedTMDLs.htm.



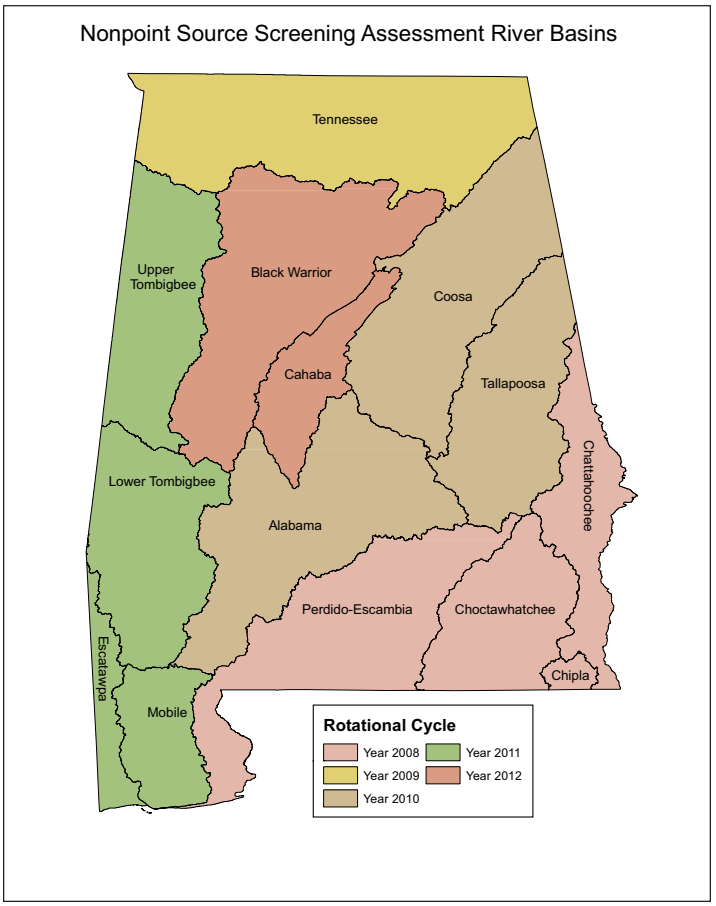
Stream Locations for current EPA-Approved TMDLS in Alabama

Field Operations Watershed Assessments

The Department continued the 5-year rotational river basin assessment approach. Water quality assessment efforts targeted the Escatawpa, Mobile, and Tombigbee River Basins in FY2011. Please contact Lisa Huff at esh@adem.state.al.us or (334)260-2752 to obtain completed NPS water quality assessment reports or other data.

2011 Assessment of Wadeable Streams in the Escatawpa, Mobile, and Tombigbee River Basins

The objectives of each Basin Assessment Monitoring Project are to assess the biological integrity of each monitoring location and to estimate overall water quality within the basin. Fifty locations were selected to represent the range in watershed conditions throughout the EMT River Basins. At each location, *in situ* measurements were taken semi-monthly, March through October, of stream flow, intensive water samples, water-column Chlorophyll *a*, E. coli, and metals. Pesticides, semi-volatiles, and atrazine were collected twice during this same timeframe. Macroinvertebrate and habitat assessments were conducted once at each station in May-early July. Fish IBI community assessments were also completed at a subset of stations representing a gradient in watershed conditions. Habitat and macroinvertebrate community assessments could not be completed at one site due to low flow conditions. Fish community assessments were completed at 15 sampling locations. Five additional locations could not be sampled due to non-wadeable or non-flowing conditions.



2011 Surface Water Quality Assessment of Rivers, Reservoirs, and Tributary Embayments of the Mobile, Escatawpa, and Tombigbee River Basins

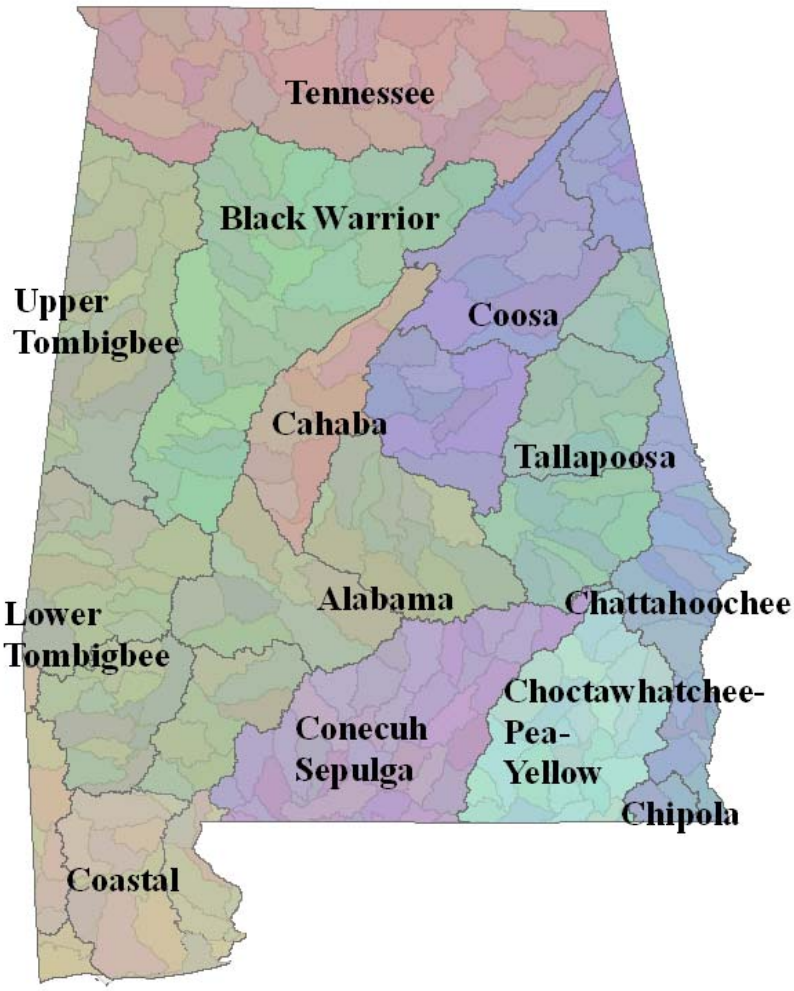
Twenty-nine stations on Aliceville, Gainesville, Coffeeville and Demopolis of the Tombigbee River Basin, eight river stations of the Mobile River Basin, and six stations of the Escatawpa River Basin were intensively monitored. Intensive monitoring of reservoir stations consisted of monthly sampling of all stations from April through October. River stations were sampled March through October, to be consistent with the Rivers and Streams Program. All stations were sampled within a one-week period to reduce weather-related variability in water quality conditions.

Monitoring and analyses were conducted in accordance with appropriate standard operating procedures. 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. A composite water sample of twenty liters was collected from the photic zone. From this composite, water quality samples and water-column chlorophyll *a* samples were collected monthly, hardness was collected semi-monthly, and AGPT samples were collected once in August at select mainstem stations of each reservoir. Surface water E. coli samples were collected three times during the sampling season for each station.

River Basin Management Plans

The Department has provided technical resources and oversight to complete the development of river basin management plans for all of the major river basins across the state. Listed below are the river basins that have management plans, which encompass a total of 30,204,799 acres of Alabama waterways. The basin plans are available on the ADEM website at www.adem.state.al.us/Education%20Div/Nonpoint%20Program/WSNPSProgram.htm#Basin_Management_Plans.

- **Lower Coosa River Basin** (03150107)
  1,963.29 sq. miles/1,256,511 acres
- **Middle Coosa River Basin** (03150109)
  1,654,373 acres
- **Upper Coosa River Basin/Weiss Lake**
  (03150105)
  852 sq. miles/545,259 acres
- **Tennessee River Basin**
  (06020001, 06030001, 06030002, 06030003, 06030005, 06030006)
  6,825.85 sq. miles/4,368,535 acres
- **Cahaba River Basin** (03150202)
  1,818.08 sq. miles/1,163,571 acres
- **Black Warrior River Basin**
  (03160109, 03160110, 3160111, 03160112, 03160113)
  6,288.19 sq. miles/4,024,423 acres
- **Coastal Alabama Basins**
  (03160204, 03160205, 03170002, 03170003, 03170008, 03170009, 03140106, 03140107)
  3,695.51 sq. miles/2,365,315 acres
- **Tallapoosa River Basin**
  (03150108, 03150109, 03150110)
  4,023.86 sq. miles/2,575,265 acres
- **Alabama River Basin**
  (03150201, 03150203, 03150204)
  4,747.42 sq. miles/3,038,361 acres
- **Upper and Lower Tombigbee River Basins**
  (03160103, 03160105, 03160106, 03160201, 03160202, 03160203, 03160107, 03160108)
  7,570 sq. miles/4,844,648 acres
- **Choctawhatchee/Pea/Yellow River Basins**
  (03140201, 03140203, 03140204, 03140103)
  3,637.28 sq. miles/2,327,855 acres
- **Conecuh, Sepulga, & Blackwater River Basins**
  (3140104, 3140301, 3140304, 3140302, 3140305, 3140303)
  3,996.33 sq. miles/2,557,667 acres
- **Chattahoochee/Chipola River Basins**
  (3130002, 3130003, 3130004, 3130012)
  2,829.5 sq. miles/1,810,871 acres



Watershed Management Plans

The Department is continuing to work with stakeholders to develop and implement subwatershed management plans. These subwatershed management plans are in various stages of completion, but each plan will incorporate EPA's nine key elements (a-i) and will encompass **2,910,680** acres of Alabama waterways.

Alabama River Basin

- Baldwin Slough (03150201-0307) 17,280 acres

Total acres addressed **17,280 acres**

Black Warrior Basin

- Long Branch (03160109-0303) 19,752 acres
- Dry Creek (03160111-0203) 12,648 acres
- Black Branch/Cane Creek (03160109-0602) 40,670 acres
- Rock Creek/Crooked Creek 132,695 acres
(03160110-080, 03160110-090, 03160110-100)
- Dollarhide Creek (03160113-0140) 55,040 acres
- Big Scirum Creek (03160111-0208) 16,953 acres
- North River 121,967 acres
(03160112-0401, 03160112-0402, 03160112-0404)

Total acres addressed **399,725 acres**

Cahaba River Basin

- Little Shades Creek (03150202-0201) 39,908 acres

Total acres addressed **39,908 acres**

Chattahoochee River Basin

- Mill Creek (03130003-0101) 15,729 acres

Total acres addressed **15,729 acres**

Choctawhatchee-Pea-Yellow River Basin:

- Dowling Branch (03140201-0704) 15,647 acres

Total acres addressed **15,647 acres**

Coosa Basin

- Buxahatchee Creek (03150107-0502) 45,663 acres
- Spring and Mud Creek (03150105-0807) 10,880 acres
- Middle Coosa

The Middle Coosa Plan targets the following subwatersheds:

Little Land Valley Creek (03150106-0103) 27,722 acres
Fisher Creek (03150106-0104) 9,180 acres
Whippoorwill Creek (03150106-0105) 26,510 acres
Little Wills Creek (03150106-0106) 18,161 acres
Black Creek (03150106-0107) 40,900 acres
Horton Creek (03150106-0108) 16,930 acres
Ball Play Creek (03150106-0201) 42,151 acres
Dry Creek (03150106-0202) 9,777 acres
Big Cove (03150106-0203) 18,082 acres
Turkey Town Creek (03150106-0204) 57,416 acres
Little Canoe Creek (03150106-0301) 27,570 acres
HW Big Canoe Creek (03150106-0302) 31,005 acres
Upper Big Canoe Creek (03150106-0303) 30,402 acres
Lake Sumatanga - Little Canoe Creek (03150106-0304) 20,243 acres
Middle Big Canoe Creek (03150106-0305) 34,989 acres
Lower Big Canoe Creek (03150106-0306) 33,306 acres
Beaver Creek (03150106-0307) 25,038 acres
Shoal Creek - Big Canoe Creek (03150106-0308) 20,843 acres
Neely Henry Lake (031501060309) 46,447 acres
Upper Ohatchee Creek (03150106-0404) 31,560 acres
Lower Ohatchee Creek (03150106-0405) 19,960 acres
Woods Island - Coosa River (03150106-0409) 8,709 acres
Trout Creek (03150106-0601) 14,730 acres
Broken Arrow Creek (03150106-0602) 38,903 acres
Embry Bend - Coosa River (03150106-0603) 25,551 acres
Broken Arrow Shoals (03150106-0605) 27,785 acres
Rabbit Branch (03150106-0803) 36,518 acres
Jess Branch - Shoal Creek (03150106-0804) 20,735 acres
Upper Kelly Creek (03150106-0805) 34,050 acres
Hearthstone Creek - Wolf Creek (031501060806) 28,473 acres
Buckhorn Branch - Bear Creek (03150106-0807) 28,917 acres
Lower Kelly Creek (03150106-0808) 21,045 acres
Spring Creek - Coosa River (03150106-0810) 31,408 acres

- Upper Middle Coosa (DeKalb Co.) (03150105) 340,026acres

Total acres addressed **1,311,585 acres**

Mobile Basin

- D'Olive Creek (03160204-0505) 20,480 acres
- Juniper Creek (03170008-0401) 5,936 acres
- Eight Mile Creek (03160204-0403) 37,120 acres

Total acres addressed **63,536 acres**

Tallapoosa Basin

- Copper's Rock (Wolf Creek) (03150108-1004) 23,488 acres
- Town Creek (031501100-0301) 150 acres
- Sougahatchee Creek 108,482 acres
(03150110-0201, 03150110-0204, 03150110-0203)
- Parkerson Mill Creek (031501100-0301) 5,981 acres
- Moore's Mill Creek (031501100-0301) 7,360 acres

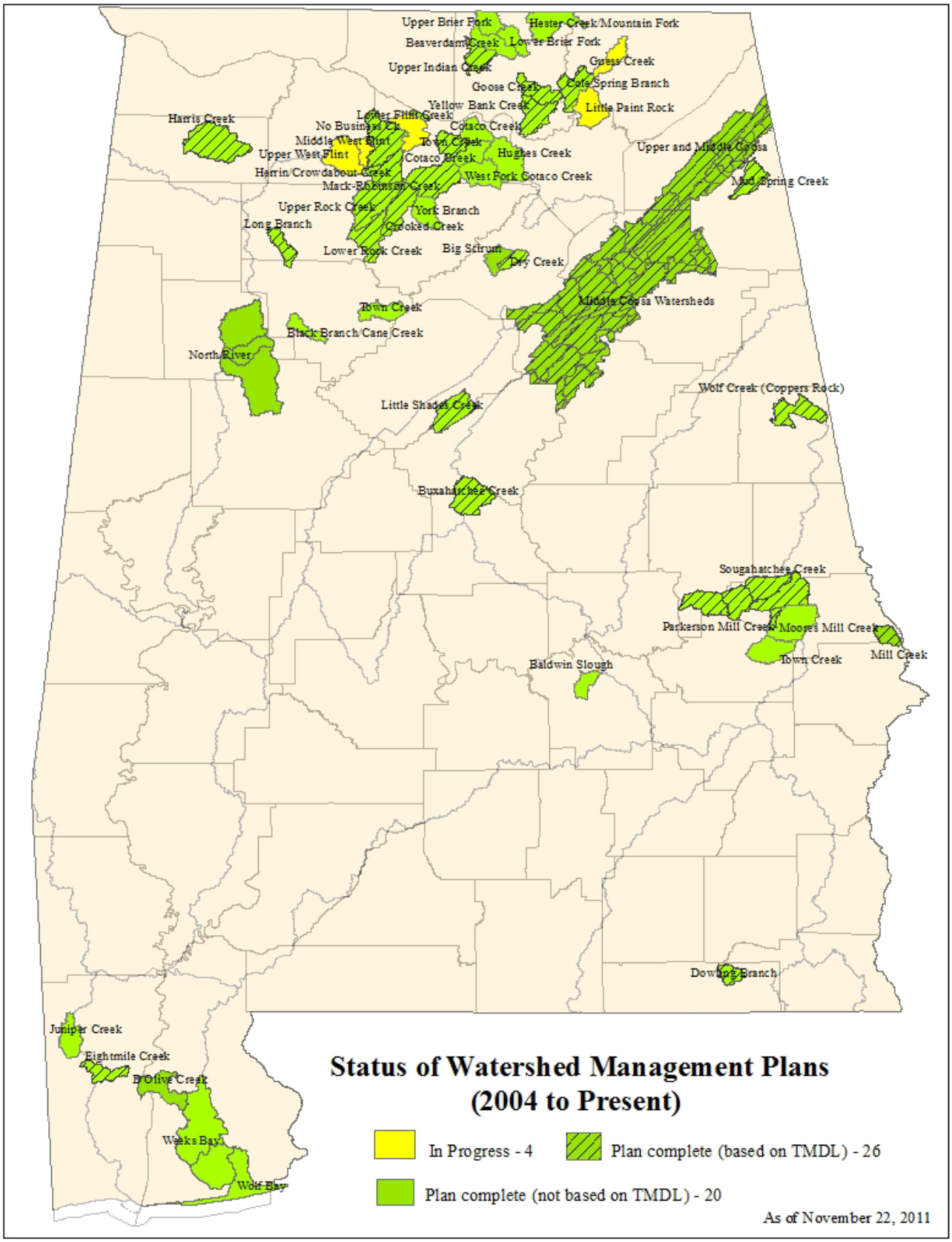
Total acres addressed **132,120 acres**

Tennessee Basin:

