



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Nonpoint Source Program Annual Report FFY2018



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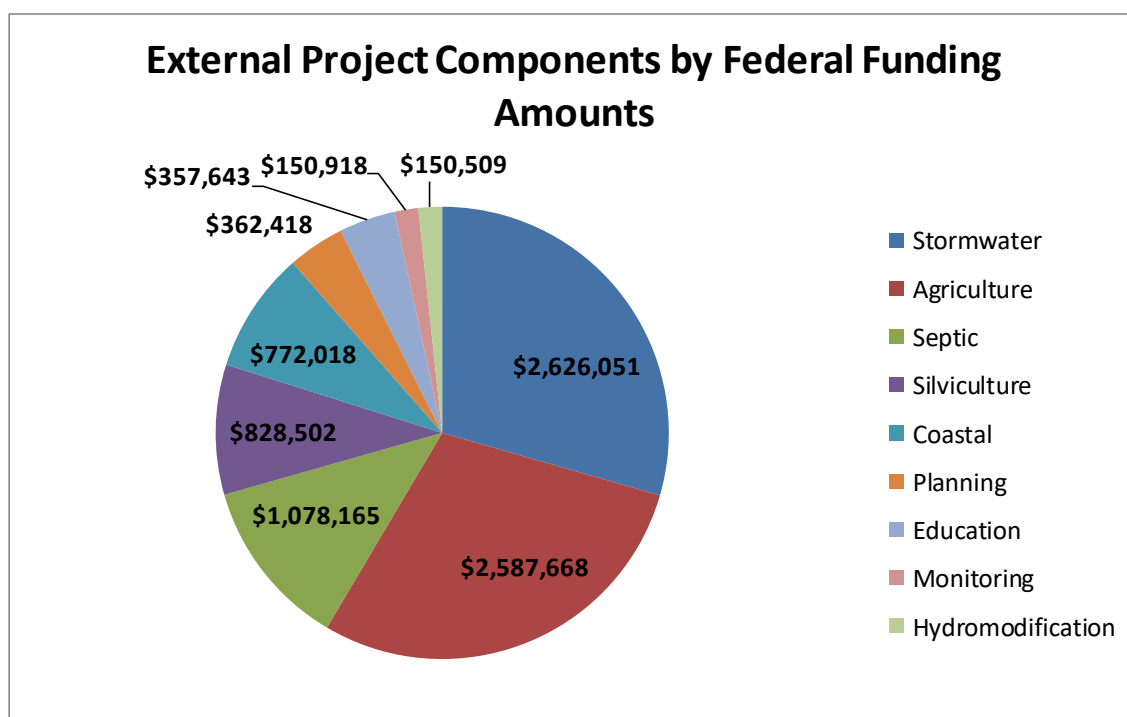
GEORGIA'S NONPOINT SOURCE PROGRAM ANNUAL REPORT FFY2018

INTRODUCTION



The Georgia Environmental Protection Division (GA EPD) functions as the lead agency for administering and implementing both regulatory and non-regulatory activities under the Watershed Protection Branch Nonpoint Source Program (NPSP). In accordance with Section 319(h)(11) reporting requirements, the Georgia NPSP Annual Report delineates progress and success achieved during the federal fiscal year (FFY) in meeting Statewide Milestones for Water Quality Improvement outlined in the current *Georgia Statewide Nonpoint Source Management Plan*. The following annual report presents NPSP efforts and accomplishments (whether or not funded directly by Section 319(h) grants) during the FFY2018 reporting period of October 2017-September 2018, as well as activities proposed for FFY2019.

During FFY2018, the NPSP implemented statewide water quality improvement projects by administering **62** active Section 319(h) Grant contracts totaling over **\$11.6 million** in federal funds and **\$8.5 million** in matching funds or in-kind services. **Fifty-one** of these contracts were for external projects (**\$8.9 million**) with components that included BMP implementation (agricultural, GI/LID urban stormwater, forestry), water quality monitoring, septic repair, stream restoration, educational outreach, and watershed planning. The chart below breaks out project components by federal amounts for all external sub-grants active during October 2017-September 2018 (no matter what fiscal year the grant was awarded).