- Cotaco Creek (060300020601, 06030002-0603) 176,376 acres
- Mack Creek-Robinson Creek (06030002-1001) 35,446 acres
- Paint Rock (06030002-100) 93,154 acres
- Guess Creek (06030002-0105) 21,818 acres
- Little Paint Rock (06030002-0203) 36,196 acres
- Cole Spring Branch (06030002-0201) 3,110 acres
- Brier Fork and Beaverdam Creek 67,290 acres
(06030002-0307, 06030002-0305, 06030002-180)
- Upper Bear Creek (06030006-0103) 78,220 acres
- Middle Flint River (06030002-1003) 41,783 acres
- Harris Creek (06030006-0201) 35,224 acres
- Hughes Creek (06030002-0601) 18,276 acres
- West Fork Cotaco Creek (0603000-2270) 34,573 acres
- Upper Indian Creek (06030002-0505) 26,626 acres
- Yellow Bank Creek (06030002-210) 6,208 acres
- Goose Creek (06030002-210) 7,552 acres
- Crowdabout Creek (06030002-340) 31,180 acres
- Town Creek (06030002-0604) 23,442 acres
- Lower Flint Creek (06030002-1009) 33.458 acres
- Upper/Middle West Flint Creek (06030002-1009) 56,260 acres
- Hester Creek/Mountain Fork (06030002-1009) 53,838 acres

Total acres addressed **915,150 acres**

Watershed Management Plans Map

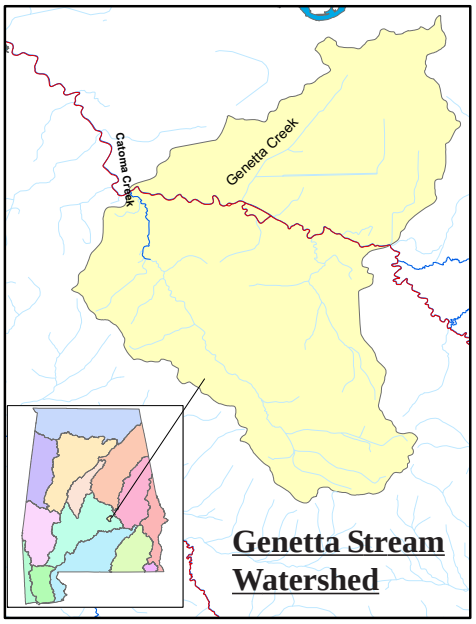


Watershed Implementation Activities

The Nonpoint Source Management Program continues to focus on the development and implementation of watershed management plans. The implementation of these watershed management plans is the cornerstone of the Department's effort to enhance water quality and facilitate the improvement or restoration of impaired waterbodies in the state. The projects identified in this section are the culmination of numerous meetings between ADEM staff and a wide-range of stakeholders and landowners to identify problem areas and initiate restoration activities to enhance water quality.

Genetta Stream Restoration Project

The Genetta Stream is located in the City of Montgomery and is a major tributary of the impaired Catoma Creek. The Catoma Creek Watershed is approximately 320 square miles in area and comprises about two-thirds of Montgomery County. The project site is located on West Fairview Avenue and is very near to where the Genetta Stream flows alongside and under Interstate 65. The site is within a high priority redevelopment area and immediately adjacent to the historic Selma to Montgomery Civil Rights Trail. A 500-foot segment of the Genetta Stream will be daylighted near the northeastern corner of the city-owned project site. In addition, about one acre of constructed wetlands will be installed to help treat NPS pollutants contained in stormwater runoff.



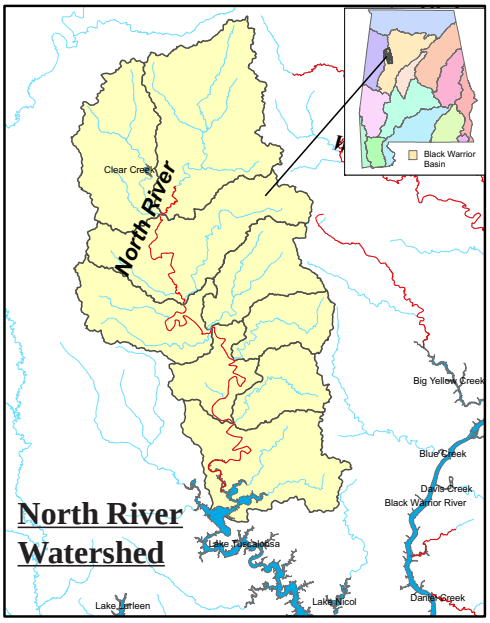
The following project related actions and achievements have been completed in this reporting period:

- **Construction Documents Completed:** The project consulting team designed and completed the construction document. During the final design stage, project engineers resolved a number of critical issues which emerged during the process of modeling and other engineering studies necessary to properly design for BMP success. Upon receipt of the construction document package, the city engineer will initiate a review and preparation for the bid announcement. Projected construction start is targeted for mid-December 2011.
- **ALDOT Discussions**: Lead consultants initiated discussions with the Alabama Department of Transportation (ALDOT) regarding right-of-way issues. Several meetings and discussions were held with ALDOT, including an on-site meeting (June 23, 2011). The on-site meeting included physical inspection of both the Fairview Avenue wetland site and the proposed stream restoration site along Oak Street and Interstate 65 South. Subsequent to those discussions, city officials are continuing dialogue with ALDOT officials.
- **USACE Permitting Approval:** Effective July 21, 2011, the City of Montgomery was notified by USACE Inland Section, North Regulatory Division, of permitting approval for "Wetland Creation, Restoration Enhancement Activities Associated with the City of Montgomery's Genetta Park Project".
- **ADEM Discussions:** City officials and lead project consultants met with ADEM project managers on August 11, 2011 and August 29, 2011 to discuss various critical issues related to the project. City officials are continuing the dialogue with ADEM officials.
- **Additional Property Acquisition:** The City of Montgomery recently acquired additional parcels adjacent to the site of the wetland and stream restoration project. The additional parcels provide potential for future programs to enhance exposure and utilization of the wetlands and stream restoration site for community outreach and eco-educational functions.
- **Outreach Initiative:** On September 30, 2011, city officials attended a meeting to discuss the formation of a Catoma Outreach Focus Work Group with the targeted purpose of promoting outreach and education in the Catoma Watershed and the Genetta wetland/stream restoration project. The meeting was attended by officials representing the City of Montgomery, Montgomery Water Works and Sanitary Sewer Board, Alabama-Tombigbee Clean Water Partnership, ADEM, USDA, and the Central Alabama Regional Development and Planning Commission (CARDPC).

Final Design Plan of the Genetta Park Stream Restoration in the City of Montgomery

North River Watershed Project

The North River Watershed drains an area of about 1,110 km^2 in Fayette and Tuscaloosa Counties and is a major tributary of the Black Warrior River. A 43-mile segment of the North River has been identified on the Section 303(d) List for nutrient, siltation, and habitat alteration impairments from abandoned surface mining. A Watershed Assessment conducted by the Tuscaloosa Soil and Water Conservation District 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. The goal of this project is to initiate a phased watershed management approach to help restore the North River.

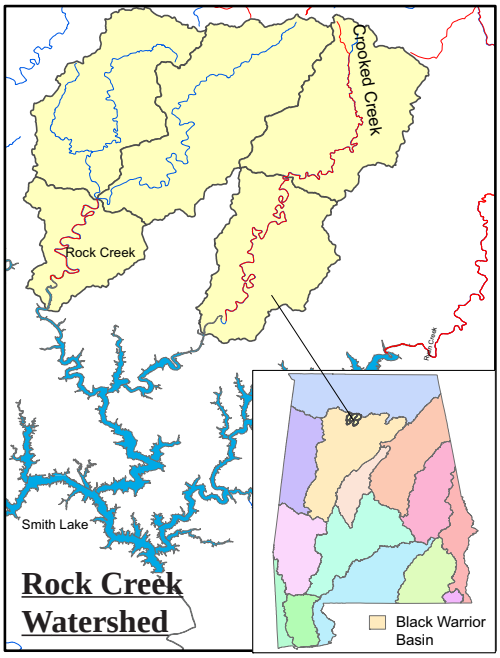


Meetings have been held to provide an overview of the Strategic Habit Unit (SHU) initiative and the North River Watershed Management Plan Implementation Project. A public forum was held in September in Tuscaloosa to solicit additional project interest. In addition, a website (www.northriverwatershed.org) has been created using volunteer hours from an honors computer science student from the University of Alabama.

The Geological Survey of Alabama has installed two OTT Orpheus Mini Dataloggers in Clear Creek that will collect water level, water temperature, and battery voltage readings every hour until the end of the study period in the fall of 2015. During each sampling trip, sediment grab samples are collected, along with instantaneous measurements of specific conductance, pH, temperature, dissolved oxygen, and turbidity. A portable bedload monitoring instrument is also being used to measure bedload sediment. These samples and other water quality data will be used to calibrate pre-BMP sediment loading rates in the Clear Creek watershed using the BASINS (EPA) model. Stream habitat conditions will be evaluated at sites along Clear and Deadwater Creeks to help locate sources of excessive sedimentation in the watershed. Habitat assessment sites will be determined from a Potential Nonpoint Source Pollution Index (PNPI) map and aerial photos. This information will be used to locate areas of erosion impairment in the watershed and determine the best sites for implementation of BMPs and potential remediation. In addition, the Alabama Forestry Commission performed a BMP audit flyover of the Clear Creek Watershed in March 2011. The flyover of approximately 31,000 acres identified possible sources of sedimentation from dirt roads, logging operations and other permitted operations. An infrared flyover of Lake Tuscaloosa was also done to identify several potential septic tank failures. The septic tank failures were then inspected by the Alabama Department of Public Health in cooperation with the City of Tuscaloosa. Septic Tank Workshops are also being planned to help with this issue.

Rock Creek Watershed Project

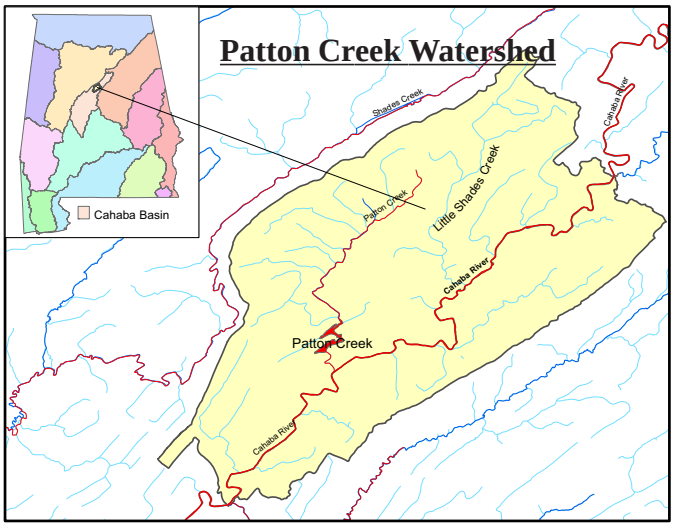
The Rock Creek Watershed is located in the Sipsey Fork Watershed of the Black Warrior River Basin. It lies west of the City of Cullman and drains parts of Winston, Cullman, and Lawrence Counties before discharging to Lewis Smith Lake. It is composed of five sub-watersheds: Belevens Creek, Long Branch-Upper Rock Creek, Clifty Creek-Rock, Upper Crooked Creek, and Lower Crooked Creek. TMDLs for Rock Creek and Crooked Creek have been completed for organic enrichment/low dissolved oxygen, pathogens, siltation, and/or ammonia. The sources of impairments include pasture grazing and intensive animal feeding operations. A watershed management plan was completed in May 2010. The goal of this project is to improve and protect the water quality of the Rock Creek and Crooked Creek Watersheds by implementing NPS strategies to mitigate the causes of water quality problems identified in the TMDLs.



A broad-base kickoff meeting was held in addition to several watershed meetings and outreach events to partners and stakeholders. A poster and brochure have also been developed to promote the project. Approximately 15 applications have been received for BMP installation and are under review. Also during this project period, the AU Geography Department developed an updated Land-cover/ Landuse Analysis of the watershed by using Landsat 5 TM satellite images acquired through NASA and USGS.

Little Shades Creek Stream Restoration

Little Shades Creek is a is located within the Patton Creek Watershed within the Cahaba River Basin. This project is located within the City of Vestavia Hills. The watershed has an area of almost eight square miles and is over 35% developed. Increased development and impervious surfaces has increased the volume and velocity of stormwater entering Little Shades Creek. This stormwater has created severe erosion near the Ashley Woods Subdivision. This increased erosion makes a significant stormwater contribution to the Cahaba River which is identified on the 303(d) List as being impaired due to sediment.



As a result of the erosion and stream degradation, an enhancement project was initiated on Little Shades Creek in January 2010 and includes the following elements:

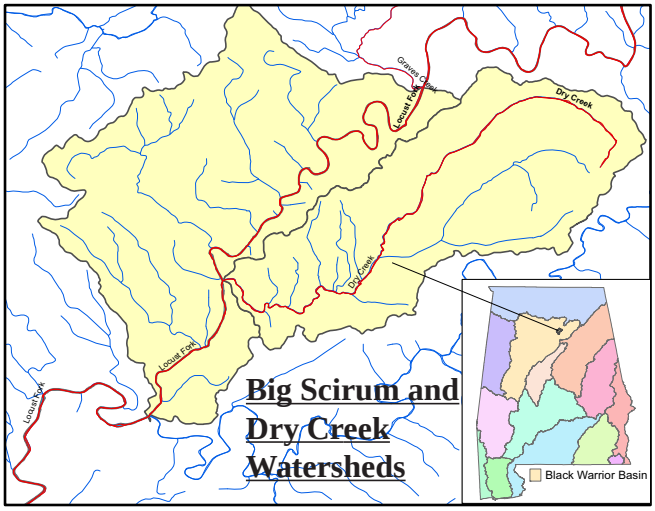
- Channel realignment to provide a naturally stable meander pattern reducing stress on tight bends;
- Channel re-shaping to create a stable bankfull channel, floodplain benches on both sides, and stable terrace slopes on both sides;
- Installation of 11 in-stream boulder and log vane structures to direct flow away from streambanks, improve bedload sediment transport, provide grade control, and improve fish habitat;
- Streambank stabilization with native grass seeding, straw, temporary matting, and a brush mattress to reduce streambank erosion while permanent vegetation becomes established;
- Re-grading and stabilization of 10 stormwater outfall channels to minimize impacts of stormwater runoff from both sides of the stream project;
- Planting of native riparian trees, shrubs, and wetland plants to provide permanent streambank stability, shade and food for aquatic habitat improvements, which will improve the water quality and aquatic habitat of the stream.

Cross vanes were installed to redirect flow away from streambanks.

Implementation began January 26, 2010, with mobilization and establishment of the staging area. Construction was completed March 5, with planting completed March 12, 2010. Project construction proceeded in 200-ft segments from downstream to upstream. After each segment was completed, exposed streambanks were stabilized with straw and coir erosion control matting to prevent potential erosion during rainfall events.

In addition, three workshops were held in conjunction with the project, including “Stream Restoration Construction”, “Vegetation for Stream and Floodplain Restoration”, and “Nonnative Plant Identification”. These hands-on workshops offered natural resource professionals and local stakeholders an opportunity to learn more about stream enhancement and restoration on an urban stream. The project site was also featured as one of the tour sites of this year’s Alabama Erosion and Sediment Control Field Day held in Bessemer in August 2011.

Big Scirum / Dry Creek Watersheds Project

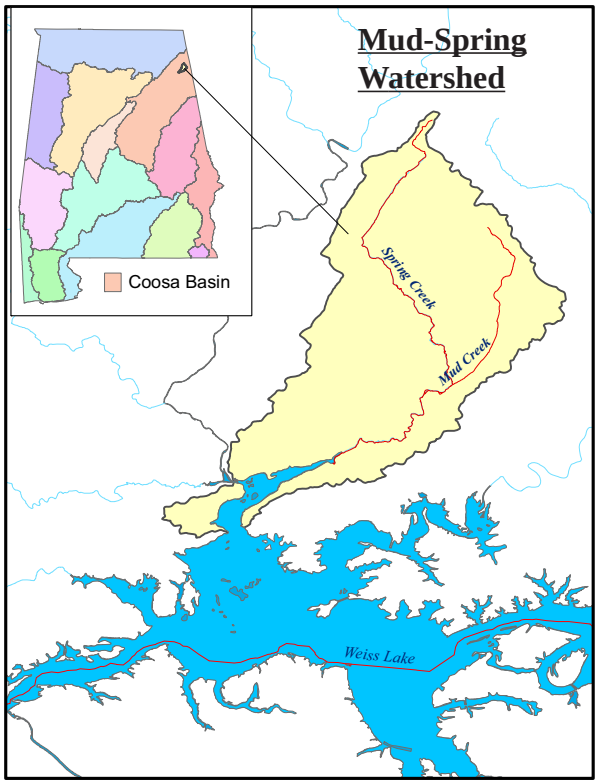


The Big Scirum Creek Watershed is located within the Upper Locust Fork Watershed within the Black Warrior River Basin. The watershed covers 16,993 acres within Blount County and lies mostly west of the Town of Cleveland and incorporates most of the Town of Nectar. The primary land cover is pasture and forest land. Big Scirum Creek is a tributary to Locust Fork and is on the 303(d) List for siltation from agriculture and abandoned surface mining.

The Dry Creek Watershed is located in the Upper Locust Fork Sub-Watershed of the Black Warrior River Basin. The Dry Creek Watershed resides entirely within Blount County and covers 12,648.140 acres. The Town of Cleveland and a portion of the Town of Rosa are located within the boundaries of the watershed. Dry Creek is on 303(d) List for nutrients, ammonia, and pathogens.

In the last six months, two landowners have completed BMPs on their farms. The first participating farm installed 1,514 feet of cross-fencing for rotational grazing, three watering facilities, and 261 feet of pipeline for the watering facilities. The second participating farm installed 550 feet of cross-fencing for rotational grazing.

Mud and Spring Creek Watershed Project

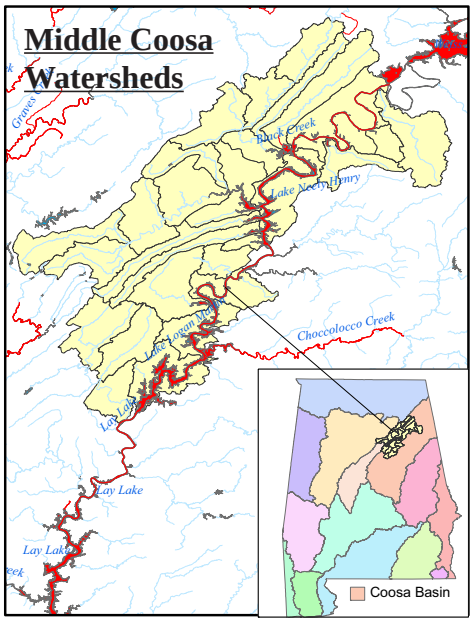


The Mud-Spring Creek Watershed drains to the Weiss Lake Watershed of the Coosa River Basin and encompasses approximately 17 square miles. Mud and Spring Creeks are identified on the 2004 and 2006 Section 303(d) Lists. Spring Creek is impaired for 5.39 miles for pathogens and 9.88 miles for nutrients from failing septic treatment systems, agricultural practices (e.g., livestock operations/nutrient management, row crops, pasture/haylands, etc.), and naturally occurring sources (e.g., domestic pets and wildlife). A TMDL for pathogens was recently approved.

The project is currently being advertised and applications are currently being submitted. Implementation of best management practices are set to begin this fall.

The project cooperators participated in and helped to coordinate the Cherokee County Water Festival on April 14, 2010 at the Gadsden State Arena. Three hundred and twenty-two 4th grade students, 16 teachers, and 44 volunteers participated in this event. Partnering with the Weiss Lake Improvement Association, the Alabama Forestry Department, and Youth Leadership Cherokee helped make the event a success. A Clean Water Program for Farm City Days was also presented to Cherokee County first grade students.

The Middle Coosa Watershed Project



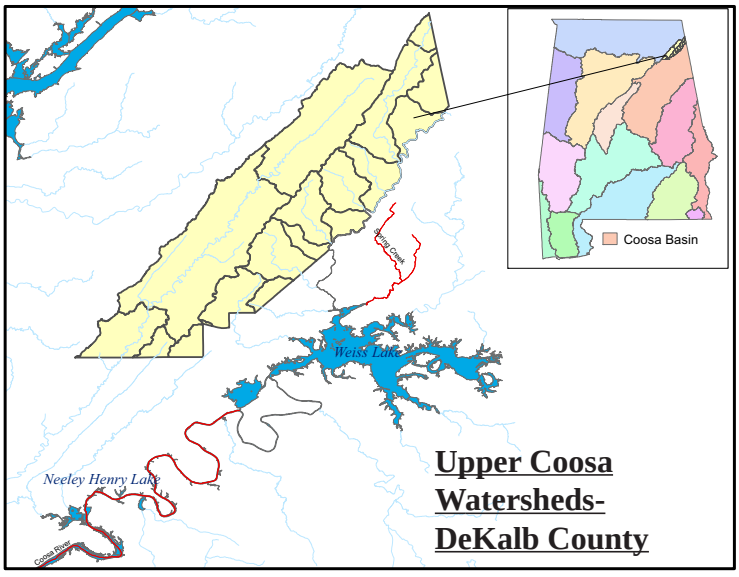
This project addresses the impaired subwatersheds of the Middle Coosa River Basin in Etowah and St. Clair Counties. In October 2008, the final Coosa River Basin TMDL was approved to address the impairments in the Neely Henry and Logan Martin Lakes, as well as Lay Lake and Mitchell Lake. The goals of this project are to develop and implement a watershed-based protection plan that targets the sources and causes of impairments of these streams and the lakes in the Middle Coosa River Watershed. Etowah and St. Clair County Soil and Water Conservation Districts are the lead cooperators for this project.

The coordinator has participated in several educational events and continues to partner to provide water quality information for students and adults in the watershed. Several events targeting children that the coordinator has participated in this year include the Farm-City Outdoor Classroom, the Message in a Bottle Symposium in Gadsden, and the Etowah County Water Festival. For adults, two rain barrel workshops were held in partnership with the ACWP and the Alabama Cooperative Extension System (ACES). The Middle Coosa Watershed Project also partnered with the Farmer's Federation and ACES to host a Precision Agriculture training course for farmers.

A heavy use area for cattle was installed as part of the Middle Coosa Project.

Since September 2010, 132 agriculture applications have been approved and 60 have been completed. The agricultural BMPs installed include heavy use areas, alternative watering sources, a tile outlet terrace, pest management, precision agriculture, conservation tillage, cross fencing, tree planting, and pasture planting. One urban BMP application has also been approved.

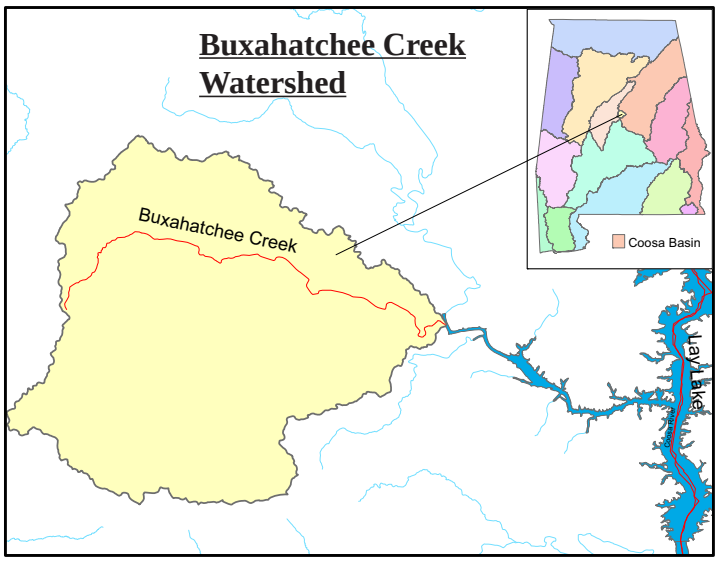
Upper Coosa Watershed Project



The Upper Coosa River Watershed Project addresses the seventeen 12-digit watersheds of the Upper and Middle Coosa River Basins in DeKalb County that drain to Weiss Lake and Neely Henry Lake. Major tributaries include Big Wills, Little Wills, Johnny's, and Yellow Creeks, as well as the Little River. Primary population centers include the towns of Valley Head, Fort Payne, and Collinsville. A revised TMDL for nutrients has been completed for Weiss Lake and a final Coosa River Basin TMDL was also released 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(Coosa Lakes TMDL). A watershed management plan has been completed based on the TMDLs and a watershed coordinator has been hired to assist with the Plan implementation.

The DeKalb County SWCD has just begun taking applications for best management practices. To date, six agriculture applications have been approved and are in the process of being installed. In addition, the Project Coordinator has worked with the Jacksonville State University Canyon Center to promote water quality as a part of Canyon Fest in November 2011. The program will be working with 4th grade students from Fort Payne City Schools and on the second day will be open to all who come by the Center on Saturday. Many aspects of farming as well as the importance of conserving natural resources will be taught and discussed with the students.

Buxahatchee Creek Watershed Project



Buxahatchee Creek is a subwatershed of the Coosa River Basin and is impaired for nutrients and organic enrichment/ dissolved oxygen. The watershed is approximately 70 square miles and flows through Shelby and Chilton Counties. The goal of the Buxahatchee Creek Watershed Restoration Project is to implement agricultural and urban BMPs and to provide local education to raise awareness of nonpoint source issues.

Agricultural best management practices that have been completed as a result of this project include the installation of a stream crossing, a heavy use feed pad, a heavy use access lane, and cross-fencing to isolate cattle from the creek.

Timberline Golf Course, which lies adjacent to Buxahatchee Creek, was a major partner and implementation site of this project. The Alabama Cooperative Extension System Turf Specialists worked with the golf course and made monthly trips to advise personnel on methods to reduce fertilizer usage and to recommend vegetation and no-mow zones that will be beneficial to the facility and to the watershed. The engineering firm Goodwyn, Mills, and Cawood completed the design of a stream restoration using natural channel design on 825 linear feet of stream within the golf course. One Stop Environmental completed the construction to reduce sediment and nutrient loading.

The City of Calera Sports Complex was another site of implementation of urban BMPs. Existing plans for the construction of the new sports complex adjacent to the new high school were modified to incorporate bioswales and wet pond retention throughout the complex. Three of the bioswales were funded through the project while the rest was completed by the City of Calera.

Minooka Park, owned and maintained by Chilton County through their park system, was another site of implementation within the Buxahatchee Creek Watershed. Prior to this project, all wastewater generated inside the facility was hauled offsite for processing. The Buxahatchee Creek Watershed Restoration Project installed an innovative and environmentally-friendly treatment system that would also serve as an educational tool for installers and developers in the future. The system chosen was a peat-based Puraflo® system that pre-treats water to a greater than 90% purity level before final treatment in a leach field system. On June 23, 2011 a Field Demonstration Day was held at Minooka Park to showcase the sponsors and the completed project.

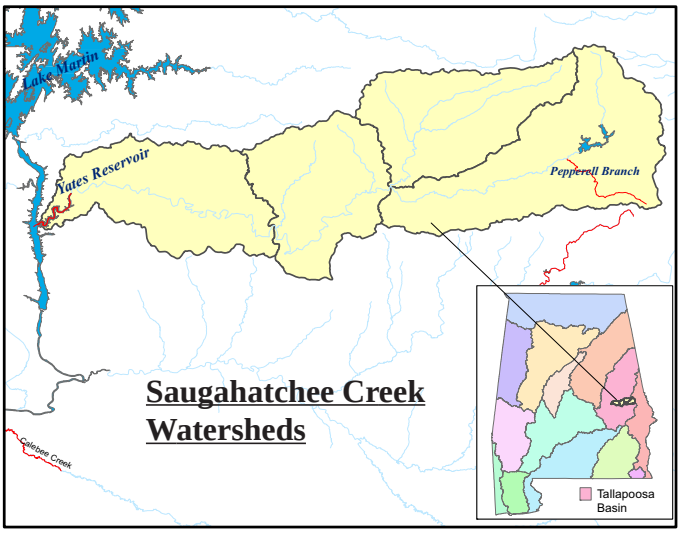
The City of Calera Sports Complex incorporated three bioswales into their existing plans in order to capture runoff.

Three workshops were held to distribute septic tank pumpout vouchers. Although voucher usage was not confined to the Buxahatchee Creek Watershed but was open to Shelby and Chilton Counties, a public awareness campaign using posters and mail-outs was focused to those citizens living within the watershed. The City of Calera agreed to accept the septic sludge that was removed and process it through there Buxahatchee Wastewater Treatment Facility. A total of 261 vouchers were used out of the 300 that were issued. As a sidebar to the program, the City of Calera also began monitoring five sites along Buxahatchee Creek for water quality.

The Buxahatchee Creek Watershed Restoration project also sponsored two nonpoint source pollution awareness workshops. The first of these workshops was the “Quality Growth Workshop” which focused on low impact development. The workshop was held August 20, 2009 at the Alabama Power Company Watercourse Facility in Clanton Alabama and was presented by Christine Olsenius of the Southeast Watershed Forum. The targeted workshop audiences were local and county planning personnel, elected officials, health department officials, and watershed management groups. The second workshop was the “What’s In Your Water” program co-sponsored by the Alabama Clean Water Partnership. The workshop was also held in January 2011 at the Alabama Watercourse facility and targeted middle school teachers.

Saugahatchee Watershed Management Plan (SWaMP) Project - Phase 2

The Saugahatchee Creek Watershed encompasses a 220-square mile area located within the Lower Tallapoosa River Basin. Saugahatchee Creek Watershed has two segments, the Pepperell Branch and the Saugahatchee Creek Embayment (Yates Lake) that are impaired for excess nutrients and for organic enrichment/low dissolved oxygen (OE/DO). Pepperell Branch is also impaired for pathogens. TMDLs for all the impairments have been completed.



A stakeholder meeting was held to begin Phase 2 activities and recently-generated data has been compiled for evaluation regarding prioritization of on-the-ground BMP placement and for use in outreach activities. SWaMP coordinators are working on the establishment of 'Smart Yard Incentive' programs with the cities of Auburn and Opelika for the installation of rain gardens, bioretention areas, runoff management and riparian zone restorations to mitigate fertilizer runoff. A Community Rain Barrel Workshop, a Lawn Care and Landscape Management Workshop, and a Rain Garden Workshop were held in April in partnership with the Alabama Cooperative Extension System, ADEM, the City of Opelika, and the City of Auburn. Additional SWaMP outreach efforts include formal presentations to various audiences in the watershed and outreach booths at local events, such as the Garden in the Park Festival, the Outdoor Expo in Opelika, and at Auburn CityFest. Publication efforts included writing articles for the SWaMP, AWW, and AU Fisheries websites, the Alabama Fisheries Association Newsletter, and for the City of Auburn's Open Line Newsletter; and providing interviews for the local news. SWaMP personnel have also assisted in community-based watershed management efforts such as watershed-level E. coli sampling.

The Saugahatchee Project includes the production of a Low Impact Development (LID) Practices Manual for Alabama. Draft chapters of Riparian Buffers, Rain Gardens, Level Spreaders, and Bioretention best management practices have been completed. Meetings were held between the AU Project Team, ADEM, AL SWCD, and NRCS representatives to discuss the State LID Manual's function, audience, layout, and distribution. A shared photo database of stormwater best management practices in Alabama has also been compiled.