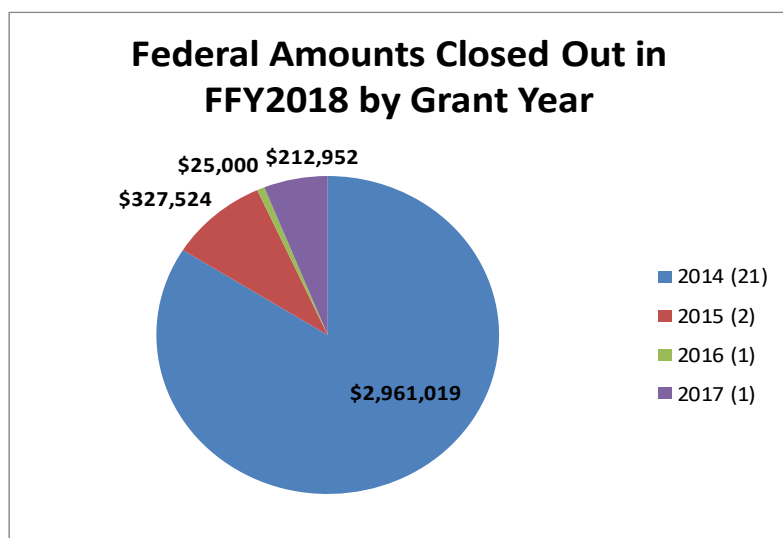
319(h) FFY2018 GRANT CALL

In July 2017, the NPSP announced that FFY2018 Section 319(h) Grant funds would be available for 60/40 cost-share allocation to competitive projects implementing existing or alternatives to Watershed-Based Plans (WBPs). A required on-line Pre-application Meeting Webinar was attended by the call-in limit of **25** participants on September 19, 2017, to discuss the application process and clarify questions on project eligibility. A recording of the webinar was posted on the *Section 319(h) Georgia's Nonpoint Source Implementation Grant* web page for applicants who could not attend the on-line meeting. In addition, Grants Unit Staff reviewed and commented in writing on draft applications received by September 29, 2017.

The NPSP received **10** proposals by the October 31, 2017 deadline, representing over **\$2.75 million** in grant requests to fund water quality projects. The proposals were reviewed in February 2018 by the NPSP manager, Grants Unit staff, and a U.S. Environmental Protection Agency (USEPA) representative. **Six** projects requesting a total of almost **\$1.63 million** in federal funding were selected for competitive awards. The remaining funds were distributed to ongoing GA EPD NPS programs or noncompetitive projects - such as Education & Outreach, Ambient Monitoring, Agricultural BMPs, Coastal NPS Management, and Green Infrastructure Implementation - that are administered by State agencies and local partners.

FFY2018 Section 319(h) Competitive Grant Award Recipients (*application subsequently withdrawn)			
Recipient	Federal Funding	Match Funding	Project Type
City of Atlanta*	\$400,000	\$545,000	Stream Restoration
City of Calhoun	\$113,000	\$95,000	WBP Implementation
GSWCC	\$400,000	\$268,183	WBP Implementation
River Valley RC	\$144,000	\$96,000	WBP/HWI Implementation
Golden Triangle RC&D Council	\$219,285	\$146,190	WBP Implementation
City of Brookhaven	\$350,000	\$350,000	Stream Restoration

319(h) PROJECT CLOSE-OUTS IN FFY2018



The Grants Unit closed out **25** Section 319(h) Grant projects between October 2017 and September 2018, representing approximately **\$3.526 million** in federal funds and approximately **\$3.289 million** in match. **Seven** contracts were with local organizations to install on-the-ground BMPs. The remaining **18** projects included administering the Silvicultural NPS management program and the Education and Outreach program as well as other statewide NPS programs.

FFY2018 IN REVIEW

TOTAL MAXIMUM DAILY LOADS (TMDLS)

During the FFY2018 reporting period, GA EPD developed **eight** draft TMDLs for “Not Supporting” segments on the 2014 Georgia 305(b)/303(d) Integrated List of Waters. These draft TMDLs included **seven** segments in the Coosa and **one** segment in the Tallapoosa River Basins for fecal coliform impairment, and were submitted to the public and USEPA for comment. In addition, USEPA issued final approval for TMDLs covering **41** segments in the Chattahoochee River Basin and **19** segments in the Flint River Basin, and final approval for revised TMDLs covering **one** segment in the St Marys River Basin and **three** segments in the Tallapoosa River Basin. In FFY2019, GA EPD will draft **16** TMDLs in the Savannah River Basin and **11** TMDLS in the Ogeechee River Basin for USEPA approval.

WATERSHED-BASED PLANNING & ALTERNATIVES TO NINE-ELEMENT PLANS

NOTE: Map & List of Priority HUC12 Watersheds on pages 22-26.