Low Impact Development (LID) Practices to Reduce NPS Runoff from a Residential Development in the Saugahatchee Creek Watershed

The goal of this project was to address runoff associated with suburban expansion by demonstrating examples of LID techniques and practices in a "real-world" suburban residential setting. This project accomplished its goal by providing the City of Auburn, the Alabama Clean Water Partnership (ACWP), the Alabama Cooperative Extension System (ACES), Auburn University (AU) students and faculty, developers, planners, and other watershed stakeholders with demonstration examples of new or retrofit LID best management practices.

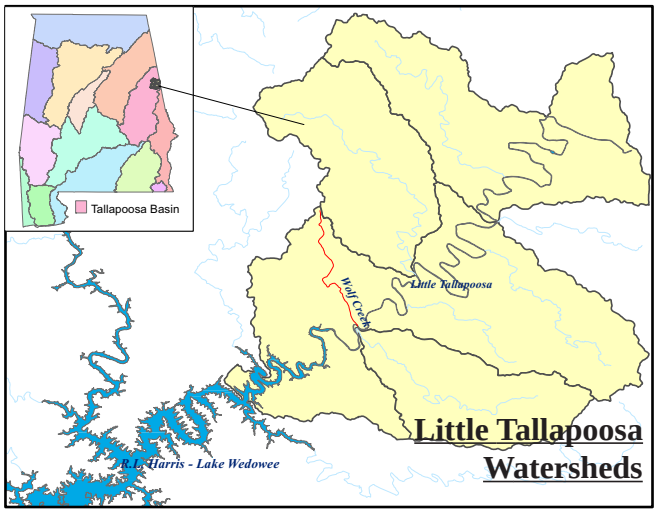
An initial tour of the LID construction was held in September 2011.

In October 2010, the project partners agreed to work with Stone-Martin Builders on their conservation subdivision in the City of Auburn. Lundy Chase is the City of Auburn's first conservation subdivision to utilize the City's Conservation Subdivision regulations and to showcase on-the-ground LID practices. Macknally-Ross Land Design synthesized partner LID suggestions and created a design overlay that was presented to the City of Auburn Planning Department. Practices were narrowed down to include bioretention, bioswales, grassed swales, slope stabilization, riparian buffers, and a sediment basin. Barrett-Simpson designed these practices and construction was completed during the summer of 2011.

A construction and LID tour was held at the Lundy Chase subdivision on September 22, 2011. Participants and partners included representatives from the City of Auburn, Lee County, ACES, Save Our Saugahatchee, SWaMP, the ACWP, Auburn University, ADEM, and the Willow Creek Homeowner's Association (adjacent subdivision). Tours will continue to be conducted in order to increase knowledge and build capacity for similar LID subdivisions throughout Alabama, the southeastern region, and nationally.

Wolf Creek Watershed Project

Wolf Creek, within the Upper Tallapoosa Watershed, is on the 303(d) list for pathogens from agricultural sources. The purpose of this project is to reduce the cumulative effects of the polluted runoff from agricultural lands in order to enable the watershed to meet or exceed state water quality standards. This project targeted the development and implementation of farm conservation plans and the implementation of agricultural best management practices to reduce pollutant loadings from pathogens. This project ended on September 5, 2011.



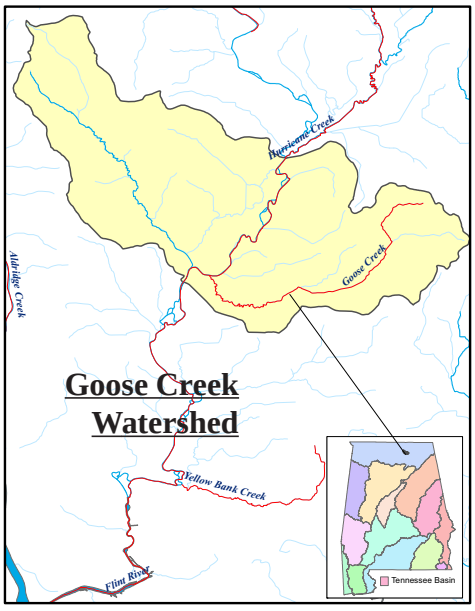
In 2010, the Little Tallapoosa River was added to the State's impaired list, from the Georgia state line to Wolf Creek. The Little Tallapoosa River is also impaired for pathogens from agricultural sources. To address this problem, the Randolph County Soil and Water Conservation District requested that the project area be expanded to include adjacent watersheds draining to the Little Tallapoosa River.

Exclusion fencing for cattle was installed to protect a tributary to Wolf Creek.

Several agricultural BMPs were completed that addressed the pathogen impairment, including the installation of four poultry freezers, three dry stacks/composters for poultry litter, one stream crossing, 17,072 feet of exclusion and cross-fencing, two heavy-use management areas for cattle, and six alternative watering facilities. One Eco-drum composter was partially funded to promote this new technology for poultry growers. Presentations and tours have been given on the Ecodrum and will continue to be given even though the project has ended. A Farm Tour was held in September 2011 to showcase the BMPs to local farmers and watershed stakeholders.

Two septic tank pumpout workshops were conducted in partnership with the Alabama Department of Public Health, NRCS, the Randolph County Soil and Water Conservation District, the Randolph County Commission, and ADEM in June and July of 2011. Presentations on septic system maintenance, watershed education, and agricultural cost-share projects were given. Participants received vouchers for pumpouts. Ninety pumpouts were completed targeting the priority watersheds, Lake Wedowee homeowners, and lower-income homeowners in Randolph County.

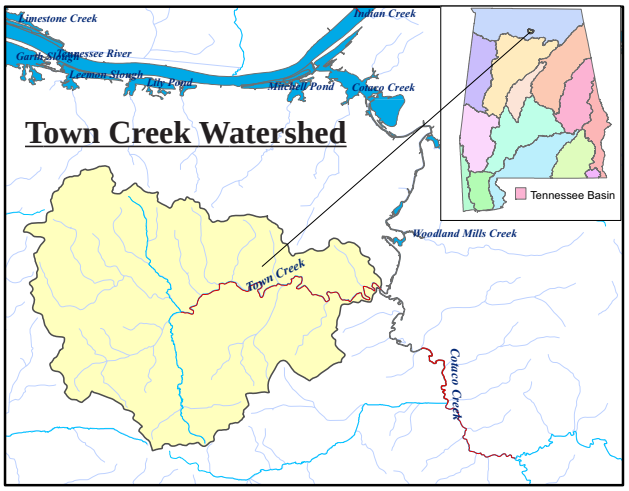
Goose Creek Watershed Project



This project supports the continued implementation of a watershed-based protection approach in the Goose Creek Watershed. Goose Creek is an approximately 8.52 mile long tributary to the Flint River in Madison County. It lies within the Wheeler Lake Watershed of the Tennessee River Basin. Goose Creek, from its source to its confluence with the Flint River, has been on the Section 303(d) List since 1998 for organic enrichment/low dissolved oxygen, as well as unknown toxicity. A TMDL for organic enrichment/low dissolved oxygen has been approved.

The Goose Creek Watershed is under pressure from development related to escalating urban sprawl from the City of Huntsville. The J.D. and Annie S. Hays Nature Preserve and the Goldsmith-Schiffman Wildlife Sanctuary, a 1,000-acre bottomland-forest watershed and wetland education resource preserve owned, maintained, and operated by the City of Huntsville, is within the watershed. The Hays Nature Preserve will soon be home to a Wetland and Watershed Education Center, among the first of its type to be established in the region. This project will incorporate raingardens, bioswales, pervious parking and distinctively visible "green" roof to mimic a more natural pre-development hydrologic and land cover site condition. The design has been completed and construction has begun.

Town Creek Watershed Project

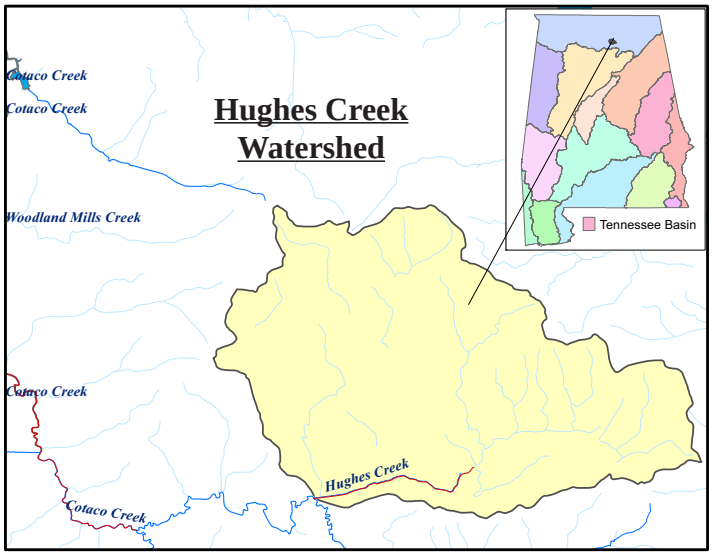


Located in Morgan County, Town Creek is a tributary to Cotaco Creek which empties into the Tennessee River. A TMDL for Town Creek was completed in 2007 for organic enrichment/low dissolved oxygen. During storm events, Town Creek and its tributaries carry a heavy silt load from critically eroding stream banks, unpaved roads, and farmland. Mostly agricultural activities are conducted in the watershed, including beef cattle production, poultry operations, and forestry practices. Besides farmland, additional nonpoint sources of nutrient loading include failing septic systems and dirt road runoff.

Best management practices have been implemented through the Morgan County SWCD. To date, ten landowners have installed BMPs which include five acres of pasture conversion back to hardwood and pine forests, 16,290 square feet of heavy-use areas, one alternative watering sources, 17 acres of conservation cover, 1.5 acres of hydroseeding, 246 feet of erosion control blankets, 1,332 square feet of stream crossings, one acre of critical area plantings, and 3,938 feet of livestock exclusion fencing.

Heavy-Use Area and Alternative Watering Source for Cattle

In support of educating the youth in Morgan County, the Cotaco Creek Watershed partnered with the U. S. Fish and Wildlife Service, the Alabama Forestry Commission, the Alabama Cooperative Extension Service, and the Flint Creek Watershed to deliver a "Wetlands Wonders" program at the Morgan County Soil and Water Conservation District Office, Wetlands Mitigation Bank, to over 400 Morgan County fifth graders. A "Wet and Wild" program was also delivered at the Wheeler Wildlife Refuge to over 400 fourth graders. Also, the Cotaco Creek Watershed Project partnered with the Alabama Mountains, Rivers and Valleys RC&D Council and the Alabama Clean Water Partnership to educate over 1,000 participants that included 50 civic groups of both students and adults at the Water Works Environmental Education Center.



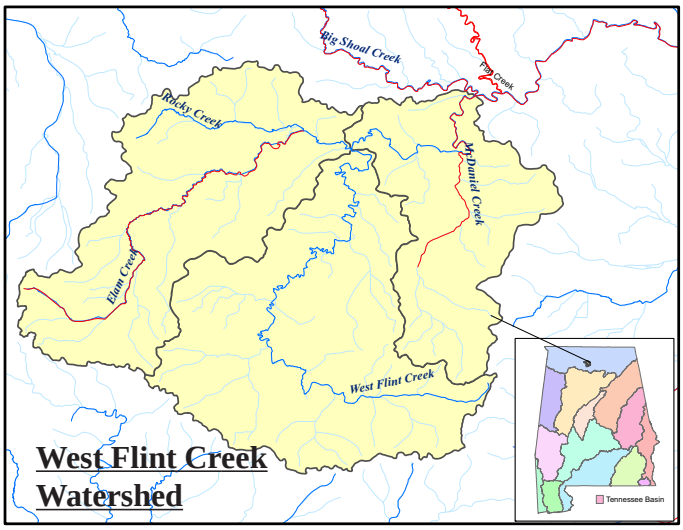
Hughes Creek Watershed Project

Hughes Creek, first listed on the 2008 303(d) List for siltation, is a 3.02 mile segment covering approximately 18,262 acres. Implementing practices in this small watershed will serve to improve the water flowing from Hughes Creek into Cotaco Creek. The Morgan County Soil and Water Conservation District provide oversight for strategic placement of BMPs based on recommendations of the Natural Heritage Program to effectively mitigate nonpoint source pollution from degrading designated sensitive areas.

This project began in February 2011 and the project coordinator continues the process of contacting landowners to implement best management practices. To date, one landowner has submitted applications and has signed a contract for pasture planting, cross fencing, alternative watering sources, heavy use areas, and pest management. Also, the Morgan County Commission is currently working to address erosion issues at a ball field that is contributing sediment to Hughes Creek. A site plan is currently being developed and BMP implementation will begin after its completion.

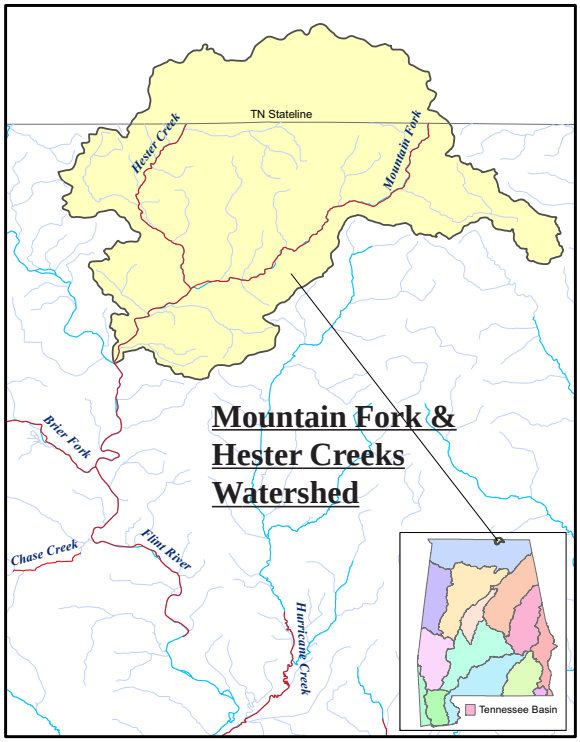
West Flint Creek Watershed Project

The goal for the West Flint Creek Watershed Project is to address the causes of stream impairment through development and implementation of conservation plans that will result in the removal of this stream from the State's 303(d) List of Impaired Waterbodies. West Flint Creek is located in Lawrence County and has a drainage area of 140 square miles, covering approximately 89,056 acres. The West Flint Creek Watershed project addresses three subwatersheds, namely Upper West Flint Creek, Middle West Flint Creek, and Elam Creek. These three subwatersheds contain approximately 45 miles of perennial streams and over 185 miles of intermittent streams. The majority of the watershed is in Lawrence County with a portion in Morgan County. West Flint Creek originates in Lawrence County and flows in a northern direction through the eastern section of Lawrence County until it reaches Morgan County where it enters the Wheeler Reservoir. The project is being implemented through the Lawrence County Soil and Water Conservation District.



To date, the District has received and approved 21 applications. Implementation is underway for farm practices including best management practices addressing crop planting, harvesting, spraying, controlled traffic, and drip irrigation installation. Environmental education programs have also been presented at local elementary schools on the importance of protecting water quality and on recycling. In addition, a presentation was given to the Lawrence County Commissioners in September to inform them of the different practices which farmers have installed in the West Flint Creek Watershed.

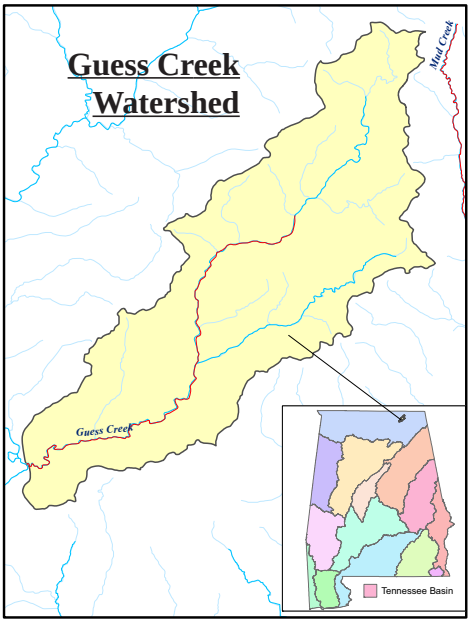
On West Flint Creek, the project installation of CORS (Continuously Operating Reference Station) was completed in March at Speake Elementary School. This site provides GPS measurements in support of three-dimensional positioning activities. Benefits of a CORS system is its ability to provide accurate, repeatable position data permitting users to return to the exact same location over time. Base stations are required for growers to implement RTK-level accuracy for auto-steer systems in their farming operations. These base stations can potentially provide up to a 6-mile coverage radius requiring direct line of sight to the base station. In most cases, farmers must move the base station to obtain full coverage of their farm. CORS requires no line of sight, offers an extended coverage radius of approximately 20 miles, and are more economically affordable.



Hester Creek and Mountain Fork Watershed Project

The Hester Creek and Mountain Fork Watershed comprises approximately 41,639 acres northeast of Huntsville in Madison County. The land use for this area is primarily pasture, row crop, and forested land, with some residential areas. Cattle farms are located throughout the watershed on soils that are highly erodible. The southwest part of the watershed is under pressure from development related to urban sprawl from the City of Huntsville. The goal of the Hester Creek and Mountain Fork project is to address the causes of stream impairment through development and implementation of conservation plans that will result in the removal of Hester Creek and Mountain Fork from the State's 303(d) list.

Phase II of this project began in April 2011. The watershed coordinator is currently in the process of contacting landowners in the watershed to implement best management practices. Five applications have been received from row crop farmers. Conservation plans have been completed to implement winter cover crops into their farming rotations and to utilize conservation tillage and residue management techniques. To date, 875 acres of the row crop management practices have been implemented.



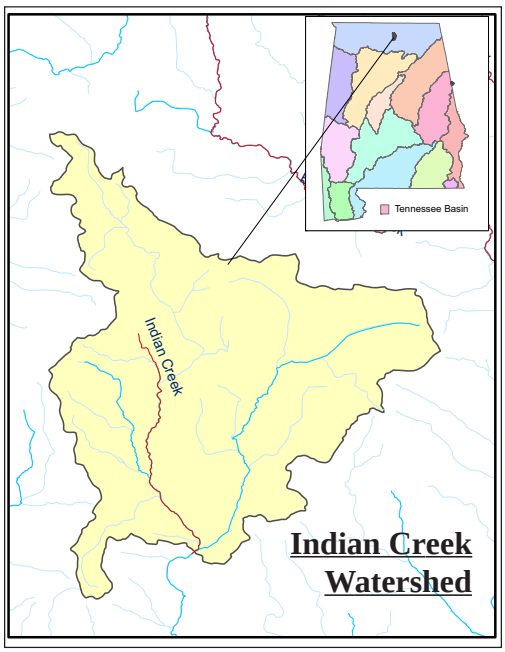
Guess Creek Watershed Restoration Project

Guess Creek is a small, headwater stream with a drainage area of 22,049 acres or 34.5 square miles located in Jackson County. It is a tributary to the Paint Rock River, located within the Tennessee River Basin. Guess Creek begins just south of Highway 146 in the Skyline Wildlife Management Area. Guess Creek is on the 2008 §303(d) list as impaired by organic loading, low dissolved oxygen, pathogens, and unknown toxicity for a length of 11.08 miles. The major sources of organic enrichment are from the pasture/hay fields and row crops land uses.

To date, several agricultural BMPs are in the process of being implemented, including nine heavy use areas, one stream crossing, 1,374 feet of exclusion fencing, four alternative watering sources, and pastureland improvement.

Indian Creek Watershed Project

Indian Creek is located on the west side of Huntsville within the Wheeler Lake Watershed and is impaired due to low dissolved oxygen/organic enrichment and sedimentation. A draft TMDL has been developed that identifies pollutants from failing septic systems, agricultural practices, and wildlife as possible sources of impairments to Indian Creek, as well as sediment from agricultural practices and construction activities. The goal of this project is to develop a watershed management plan and implement BMPs in order to restore Indian Creek.



Sixteen applications have been received and farm visits and conservation plans have been developed for these landowners. A winter cover crop, which normally would have been planted conventionally, has been planned and contracted on 1,495.2 acres. To date, one acre of riparian stream buffer, 6,464 feet of cross fencing, 36 acres of cropland conversion to trees, four alternative watering sources with heavy use areas, and 1,025 acres of conservation tillage have been implemented in the watershed.

The project manager has worked with Madison County to implement urban BMPs on the property of Monrovia Middle School. Construction began in June 2010 on Phase I of the project at the south end of the school property. Grading, shaping, rip rap, vegetation and erosion blankets were installed to complete this part of the project. The second phase of this project began in October 2010 and is now complete. An erosion and sediment control project was also implemented in the summer of 2011 at Sparkman High School. A severely eroding slope that was adding sediment directly to Indian Creek was treated with erosion control blankets, mulch, Bermuda grass and sod, treating a total of eight acres.

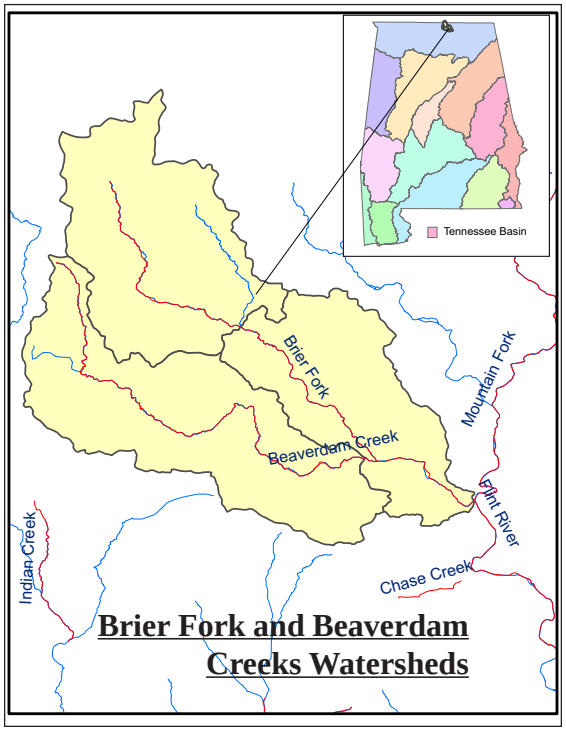
Sparkman High School site before stabilization.

Sparkman High School site after stabilization.

Brier Fork and Beaverdam Creeks Watershed Project

A heavy use cattle feeding area was installed to reduce runoff.

Located in Madison County, the Brier Fork/Beaverdam Creek Watershed is just north of Huntsville in the Wheeler Lake Watershed. Both Brier Fork and Beaverdam Creek are tributaries to the Flint River. Brier Fork is listed as impaired from the Flint River to the Alabama-Tennessee State Line, while Beaverdam Creek is listed as impaired from Brier Fork to its source. The main goal of the Brier Fork and Beaverdam Creek Project is to develop watershed management plans and implement agricultural BMPs for addressing nonpoint sources of impairment.



To date, the Madison County SWCD has accepted 28 applications and is in the process of implementing these practices. Six terrace systems have been completed throughout the target area to address gulley erosion on cropland which covers 22,591 linear feet. In addition, 238 acres of pasture improvements, 2,080 feet of underground pipe outlet, four sediment basins, 9,457 feet of livestock fencing (exclusion and cross fencing), 83 acres of permanent vegetation, 2.1 acres of riparian forest buffer, and 2,000 acres of winter cover crops have been installed.

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 include environmental education in classrooms and drinking water festivals, the NASA Earthday Festival, the City of Huntsville Earthday Festival, Flint River clean-ups and local environmental presentations.

NPS Education, Outreach, and Technology Transfer

Erosion and Sediment Control on Constuction Sites

This project establishes a framework for an Erosion and Sediment Control Program for construction sites and urbanizing areas. Participants of the project include the Alabama Soil and Water Conservation Committee, NRCS, ADEM, and the Alabama Association of Conservation Districts. Non-formal partners include the Alabama Department of Transportation, the Home Builders Association of Alabama and the Associated General Contractors of Alabama. Earl L. Norton, CPESC, serves as coordinator of the program. Each program objective was reviewed at a meeting of the program Steering Committee on May 11, 2011. The Steering Committee meets 3 to 6 times each year.

The Field Guide for Erosion & Sediment Control on Construction Sites in Alabama continued to be distributed as requested and at meetings and training events across the state. Nine-hundred and fifty copies were printed and paid for by sponsors between April 1, 2011 and September 30, 2011 for their distribution to selected audiences.

Skip Ragsdale of Sunshine Supplies, Inc. demonstrates erosion and sediment control products at the 2011 Field Day in Birmingham.

The seminar/field day program was presented on August 25, 26, and 27 in cooperation with the International Erosion Control Association (IECA) and the IECA Southeast Chapter as co-sponsors. Approximately 165 persons participated in two days of seminars at the Birmingham Marriott and approximately 175 participated in the day-long field day in the Birmingham area.

Silvicultural Best Management Practices for Forestry in Alabama

The Alabama Forestry Commission (AFC) and ADEM recently renewed a long-standing Memorandum of Agreement to work together to educate landowners, loggers, natural resource professionals and the public about the proper implementation of best management practices during silvicultural operations. The agreement also provides for on-the-ground monitoring of active and completed operations, pre-harvest consultations, and complaint investigation and resolution. This project is a continuation of an ongoing statewide program to address silvicultural nonpoint source pollution, specifically harvesting, reforestation, residue management, forest management, road construction and maintenance, and various other silvicultural activities that may occur on lands owned by over 600,000 private forest landowners in the state. The following accomplishments occurred during the project time period, from July 21, 2010 to July 20, 2011:

- Alabama hosted the annual meeting of the Water Resources Committee of the Southern Group of State Foresters. This three-day meeting included BMP Program Coordinators from all 13 southern states. A field trip was given by Dr. Graeme Lockaby, Auburn University, which highlighted the degradation of urban streams.
- Geographic Information Systems Specialists designed a 12-digit Hydrologic Unit Code interactive locator map for Counties and Regions to use in locating forestry management recommendations. That information is entered into a Management Plan and other forms utilized by Regional Staff in the six regions of the AFC. In conjunction with the HUC locator, another web-based viewer was developed to locate properties and sites by Section, Township, and Range. This has also been very useful in issuing and monitoring prescribed burning permits.
- The AFC participants in the Alabama Clean Water Partnerships and provides a technical forester to each basin represented. The technical foresters attended basin meetings and reported to the BMP Coordinator quarterly.
- A presentation was made at the 24th Annual Alabama Water Resources Conference.
- A brief statistical study of past BMP inspections was completed by Dr. Mathew Smidt, Auburn University, which pointed out where the primary problems were re-occurring on closed-out logging sites. Logging roads and stream crossings scored the highest. Trainings and presentations have been re-directed to specifically address these points of concern both internally and with the Logger's Education Committee of the State Implementation Committee (SIC) that represents 32 member forest industry companies.
- Twenty training workshops, 12 meetings, eight presentations, 172 educational/prevention inspections, one aerial detection flight, and 44 complaint investigations were completed during the project time period. In addition, 42 completed sites were ground-monitored for BMPs.

Water Quality Coordinator and Education/Outreach Specialist

This project provides funding for a Water Quality Coordinator (WQC) and an Educational Outreach Specialist (EOS) to help in the administration and guidance for several Section 319 grants provided to the State Soil and Water Conservation Districts. The EOS also maintains a database of current Confined Animal Feeding Operation (CAFO) registrations and assists those Soil and Water Conservation Districts through e-mail or office visits that need technical assistance on uploading information to both the Animal Feeding Operations Information System and the FTP site (www.ftp.swcc.state.al.us).

During the period of April 2011 through October 2011, the SWCDs assisted local producers with completing 242 CAFO registrations. The EOS has been in regular contact through telephone and e-mail communications with Districts and ADEM field personnel to identify and resolve problems associated with the on-line filing process. All registrations are now being processed electronically with the accompanying paperwork posted to the FTP site. The EOS held training sessions to ensure a smooth transition from manual to internet based processing of information.

James Norris, WQC coordinator, speaking at the Alabama Association of Conservation Districts Employee Workshop held in Florence, AL on May 2, 2011

The EOS continues to promote the Teach-the-Teacher Program in many Districts across the state. Further, the EOS is also working with statewide District Coordinators to promote the Alabama Envirothon Program.

23rd Annual NPS Conference

ADEM held its 23rd Annual Nonpoint Source Pollution Conference on January 26, 2011 at the Renaissance Hotel in downtown Montgomery. Attendees included over 300 environmental engineers, biologists, geologists, municipal leaders, elected officials, and water quality specialists. This year's event was entitled "*Working Together - Achieving Results*" and included a summary of how the 319 program achieves results through our various partnerships. The conference also included more than 15 exhibitors with displays and informative hand-outs.

The various sessions and discussions offered attendees a variety of updates on the Department's efforts to achieve water quality improvements through nonpoint source pollutant, the impacts of best management practices, leveraging resources, nonpoint source reduction strategies, and the efforts and initiatives of partnering agencies that enhance our project implementation.

A large number of organizations and agencies presented information at the conference including the Natural Resource Conservation Service, the Alabama Department of Environmental Management, Auburn University, University of Alabama, Tennessee Valley Authority, Top of Alabama Regional Council of Governments (TARCOG), Alabama Mountains, Rivers, and Valleys Resource and Development Council, the Alabama Department of Industrial Relations, and the Alabama Department of Transportation.

Demonstration of Poultry House Management Techniques and Technologies

This project served to demonstrate environmentally-protective and economically-sensible technologies that can dramatically improve in-house environmental conditions in poultry houses. Facility enhancements, improved management techniques, and refinement of best management practices were used to enhance the State's progress in managing poultry litter, reducing nutrient and other pollutant loadings, and improving water quality and watershed protection. Structural retrofit technologies were used to by dramatically decrease litter volumes (i.e., reduce the number, quantity, and extent of litter applications to the land) and greatly increase in-house poultry litter life.

Demonstration of refined management techniques consisted of a series of improvements, including the development and demonstration of the following:

1. Air de-stratification techniques for broiler houses
   Mixing fans were retrofitted into a large number of Alabama broiler houses to demonstrate de-stratifying the in-house air, reducing heating fuel usage, and generating drier in-house litter conditions. Optimal fan specifications, layouts, sizing, and spacing are dictated by house length, width, and construction type. Each poultry integrator in Alabama has been advised on this optimality for houses under their control. The drier litter has not only resulted in significant fuel savings, but has resulted in far less volume of high-moisture caked litter (cake) requiring removal between flocks. Consequently, less volume of litter requiring land application is generated.

Fan bonnetts were installed on fans not being used during cold weather in order to preserve energy.

2. Passive attic air inlets for broiler houses
   Passive attic inlets (attic vents) have been installed on a number of farms to test their ability to dry litter using the accumulated heat from the attic. Passive attic inlets have been shown to greatly reduce relative humidity and therefore litter moisture content. The attic inlet is a positive contributing factor to improvements in litter conditions, thus reducing the total quantity of litter requiring removal and land application, which, in turn, reduces total nutrient runoff from the farm.
3. Modern sealing and insulation techniques on broiler houses
   Closed-cell polyurethane foam has been applied on many broiler house sidewalls and endwalls to provide sealing and insulation (as well as providing a vapor barrier). The application of spray foam effectively sealed the houses from infiltration of cold, humid, outside air during cold weather, which greatly reduced condensation along the house perimeter. This has permitted the ventilation system to remove excess litter moisture and greatly reduced the volume of cake year round. Additionally, in hot weather, the tighter housing greatly improved ventilation efficiency, which led to further improvements in drying and additional reductions in the quantity of cake.
4. Development and demonstration of winter tunnel inlets, covers, or doors
   Removal of a loose R-1 tunnel curtain that allows high amounts of infiltration and replacing it with a rigid, well insulated panel that is insulated at approximately the R-7.5 level greatly reduced the wet litter in the front 15-20% of the broiler house. While most growers look at this technology purely as a fuel savings and bird performance improving technology, it was demonstrated that a tight tunnel curtain or preferably a tunnel inlet door will greatly reduce litter moisture and therefore the quantity of litter that will require removal and need to be land applied.
5. Fan covers, bonnets, or shutters
   Technologies as simple as covering unused fan shutters with plastic or canvas bonnets or replacement of these shutters with shutter technologies that do not leak air have been implemented in multiple locations across Alabama. The condensation which is caused by the leaking of up to 10,000 cubic feet per minute can cause an increase in caked material that must be either dried by additional ventilation or removed from the house during the de-caking process between flocks. Demonstrations showed that these technologies have increased overall tightness of the house, thus reducing infiltration and therefore the amount of cake that must be land applied between flocks, often at times of year when it is not desirable or environmentally wise to land apply excess nutrients.
6. Rainwater catchment system on an operational broiler farm
   A rainwater catchment system project was begun in Fall 2009 and construction was completed in mid-2010. Approximately 75% of the roof areas of four 40' X 500' broiler houses was guttered, and all caught water is gravity-directed to 63,000 gallons of tank storage (tank capacity is soon to be increased to 83,000 gallons). Approximately 80-85% of annual water needs for bird consumption and evaporative cooling system operation can be supplied with this system. Additionally, there is virtually no runoff from these houses, which represents a direct reduction in nutrient runoff from roughly 1.5 acres of roof area. This runoff from poultry houses has been a major source of nutrients entering the watershed. Now that the demonstration system is operational, it is serving as a model for an NRCS Conservation Innovation Grant pilot project. This system can be directly implemented on most four-house Alabama poultry farms with only minor modification.

A student learns about water filtration at the Crenshaw County Water Festival.

Groundwater Festivals

A key to providing protection for our groundwater resources is education. The goal of a groundwater festival is to educate 4th grade students, and indirectly their parents and the community, on groundwater issues including what it is, how it is used, and its susceptibility to contamination. The Groundwater and Water Festivals are a culmination of classroom study and hands-on activities. Children have the opportunity to experience first hand through experimentation and problem solving, the complexity of groundwater and its relationship to nature in general. This is the 14th year of Groundwater and Water Festivals in Alabama. Since October 2010, 27 counties have participated, with Morgan, Bullock, Cherokee, and DeKalb holding their first festivals this year.

Alabama Envirothon

The ADEM NPS Unit, in a joint effort with other agencies, continued to play a supporting role in the Alabama Envirothon competition by helping in event planning, developing test materials, leading many of the training events, judging, and overall program implementation. This year's current issue was "Freshwater Estuaries". The NPS staff organized additional training for the teams at the Daulphin Island Sea Lab prior to the state competition.

The state competition was held in April at the 4-H Camp in Columbiana. Envirothon teams from across the state took part in the competition with Oak Mountain High School of Shelby County being the overall event winner. The winning team attended the National Canon Envirothon in Canada.

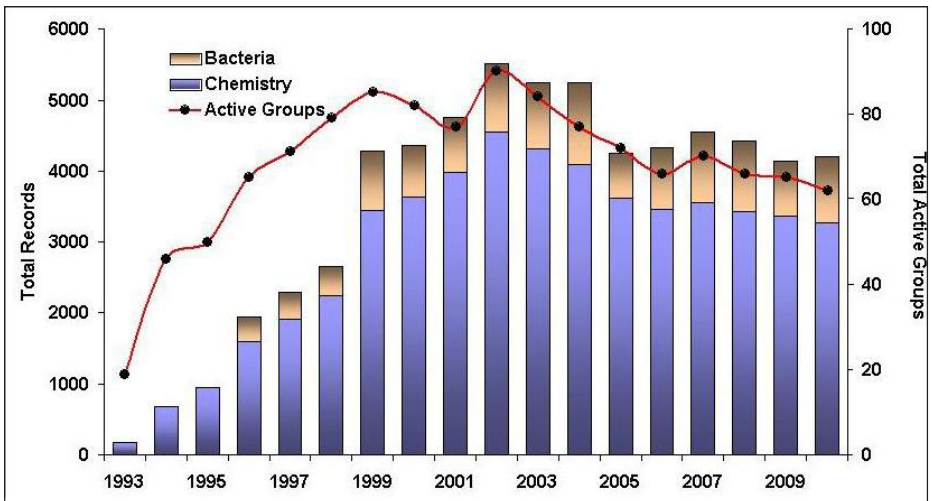
Carmen Yelle of ADEM trains students on water quality at the 2011 Alabama Envirothon competition.

Alabama Water Watch

Alabama Water Watch (AWW) is a statewide program dedicated to developing volunteer monitoring of Alabama's lakes, streams, and coasts. AWW is coordinated through the Auburn University Department of Fisheries and Allied Aquacultures. AWW conducted 87 training sessions attended by 287 people with a total of 368 certifications; 76% were conducted by or with a Citizen Trainer. Twenty-four water chemistry monitoring workshops (145 people), 10 bacteriological monitoring workshops (61 people), 38 recertification sessions (108 people), and three stream bio-monitoring workshops (18 people) were conducted during the report period. Six Water Chemistry Monitoring Trainer Internships were also conducted during the report period.

Getting in the water and Exploring Alabama's Living Streams on August 11, 2011

Sixty citizen groups participated in AWW and submitted water quality data from nine of ten major watersheds in the state, excluding the Tombigbee. Overall 3,748 combined water chemistry and bacteriological records collected by 318 monitors from 473 monitoring sites were submitted. Data received during the report period originated mostly from groups located in the Warrior, Tennessee, Coosa and Tallapoosa watersheds (12, 12, 11 and 10 groups, respectively). However, when counting the total data submitted, the most active groups were in the Tallapoosa, Coastal Plain, Warrior, and Tennessee, (25%, 21%, 19% and 14% of total of data received) watersheds. Since 1993, AWW has received a combined total of more than 66,000 water quality data forms (54,000 water chemistry and 12,000 bacteriological) from more than 2,100 cumulative sites on more than 780 waterbodies statewide.



Total number of Chemistry and Bacteria Records AWW received per year and the number of Active Groups per year from 1993 through 2010.

Five Citizen Data Interpretation Sessions were presented during the reporting period for citizens interested in the Middle Tallapoosa River Basin (two sessions), Smith Lake, Saugahatchee Creek, Chewacla Creek, and Lake Wedowee. AWW staff attended five additional AWW monitoring group meetings and participated in events sponsored by AWW groups, including bacteria blitzes and local outreach meetings. AWW responded to official requests for data from organizations, such as ADEM and the University of South Alabama, AWW groups, and individual monitors. AWW personnel attended ten conferences and seminars including the Clean Water Alabama 2010 Conference, the National Water Conference, the ADEM Annual Nonpoint Source Conference, and the Outdoor Nation Youth Summit.

Program Accomplishments and Initiatives for this report period included a) publication of the Fourth Edition of the AWW Water Chemistry Monitoring Manual, b) production of a new AWW brochure, c) introduction of the new Alabama Water Watch website (www.alabamawaterwatch.org), d) development of a new AWW logo and e) Lake Martin receiving the "Treasured Alabama Lake" status. The AWW Water Data Section has been visited over 32,000 times. About 94% of AWW data received during the report period were entered online and over 900 people were subscribed to the AWW Listserve.

The Alabama Clean Water Partnership (ACWP)

The annual ACWP Conference was held in Clanton on December 5, 2010.

The Alabama Clean Water Partnership is a coordinated effort of public and private stakeholders whose purpose is to restore and protect the State's river basins in accordance with the goals of the Clean Water Act. The Partnership encourages the involvement of local stakeholders in addressing the protection and restoration of Alabama's water resources. Based on the watershed approach, the Partnership works to link assorted interests (point and nonpoint source) together to safeguard water quality. Clean Water Partnership Basin Facilitators, supported by ADEM in conjunction with basin sponsors, are in place across the state coordinating, activities in ten major watersheds.

On-the-ground projects in the river basins across the state are key to the success of the Alabama Clean Water Partnership project, improving water quality, increasing the visibility of the ACWP, and providing stakeholders with ownership of the process. The following are project highlights from both the statewide level and from the ten Clean Water Partnership basins.

Statewide ACWP Educational Efforts

- **What's in *YOUR* Water?" Teacher Workshop:** This workshop introduces a week-long classroom activity for fifth grade students and is designed to reinforce concepts currently being introduced to fourth grade students at water festivals across the state. It is based on the "Watershed in a Box" activity previously included in Legacy's Water Source Book.
- **ACWP Web Site:** The ACWP website hosts pages for each individual basin in addition to the statewide organization. The site is editable by facilitators, providing stakeholders with access to basin information. Google Check-Out has been added to the site, enabling the ACWP to accept online donations.
- **AL Rain Barrel Project:** This popular "make and take" workshop focusing on stormwater impacts and water conservation is underway statewide, allowing the ACWP to reach homeowners about watersheds, nonpoint source pollution, and water conservation. Project partners include the the Alabama Cooperative Extension System - Master Gardener Program, Coca-Cola Enterprises, Inc., and the World Wildlife Fund.
- **Monofilament Recycling Units (MRUs):** The ACWP is working with Berkley International, the Alabama Department of Conservation - State Lands Division, and the MS -AL Sea Grant Clean Marina Program to place MRUs on recreational waterbodies. These PVC structures protect wildlife and the associated habitat by allowing for the collection and recycling of used fishing line and spools. The project is inexpensive to implement, encourages basin partnerships, and is receiving much positive press coverage. The focus of this effort was concentrated in the Alabama, Tombigbee, and Coastal Plains Basins in 2011.
- **Strategic Habitat Unit Project:** The ACWP has signed a three-year contract with the USF&W to assist the Mobile River Basin Coalition, the Geological Survey of Alabama, the Alabama Department of Conservation, and the Alabama Aquatic Biodiversity Center in outreach efforts designed to educate the public in designated watersheds where habitat protection efforts are anticipated. The North River of the Black Warrior system has been chosen as the location for the initial "test effort" due to ongoing activities in the watershed, including the implementation of the North River Watershed Management Plan by the Black Warrior CWP and Lower Warrior stakeholders.

ACWP Basin Efforts:

Alabama-Tombigbee Basin

- **Alabama Rain Barrel Project:** Six workshops were held in March, April, and May of 2011 to build rain barrels in the Montgomery area. The University of West Alabama is also beginning a workshop series in the Tombigbee Basin. Improvement of the presentation and ideas for rain barrel stands and connecting barrels in sequence was covered in the 2011 workshops. Project partners include the Capital City Master Gardeners, Montgomery Water Works and Sanitary Sewer Board, Coca-Cola Refreshments Green Team, World Wildlife Fund, Vaughn Road Garden Center, Old Alabama Town, and the University of West Alabama.
- **Cypress Nature Park:** The Upper Alabama Basin CWP is working with a group to protect and restore a 260-acre wetland area and an urban stream in downtown Montgomery. Project Partners include the Montgomery Nature Conservancy, the City of Montgomery, the U.S. Army Corps of Engineers, and the Montgomery Tree Committee.

(continued on next page)

The Prattville Bioretention Project during a workshop- March 29, 2011

- **Stormwater Tree Box:** The Facilitator is working with the City of Montgomery and the Montgomery Tree Committee to install a stormwater tree box to filter stormwater.
- **Pintlala Creek Watershed Management Plan:** The Upper Alabama Basin CWP is in the process of developing a management plan for the impaired Pintlala Creek. Pintlala Creek is impaired for pathogens with possible sources being agriculture, failing septic systems, and wildlife. Project partners include the Mid-South RC&D, the Montgomery County SWCD, USDA NRCS, and ADEM.
- **Genetta Creek Restoration Project:** The Upper Alabama Basin CWP is working with this 319-funded project to restore a segment of Genetta Creek by daylighting stormwater culverts and establishing a more natural creek profile and wetland system. Educational components that the CWP has been involved with include working with four schools in the watershed, hosting rain barrel workshops in adjacent neighborhoods, and sponsoring a workshop for the City Parks & Recreation Department.
- **Prattville Rain Garden: A** bioretention area was designed and constructed near the library in Prattville. Project partners include the Alabama Cooperative Extension, the Autauga County Master Gardeners, and the City of Prattville.

Black Warrior Basin

- **Brindley Creek Watershed Management Plan:** The facilitator is working with the Alabama Mountains Rivers and Valleys RC&D and the Walker County SWCD to develop a watershed management plan and 319 implementation project for the Brindley Creek Watershed (Cullman).
- **North River Watershed Management Plan Implementation:** Partners within the Lower Black Warrior Sub-basin developed a watershed management plan for the North River Watershed. Implementation of the plan was funded through ADEM Section 319 funding in 2011. The BWCWP is helping to identify sites and partners to implement BMPs.
- **River Clean-Ups:** The BWCWP coordinates the *Renew Our Rivers* clean ups on Bankhead and Holt Lakes. Since 2003, these clean ups have removed nearly 80 tons of heavy debris and trash. On Saturday, August 13th, 2011, 96 volunteers removed 7.12 tons of trash and debris from Holt Lake. The clean up was sponsored by a coalition of local citizens, industries, County, State, and Federal agencies, including the U.S. Army Corps of Engineers and Alabama Power's *Renew Our Rivers* campaign. The BWCWP also assisted with the clean-up of Valley Creek on August 18-20, 2011, and with the Lake Tuscaloosa Clean-Up on August 20, 2011.
- **Additional Watershed Management Plan Development in FY2011:**
    - Dry Creek Update (Assisted Blount County SWCD)
    - Big Scirum Creek WMP (Assisted Blount SWCD)
    - Cane Creek WMP (Developing with the Walker County SWCD)

Cahaba Basin

- **Rain Barrel Workshops:** On August 6, 2011, the Cahaba CWP and the Coosa CWP held a combined event to encourage people to participate in rain barrel workshops. The event was held in Chilton County at the *Farm, Home, and Wildlife Expo* sponsored by Auburn University. Those interested were encouraged to sign-up for future rain barrel workshops to be held at the Alabama Aquatic Biodiversity Center. A rain barrel workshop was also held in the Alabaster/Pelham area.
- **Sedimentation Removal Demonstration:** The Cahaba Clean Water Partnership is working with One Stop Environmental, LLC. in developing a project to remove accumulated silt or coal slurry from stream beds or ponds. Sites are currently being solicited for demonstration activities.
- **Shelby County Cahaba Park:** The Cahaba Basin CWP is looking to assist Shelby County in the development of a new park along the Cahaba River. The County has purchased several hundred acres of land surrounding the river and will be proceeding with its development as budgets allow.

Rain Barrel Workshop sign-up at the Farm, Home, and Wildlife Expo

Chattahoochee-Chipola Basin

- **Mill Creek Watershed Project:** The Chattahoochee-Chipola CWP supports this project through assisting with setting up the meetings and with identifying partners and project sites. A watershed plan was developed through a 319 contract with Auburn University - Alabama Cooperative Extension System. Implementation of the plan began in October 2011. A kickoff meeting, attended by about 75 stakeholders, elected officials, and environmental groups was held on November 3, 2011.
- **U. S. Army Corps of Engineers Apalachicola-Chattahoochee-Flint Rivers Project Management Office:** The Chattahoochee-Chipola CWP partnered with the U.S. Army Corps of Engineers and ProgreCiv Group, Inc. to manage stormwater runoff on the grounds of the Corps' new office site on the banks of Lake Eufaula. In 2011, a pervious parking lot and rain garden were installed to mitigate roof and parking lot runoff, in addition to stormwater runoff draining to this site from downtown Eufaula.
- **Barbour County Groundwater Festival:** Approximately 500 fourth grade students participated in the festival. The Groundwater Festival Advisory Committee consists of members representing the educational, industrial, municipal, and regulatory sectors from Barbour County and the State of Alabama.
- **Lake Eufaula Clean Up:** The Lake Eufaula Clean-up is a bi-annual event that the Chattahoochee-Chipola CWP helps to support and promote, most recently held in September 2011. Sponsors of the cleanup include the U.S. Coast Guard, the Alabama Marine Police, Alabama Power, Wal-Mart, Lakepoint State Park, Veolia Environmental Services, Sea Tow, McDonalds, and Tri-Rivers Waterway Development Association.
- **Rain Barrel Video featured on Mother Nature Network:** The Facilitator coordinated production of a rain barrel video that was part ofthe *AFLAC Lunch and Learn* series with help from the AL-TOM Facilitator. The video demonstrates how to make a rain barrel and why rain barrels are important. The end result is an excellent video that is running on the Mother Nature Network under the water conservation theme.

Choctawhachee-Pea-Yellow Basin

- **Alabama Rain Barrel Project: Groundwater Festivals** - Nine of ten CPYRCWP counties held groundwater festivals in 2011. The Facilitator represents the Choctawhatchee-Pea-Yellow Rivers CWP on the Festival Committees and serves as Chair of the Crenshaw County Festival.
- **Alabama Rain Barrel Project** – The facilitator conducted 12 rain barrel and 13 anti-litter workshops throughout the basin during the period of July 2010 to November 2011.
- **Hurricane Creek Water Quality Monitoring:** The partnership was involved in water quality monitoring for pathogens at multiple locations on the impaired Hurricane Creek in Ozark in order to identify possible sites for future restoration and protection efforts.

Coastal - Escatawpa Basin

- **Eightmile Creek Watershed Management Plan:** The Coastal CWP assisted with the completion of a watershed management plan for Eightmile Creek.
- **Prichard Reading Park:** A U.S. Fish & Wildlife grant was awarded in 2011 to the Coastal CWP for stream restoration in Prichard Reading Park.
- **D'Olive Watershed Management Plan:** The Partnership is working on the education and outreach component of the management plan.
- **Nonpoint Source Education for Municipal Officials (NEMO):** Twenty coastal decision makers attended a NEMO workshop. Partners included ADEM, the City of Daphne, and the Mobile Group.
- **Fish Waste Disposal:** A concerted effort is underway to find a sustainable and cost-effective method for disposing of fish waste generated by the recreational fishing industry. Currently, approximately 85,000 pounds of fish carcasses are disposed of in a weekly basis in Orange Beach alone. Partners include the City of Orange Beach, Wallace Seafood Trader, Inc, Zeke's Marina, and Auburn University.

Grasses in Classes Program

- **Stormwater Education & Outreach:** Two Low Impact Development demonstrations, including rain barrels, cisterns, rain gardens, and educational signage, have been installed in the City of Daphne. In addition, a rain barrel program has begun in an effort to inform coastal residents of issues related to stormwater and water conservation in resdential neighbohoods.
- **Mobile County Grasses in Classes** - The Grasses in Classes Program in Baldwin County was expanded to Mobile County in 2011. The successful program promotes the establishment of sea grass in restoration initiatives along the coast. Participating Grasses in Classes schools worked on getting greenhouses running and a catalogue inventory of plants and supplies on hand. Mobile Bay NEP, USFWS, and the Coastal CWP held a series of restoration plantings between April and June.

Conecuh-Sepulga Basin

Sepulga River Coastal Clean-Up

- **Wiregrass Resource Conservation & Development Council Education Grant:** A joint project with Choctawhatchee, Pea & Yellow Rivers CWP was conducted called the "Litter Education and Rain Barrel Workshops". Thirteen litter education presentations were given to school groups and civic clubs and six rain barrel workshops were held over a seven month period in 2011.
- **Rain Barrel Workshops:** During this reporting period, the facilitator held six rain barrel workshops with some being held in conjunction with other basin facilitators.
- **Electronics Recycling Day:** The Conecuh-Sepulga CWP partnered with the City of Andalusia, Andalusia High School Key Club, and Ecovery to hold the first electronics recycling day in Covington County. Over 11,000 pounds of electronics were collected at the event held April 29, 2011.
- **Alabama Coastal Cleanup:** The Conecuh-Sepulga & Blackwater CWP again served as Zone Captain for inland efforts of the Coastal Clean-Up. The event was held the weekend of September 17, 2011 with 194 volunteers (making up eight teams) participating in this event. The volunteers cleaned up sites in Conecuh, Coffee, Covington, Montgomery, and Escambia Counties as well as in Escambia County, Florida.
- **Robertson Branch Impaired Stream Segment (Conecuh Watershed, Pike County):** The Facilitator participated in basin reconnaissance and supported grant submission by the Pike County SWCD.

Coosa Basin


Fifth Grade Teachers participate in a "What's in YOUR Water?" workshop in Chilton County.

- **Coosa River Basin State of Our Watershed Conference:** Approximately 100 watershed stakeholders participated in the first Coosa Basin conference on October 13, 2011. A number of topics were addressed at the conference, including the state of the waters (Coosa Basin), stormwater management, water use, monitoring projects, and threatened and endangered species. Partners included ADEM, Pell City Mayor Bill Hereford and the City of Pell City, Coosa Valley Resource Conservation & Development Council, Etowah County Soil & Water Conservation District, Lake Jordan Home and Boat Owner Association, Logan Martin Lake Protection Association, St. Clair County Soil & Water Conservation District, Sunshine Supplies, Inc., Westervelt Ecological Services, and Wolf GIS.
- **"What's in YOUR Water?" Nonpoint Source Workshop for Fifth Grade Educators:** Twenty-seven educators from Chilton County attended this NPS educational workshop and received curriculum materials. The workshop was held on January 11, 2011 in conjunction with the Buxahatchee Creek Watershed Project. The workshop covered a number of water-related topics such as rain barrels, sediment, the water cycle, personal pollution, and ecosystems of Alabama.
- **Nonpoint Source Education for Municipal Officials (NEMO):** Workshops were held in Wetumpka and Oxford educating elected officials about water quality and quantity, the economics of clean water, and the impact that their decisions can have on local waters. Partners included ADEM and area Regional Planning Commissions.
- **Water Festivals:** Fourth grade festivals were supported in Center, Fort Payne, and Shelby County, educating students on the importance of clean water. Partners include ADEM, Alabama Mountains, Rivers & Valleys RC&D, Top of Alabama Regional Council of Governments, Weiss Lake Improvement Association, Shelby County, and Jacksonville State University - Little River Canyon Center

Tallapoosa State of the Watershed Conference in Alexander City

Tallapoosa Basin

- **Electronics Recycling:** The Middle Tallapoosa subbasin sponsored an Electronics Recycling Day in Alexander City with over a ton of electronics collected.
- **Water Festivals:** The Water Festivals in the Lower Tallapoosa River Basin have been held every year for the past decade with Lee and Montgomery Counties holding their events annually in May for all fourth grader students. Both of these water festivals are two-day events and over 20,000 children have been educated to date.
- **Rain Barrel Workshops**: Four workshops were held in the Lower Tallapoosa Basin in the months of April and May 2011. The workshops were a cooperative effort with the Alabama River Basin CWP. Additional workshops were held in the Middle Tallapoosa Sub-basin in July and November 2011. The Upper Tallapoosa group held its first Rain Barrel Workshop in November of 2011, distributing sixteen barrels.
- **Tallapoosa River Basin State of the Watershed Conference:** This annual conference was held in June 2011. Over 100 participants from the Upper, Middle, and Lower Tallapoosa Basins came to Alex City to attend this all day conference, hosted by the Middle Tallapoosa Basin CWP.
- **Dirt Road (Sedimentation) Workshop:** The Upper Tallapoosa CWP hosted a Dirt Road workshop in August 2011 for county road maintenance personnel in Randolph County. Partners included the Coosa Valley Resource Conservation & Development Council, the Randolph County Commission, the Lake Wedowee Property Owners Association, Polyengineering, Inc., and ADEM.
- **Community & Project Support:** To raise awareness of the effects of stormwater runoff and support partners within the basin actions citizens can take to minimize its negative effects, the following events and projects were also supported through the Tallapoosa CWP:
    - Hyundai Employee Appreciation Day (Montgomery);
    - Community Earth Day Celebration, Tallassee - the local Boy Scouts participated in storm drain stenciling and information was given out to the community about NPS pollution, recycling, and the ACWP;
    - Renew Our Rivers lake clean-up events, Upper and Middle Tallapoosa Basin;
    - Living Streams Workshops, Camp ASSCA, Alexander City
    - Section 319 funded projects - Parkerson Mill Watershed Project (Auburn), Saugahatchee Watershed Project (Auburn), and Wolf Creek Project (Randolph County).

Tennessee Basin

- **WaterWorks Center for Environmental Education** – The facilitator delivered 42 presentations to over 1000 students from 10 local school systems. The program discussed storm water BMPs, wetland function, NPS pollution, and how they can improve water quality. The WaterWorks Environmental Education Center is adjacent to Flint Creek.
- **Master Gardner WaterWorks Program –** On October 20, 2010 and March 3, 2011, the facilitator trained 43 local Master gardeners on wetland functions and rain barrel construction at the WaterWorks Environmental Center.
- **Poultry Farm Rain Roof Project** - The Tennessee CWP assisted with the the Rain Roof Project to promote rain catch systems for poultry houses. The partners include Auburn University, Alabama Mountains Rivers and Valleys RC&D, Cawaco RC&D, and the USDA.
- **Duck River Bioassessment:** The Tennessee CWP participated in a bioassessment to establish a biodiversity baseline for the Duck River Dam project. Partners include the Cullman County SWCD and the Duck River Project.
- **Fish Barrier Removal:** The Tennessee CWP is working with in partnership with U.S. Fish & Wildlife Service to promote fish barrier removals to protect T&E species such as the Rush Darter (Wildcat Branch - Clear Creek Watershed, Winston County) and the Slackwater Darter (Madison, Limestone Counties).

Arab Elementary School students learn about wetland functions.

Alabama's Coastal NPS Program

During the past year, the ADEM Coastal Nonpoint Pollution Control Program (ACNPCP) has continued to coordinate with the EPA-Region IV and the ADEM Nonpoint Source Unit to develop and implement programmatic approaches. In 2011, the ACNPCP focused on the continued development and implementation of these major projects in order to address important NPS issues, including continued coordination with NOAA-OCRM and the Alabama Department of Conservation and Natural Resources-Coastal Section. Activities have been expanded considerably to coordinate closely with ADEM-319, Coastal States Organization (CSO), and other Program partners in order to specifically address approval criteria. In order to promote these goals for the Alabama CNPCP, the ADEM staff have assisted management in the Coastal States Organization's *National CZARA-§6217 Workgroup*, serving as the *Workgroup* chairman since December of 2010.

In May 2011, the ACNPCP, with the assistance of ADEM-319 coordination, constructed a new draft *ACNPCP Submission* for review, as directed by EPA-Region IV. The completed *ACNPCP Submission* will document a five-year programmatic review to demonstrate the progress of the ACNPCP and to document the last remaining approval issues for Alabama's Program. The draft document is currently under review by the federal approval agencies, with Alabama engaged to utilize federal recommendations to finish and submit the final document.

The ADEM ACNPCP staff utilizes a NPS Projects Template in the development of future ACNPCP projects that address designated Coastal NPS Program Land-Use Categories (LUC). This approach has allowed the ACNPCP to monitor progress for each category of interest (e.g., marinas, agriculture, or onsite disposal systems). Synoptic baseline conditions are depicted with the goal of discerning long-term measurable results for coastal waters. These projects, along with the development of Technical Assistance Workshops and Reports, comprise the core of Alabama's long-term efforts to address and/or track coastal NPS issues that will provide full implementation and continuity of Alabama's Coastal NPS Program.

Coastal Alabama Headwater Stream Survey

The Headwater Stream Survey is an ADEM project that serves to locate potential stream sites and to identify and survey 'representative' first-order streams within the two coastal counties. Documentation has been made of specific water quality conditions, flow, and basic geomorphic survey data for local headwater streams, both urban and rural. Quantification of adjacent Land Use Categories (LUC) has been made, along with correlating LUC management measures and best management practices in close proximity to headwater streams. In addition, baseline data will be gathered that relates to 'conditional approval' issues cited in the Alabama Coastal Findings and Conditions document that relate to the Agriculture, Forestry, Urban Runoff, Hydromodification, and Wetlands, Riparian Areas, and Vegetated Treatment Systems (VTS) category sections.

Due to the occurrence of the BP Deepwater Horizon SONS declaration in late April of 2010 and the re-allocation of staff tasks associated with this unfortunate oil spill incident, EPA-Region IV and ADEM-319 have granted a complete no-fault extension for this Project. Subsequent plans to reinitiate this project have been approved, with project activities to be continued through December 2013.

Deepwater Horizon Oil Spill: ACNPCP Activities Update

Concerning the ADEM-ACNPCP's involvement with the *BP Deepwater Horizon Oil Spill Response*, one of ADEM's recently completed ACNPCP project products, the *Atlas of Coastal Alabama Marinas and Watersheds*, was repeatedly requested and continued to be used extensively to assist the GCIMT-Mobile Incident Command Post and Branch operations for the USCG- Mobile Sector. The document was very useful in the field, especially to plan operations and strategies that have continued through the *Response and Recovery* operations in critical Alabama coastal areas.

The ADEM-ACNPCP staff were critically involved for ten months with the U.S. Coast Guard's *BP Deep Water Horizon Oil Spill: Incident Specific Preparedness Review (ISPR) Team*, assisting with the intensive *Response* contributions by ADEM's Coastal Section and Mobile Branch staff. The ACNPCP project representative for the State of Alabama was formally presented with the *U.S. Coast Guard Public Service Commendation* at USCG Headquarters in Washington, D.C. The completed USCG interagency response report may be viewed at **http://www.uscg.mil/foia/docs/DWH/BPDWH.pdf**

ADEM's ACNPCP staff were also selected to present Alabama's interests as a State representative on the Presidential *Gulf Coast Ecosystem Restoration Task Force-Science Coordination Team* and were tasked with developing two products: the *Gulf Coast Ecosystem RestorationTask Force (2011)-Gulf of Mexico Regional Ecosystem Restoration Strategy* (Preliminary) and the *Gulf Coast Restoration Task Force (2011)-Gulf of Mexico Science Assessment and Recommendations.* Although completed as assigned, these draft products have undergone intensive regional and federal review and may not be approved until January 2012. The final version of the submitted *Restoration Strategy* may be viewed at **http://www.epa.gov/gcertf/pdfs/gcertfStrategy10052011.pdf .**

Coastal Alabama NPS Technical Advisory Projects for Urban Areas

A new pilot effort is underway that involves the *ACNPCP Technical Advisory Projects for Urban Areas MMs.* Two targeted coastal watersheds have focused on addressing urban areas impacts during this period:

1. The ACNPCP is coordinating with the MS-AL SeaGrant program in the development of the *Eight Mile Creek Watershed Management and Restoration Plan*. The Plan has engaged the interest and involvement of three local coastal cities (Chickasaw, Prichard, and Semmes). Eight Mile Creek is currently listed on the 303(d) List.

2. The Coastal NPS Program staff have been working directly with the *ACNPCP Tech Advisory Project* to provide program coordination and specific technical advice with the new City of Semmes (established May 2, 2011) as they promulgate their municipal ordinances and codes. This new city has two large drainage areas that contribute to two separate 303(d)-Listed waterbodies, Three Mile Creek and Upper Big Creek.

Agency Cooperators

As the lead state agency of the Alabama Nonpoint Source Management Program, the Alabama Department of Environmental Management works with many cooperators across the state along with adjoining state and local agencies. The Department has established a unique partnership with each of the following agencies/organizations to implement projects and enhance water quality in Alabama.

Federal Agencies

- U.S. Environmental Protection Agency
- USDA - Natural Resources Conservation Service
- U.S. Fish and Wildlife Service
- Weeks Bay National Estuarine Research Reserve
- USDA-Farm Service Agency
- Tennessee Valley Authority
- U.S. Space and Rocket Center
- U.S. Geological Survey

State Agencies/Universities

- Mobile Bay National Estuary Program
- National Oceanic & Atmospheric Administration
- Alabama Soil and Water Conservation Committee
- Auburn University
- Alabama Cooperative Extension System
- AU Marine Education and Research Center
- Alabama Agricultural Experiment Station
- Choctawhatchee, Pea and Yellow Rivers Watershed Management Authority
- Geological Survey of Alabama
- University of West Alabama
- University of Alabama
- Shelton State Community College
- Auburn University Montgomery
- Alabama Department of Agriculture and Industries
- University of North Alabama
- Alabama A&M University
- Alabama Forestry Commission
- Alabama Department of Public Health
- Alabama Department of Conservation & Natural Resources
- North Carolina State University Cooperative Extension System
- Troy University
- Alabama Surface Mining Commission
- Alabama Department of Transportation

Local Agencies/Organizations

- Alabama Water Watch Association
- Alabama Clean Water Partnership
- Alabama Pulp and Paper Council
- Montgomery Water Works and Sanitary Board
- Shelby County Commission
- CAWACO RC&D
- Alabama Power Foundation
- Tombigbee RC&D
- Save Our Saugahatchee
- Shelby County Commission
- Morgan County Commission
- Alabama Chapter Soil and Water Conservation Society
- Soil and Water Conservation Districts (counties of Baldwin, Barbour, Blount, Bullock, Chambers, Cherokee, Chilton, Clay, Coffee, Crenshaw, Cullman, Dale, DeKalb, Elmore, Etowah, Franklin, Geneva, Henry, Houston, Jackson, Jefferson, Lauderdale, Lawrence, Lee, Limestone, Madison, Marengo, Marshall, Mobile, Montgomery, Morgan, Pike, Randolph, Shelby, St. Clair, Sumter, Talladega, Winston)
- Alabama Association of Conservation Districts
- Tri Rivers Waterway Development Association
- Flint River Conservation Association
- Alabama Mountains, Rivers, and Valleys RC&D
- Madison County Watershed Advisory Committee
- Coosa Valley RC&D
- Lake Wedowee Property Owners Association
- Cullman County Poultry and Egg Association
- Cullman County Cattlemen's Association
- Cullman County Commission
- Marshall County Commission
- Sand Mountain Research and Extension Center
- Sand Mountain Lake Guntersville Watershed Conservancy District
- Pickens County School System
- Department of Public Health (counties of Blount, Cherokee, Chilton, Etowah, Madison, Shelby, St. Clair)
- Madison County Cooperative Extension System
- Goodwyn, Mills and Caywood, Inc.
- City of Montgomery
- City of Auburn
- Wildlands Environmental, Inc.
- The Nature Conservancy
- Top of Alabama Regional Council of Governments (TARCOG)
- Central Alabama Regional Planning and Development Commission (CARPDC)
- Thompson Engineering
- Associated General Contractors of Alabama
- Homebuilders Association of Alabama

NPS Program Goals

Goal 1: *Collect reliable water quality data and information in order to ascertain the extent, degree, and potential for NPS pollution to surface and groundwaters* (Endpoint: 2015)

— ADEM used the 5-year rotational river basin approach to assess water quality in the Tombigbee, Escatawpa, and Mobile River Basins in 2011. Laboratory and field data analyses and report development is continuing.

— ADEM continued laboratory analyses and reporting of water quality monitoring data collected during 2010 from the Alabama, Coosa, and Tallapoosa River Basins.

— ADEM NPS Unit, Water Division, and Field Operations Division staff coordinated water quality monitoring for the Cahaba and Black Warrior River Basins to be conducted during 2012.

— ADEM continued Section 319 funding for the Section 314 Clean Lakes Program by supporting reservoir and lake embayment monitoring, TMDL development/implementation, and nutrient criteria development.

— ADEM continued to coordinate fish collection activities with state agencies such as the Alabama Department of Conservation and Natural Resources and the Alabama Department of Public Health to establish the need to issue fish consumption warnings or advisories to protect public health.

— ADEM continued to populate STORET and various in-house water quality databases with NPS water quality data.

— ADEM continued to improve upon benthic macroinvertebrate methodologies as indicators of water quality using Section 319 funding to increase timely identification; refine the macroinvertebrate bioassessment index to improve accuracy, precision, and sensitivity in detecting changes in water quality before and after BMP implementation; and providing stakeholders with greater and timely access to taxonomic data.

— ADEM continued to improve the ORACLE web-based Alabama Water Quality Assessment and Monitoring Data Repository (ALA-WADR) database with a Section 319 funded Alabama Ecological Data Analyses Reporting System (AEDARS) module developed by the Geological Survey of Alabama to better manage and report NPS and other water quality data.

— ADEM updated NPS management program water quality data in the Integrated Water Quality Monitoring and Assessment Report.

— ADEM continued to collect NPS water quality data according to an EPA-approved ADEM Quality Assurance Management Plan.

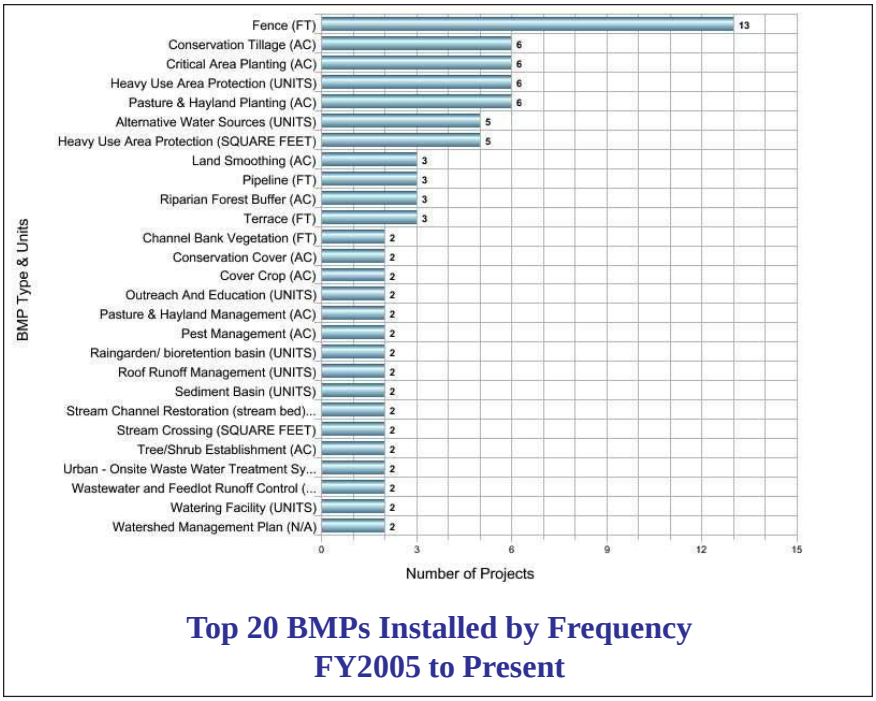
Goal 2: *Integrate the Alabama NPS Source Management Program and CWA Section 319 grant funding with development and implementation of Total Maximum Daily Loads (TMDLs*). (Endpoint: 2015)

— Section 319 incremental grant funding continued to target Section 303(d) listed waterbodies and the development of a watershed-based management plan in the Spring and Mud Creeks watershed. This subwatershed management plan is designed to address FY03 Section 319 grant guideline "a-i" watershed plan elements.

— The ADEM NPS Unit, Water Division, and Field Operations Division, during the annual December planning meeting, continued to coordinate Department-wide monitoring priorities and needs, and to identify watersheds with good potential to be Section 303(d) de-listed, as a result of implementation of Section 319 and other resource agency's best management practices or activities.

— ADEM submitted the Section 319-funded Robinson Creek (Morgan County) project to EPA-HQ for consideration as a potential WQ-10 success story relevant to implementation of BMPs on an impaired Section 303(d) listed waterbody.

Goal 3: *Coordinate and leverage federal, state, and local funding and other resources to design, install, or maintain appropriate NPS management practices needed to attain water quality standards.* (*Endpoint: 2015)*



Top 20 BMPs Installed by Frequency FY2005 to Present

— ADEM continued to coordinate watershed management plan development with the Center for Watershed Excellence – a consortium of watershed/water quality protection entities founded upon a MOU and comprised of EPA, ADEM, Auburn University and Alabama A&M University. ADEM continued its Memorandum of Agreement partnership with the Alabama Forestry Commission to assure silvicultural BMPs are adequate and citizen complaints are appropriately resolved. In addition, improved avenues of communication continued to be realized.

— ADEM continued to participate in a cooperative agreement with the Alabama Department of Transportation to assure implementation of effective BMPs associated with road building and maintenance activities.

— ADEM continued to participate on the State Technical Committee in relation to the USDA/NRCS Farm Bill Cost-Share Program and in development and approval of BMP technical standards and guidelines.

— ADEM continued to partner with the SWCC in maintaining a statewide CAFO Notice Of Registration (NOR) tracking database. ADEM continued to partner with the Alabama Cooperative Extension System to disseminate information needed to meet or exceed AFO/CAFO rules through the ACES website. ADEM continued to partner with the NRCS concerning land application of poultry litter and in technical standards and guidelines related to animal waste and nutrient standards. In addition, ADEM partnered with the Alabama Department of Agriculture and Industries in helping to implement a statewide Certified Animal Waste Vendor Program.

— ADEM continued to partner with ACES, NRCS, and the National Weather Service in providing to farmers a weather FORECAST and FARMERS Map website useful for land application of animal waste litter. The website helps farmers meet NRCS technical standards and guidelines and to comply with ADEM AFO/CAFO requirements

— ADEM continued to use Section 319 funding to leverage interagency funding support for a statewide agricultural NPS water quality coordinator to reside at the Alabama Soil and Water Conservation Commission.

— ADEM continued to use Section 319 funding to leverage interagency funding support for a statewide NPS erosion and sediment control coordinator to reside at the Alabama Soil and Water Conservation Commission.

— The ADEM NPS Unit continued to partner with the Alabama Clean Water Partnership in leveraging Section 319 grant funding to fund a Statewide Coordinator, River Basin Facilitators, and the planning and implementation of watershed protection activities.

— The ADEM NPS Unit continued to take a lead in the demonstration of hydrologic/habitat modification projects needed to restore, maintain, and protect water quality [e.g., Stream Restoration including: Moore's Mill Creek (Auburn), Catoma Creek/ Ida Bell Young Park (Montgomery), and Little Shades Creek (Vestavia Hills).

— The ADEM NPS Unit continued to promote the National NEMO Program with staff coordinating/offering several statewide presentations.

— ADEM continued to partner with Soil and Water Conservation Districts and public/private stakeholders to present hands-on "Clear Water Alabama Field Days" - erosion and sediment control training events.

— ADEM partnered with the Alabama Cooperative Extension System, Alabama Clean Water Partnership and the City of Auburn to plan implementation of potential low impact development (LID) practices.

Goal 4: *Develop 10 river basin management plans (8-digit Hydrologic Unit Code Cataloging Unit) that present practical "big-picture" goals, objectives, and milestones to protect impaired or threatened waters. (*Endpoint: 2015) (Complete)

The following major River Basin Management Plans have been developed:

1) Tennessee
2) Cahaba
3) Mobile River (Coastal)
4) Black Warrior River (including Locust Fork, Mulberry Fork, and Five Mile Creek)
5) Alabama
6) Tombigbee
7) Tallapoosa
8) Coosa (including Upper, Middle, and Lower)
9) Choctawhatchee, Pea, and Yellow
10) Conecuh-Sepulga
11) Chattahoochee-Chipola

Goal 5. *Develop or implement 10 subwatershed protection plans (11-14 digit Hydrologic Unit Code subwatershed number) to provide reasonable assurance that load allocations for targeted sources and causes of NPS pollution are being addressed and water use classifications and standards can be restored as expeditiously as possible.* (Endpoint: 2015)

— ADEM continued to partner with local stakeholders to develop or implement approximately 50 subwatershed management plans (11-12 digit HUC) that target Section 303(d) listed waters (refer to Subwatershed Management Plans in this document). The plans (in various stages of development or implementation) focus upon NPS pollutant sources and causes of impairments as identified in a draft or final TMDL; or upon Section 319/NPS Management Program pollution load reduction priorities such as nitrogen, phosphorus, and/or sediment.

— Section 319 incremental grant funding was used to provide reasonable assurance that nonpoint pollutant load reduction sources and causes are being targeted and water use classifications and standards are being restored as expeditiously as possible through development of subwatershed management plans for Section 303(d) listed Spring and Mud Creeks. The subwatershed management plan address FY03 Section 319 grant guideline "a-i" watershed plan elements.

— ADEM continued to enter Section 319 NPS Management Program pollutant load reduction data into the EPA National Grant Reporting and Tracking System (GRTS) database in order to provide reasonable assurance that nonpoint pollutant load reduction sources and causes are being targeted and water use classifications and standards are being restored as expeditiously as possible. In addition, no mandatory GRTS data entry and reporting exceptions for ADEMs NPS Unit were cited by EPA as of December 2011.

Goal 6. *Support the efforts of the Alabama Clean Water Partnership (ACWP) Program* (Endpoint: 2015, or until the ACWP program is institutionalized and self-supporting).

— ADEM continued to partner with the Alabama Clean Water Partnership by providing Section 319 financial assistance for a Statewide Coordinator and ten River Basin Facilitators. ADEM also serves as a sustaining member of the ACWP Board of Directors.

— ADEM NPS Unit continued to be closely involved with ACWP advisory, technical, and education/outreach committees to help insure that basin wide and local subwatershed stakeholders "work off the same page." Meetings are generally conducted quarterly.

Goal 7. *Plan, sustain, or expand statewide NPS education and outreach to target agriculture, silviculture, urban, construction, resource extraction, and hydrologic/habitat modification.* (Endpoint: 2015)

— ADEM continued to provide Section 319 financial and Department staff support for several education and outreach activities in which the Alabama Clean Water Partnership was involved (e.g., constructing rain barrels; distributing river-basin specific newspaper inserts; NEMO, monofilament line recycling, groundwater festivals, the ACWP website, etc.)

— ADEM presented the 23nd Annual NPS Conference in January 2011 with approximately 300 in attendance in order to sustain and expand stakeholder interest in protecting water quality from real and potential NPS threats.
— The NPS Unit provided specific and crosscutting NPS category displays and presentations to various schools, civic organizations, agencies, and other public forums.

— The Clear Water Alabama Field Days (erosion and sediment control) program targeting stormwater runoff have been extremely well received by the construction industry and continued to be conducted through a Section 319 project in cooperation with the SWCD and Soil and Water Conservation Society.

— The Nonpoint Source Education for Municipal Officials (NEMO) program continued with increasing impetus on presenting Low Impact Development and growth readiness information in stormwater Phase II areas.

— The Alabama Water Watch program continued to develop certified citizen volunteer water quality monitoring capabilities for Alabama's lakes, rivers, streams, and coasts.

— ADEM and other entities continued to support the Alabama Envirothon competition by helping with planning, development of test materials, teaching, and judging of the various events.

— The relationship between NPS pollution and groundwater protection continued to be demonstrated with over 219,478 4th grade students educated to date. Twenty-seven counties in Alabama conduct Groundwater Festivals on an annual basis.

Goal 8. *Report as applicable, monitored or modeled estimates of nitrogen (lbs.), phosphorus (lbs.) or sediment (tons) load reductions to help quantify the effectiveness of Section 319 projects in protecting water quality and attaining applicable water quality standards.* (Endpoint: 2015)

— Pollutant load reductions for various Section 319 funded watershed projects are presented under "Pollutant Load Reductions" and under each watershed project in this Annual Report.

— The ADEM NPS Unit continued to provide pollutant load reduction data (nitrogen, phosphorus, and sediment) in EPAs Grants Reporting and Tracking System (GRTS) to help quantify the effectiveness of Section 319 projects in protecting water quality and in attaining water quality standards.

— The ADEM NPS Unit staff assisted watershed stakeholders with pre and/or post BMP implementation modeled estimates of nitrogen (lbs.), phosphorus (lbs.), or sediment (tons) load reductions (also see "Measures of Success" in this Annual Report). Examples of NPS Unit staff modeled load reduction assistance includes West Flint (Elam Creek and McDaniel Creek); Spring Creek and Mud Creek; Buxahatchee Creek; Mill Creek (Management Plan); Parkerson Mill Creek (Management Plan); and Guess Creek.

Goal 9. *Obtain NOAA and EPA Final Approval of the Alabama Coastal Zone NPS Management Program (CZARA) (*Endpoint: 2015).

— See information on Page 32 (Alabama's Coastal Nonpoint Source Pollution Control Program).

Goal 10. *Report annual Section 319 grants Program Administrative Efficiency Measures* (Endpoint: 2015)

— Per EPA HQ and R-4 request, ADEM continued to expedite the drawdown of Section 319 grant funds. The Department has elected to include Section 319 grant funding in the Peformance Partnership Grant (PPG).

— ADEM continues to try to reduce cooperative agreement duration (e.g., watershed management projects) from five-years to three-years.

— ADEM continued to provide required project update data and information to the EPA – GRTS database. No reporting exceptions were noted by EPA as of December 2011.

— ADEM continues to support the 5-year rotational river basin assessment approach.

— ADEM continues to partner with ADPH by collecting and analyzing fish to protect human health (consumption advisories).

— ADEM continued to maintain an in-house Section 319 project/budget-tracking database and a cooperative agreement database to efficiently track project status.

— ADEM submitted the FY12 Application for Federal Assistance and Section 319 workplans to EPA prior to due dates. Ongoing grants continue to be administered and managed according to EPA grant guidelines.

— ADEM submitted the Mid-Year Report and this Annual Report as required per grant guidelines.

— ADEM continued to facilitate development of watershed-based management plans that meet EPA grant guideline "a-i" watershed plan elements as a in order to commitment for incremental grant funding and to implement the NPS components of TMDLs.

Goal 11. *Utilize a flexible, targeted, iterative, and broad-based approach to support EPAs long-term National Vision that, "All States Are Implementing Dynamic and Effective Nonpoint Source Programs Designed to Achieve and Maintain Beneficial Uses of Water*." (Endpoint: 2015)

— ADEM continued to provide financial and technical support to the Alabama Clean Water Partnership. Financial support was provided for a ACWP Statewide Coordinator and several Basin Facilitators to assist stakeholders in watershed restoration and protection activities.

— ADEM partners with many public and private entities to address nonpoint source pollution.

— ADEM continues to provide financial assistance and advisory support for statewide citizen-volunteer water quality monitoring and associated database maintenance/reporting.

— ADEM continued to provide an annual statewide NPS Cooperators Conference to enhance stakeholder education and partnering opportunities.

— ADEM promotes a voluntary NPS compliance approach, but coordinates the regulatory aspect of citizen complaints with other ADEM programs to assure abatement of water quality threats or impairments.