The Georgia State Water Plan calls for review of Regional Water Plans every five years (<https://epd.georgia.gov/updated-regional-water-plans>). The NPSP recognizes the Regional Water Plans and the Water Resource Management Plan updated in FFY2017 as acceptable alternatives to a watershed-based plan that meets USEPA’s Nine-Elements of Watershed Planning. Combining multiple documents into one watershed-based summary that addresses USEPA’s Nine Elements is also an acceptable alternative to a nine-element plan.

Two of **six** state-funded Regional Water Plan Seed Grant (additional information on page 7) SFY2018 awards will update watershed management plans in the following regional planning areas: **Coosa-North Georgia Water Planning Region** and **Middle Chattahoochee Water Planning Region**.

Between December 2017 and September 2018, Section 319(h) FFY2014 and FFY2015 contracts to develop nine-element watershed-based plans for Georgia NPSP Priority HUC12 Watersheds in each of the **ten** Regional Water Planning Council areas expired. In addition, **one** of **four** FFY2017 Section 106 Grant contracts to develop HUC10 or smaller watershed-based plans in associated Regional Water Planning Council areas expired June 30, 2018; while **two** expired September 30, 2018; and the **fourth** will expire December 31, 2018.

In addition, funds from the Section 319(h) FFY2016 grant were awarded in October 2017 to implement the agricultural section of the *Georgia 2014 Statewide NonPoint Source Management Plan*, which includes developing a new and updating an existing watershed management plan for Chickasawhatchee Creek and for Coosawattee River-Carters Lake, respectively, to meet USEPA’s Nine Elements of Watershed Planning.

OUTREACH & EDUCATION

The Outreach Unit consists of the Georgia Adopt-A-Stream, Rivers Alive, Georgia Project WET, and River of Words (ROW) environmental education programs. These platforms focus on nonpoint source pollution issues to educate and engage the public in watershed protection activities. Achievements during the FFY2018 reporting period included **239** Adopt-A-Stream QA/QC workshops certifying **2,150** water quality monitoring volunteers; **5,564** water quality testing events by **218** groups at **681** active monitoring sites; and **272** Rivers Alive cleanups

(TO BE CONTINUED)

FFY2018 IN REVIEW

OUTREACH & EDUCATION (CONTINUED)

involving **26,505** volunteers who removed **430,624** pounds of trash. During FFY2018, Project WET held **30** training sessions resulting in **564** educators certified in water science education. In addition, over **1,000** K-12 students participated in River of Words poetry and art projects.

ADDRESS GROUNDWATER PROTECTION

During the FFY2018 reporting period, an internal guidance document prepared in FFY2017 was submitted to GA EPD's Wastewater Regulatory Program (WRP) for further development and finalization pending a public stakeholder process. In addition, the WRP performed technical reviews and issued **35** new traditional municipal and industrial Land Application Systems (LAS) permits. A total of **83** site visits and compliance inspections - **seven** by the Watershed Compliance Program (WCP) and **76** by statewide District Offices - were conducted for LAS permit holders (**65** under individual permits and **18** covered under the general LAS permit). And, **18** corrective action plans were reviewed by GA EPD District staff: **nine** in the Coastal District; **one** in the East Central District; **one** in the Mountain-Cartersville District; **one** in the Southwest District; and **six** in the West Central District.

WETLANDS WATER QUALITY CERTIFICATION

During FFY2018, the Wetlands Unit issued **45** CWA Section 401 water quality certificates for dredge/fill impact projects. Initial-phase reconnaissance of wetland lowland terrain and test samplings of hydric soil profiles continued at **five** reference-quality sites in Georgia DNR Wildlife Management Areas within the lower Piedmont (Ecoregion 45) and upper Southeastern Plains (Ecoregion 65). Macroinvertebrate sampling and amphibian auditory monitoring were also performed at these **five** Georgia DNR Wildlife Management Area wetland monitoring sites. The Wetlands Unit also continued development of a database system designed to address wetland as well as stream, lake and biological monitoring data. In FFY2018, Georgia EPD was awarded a wetland program development grant by USEPA to archive plans and files, and conduct field assessment of statewide wetland mitigation sites established by the Georgia Department of Transportation (GDOT) over the past 15-25 years.

FLOODPLAIN AND FLOOD RISK MANAGEMENT

The Floodplain Management Unit (FMU), as a Cooperative Technical Partner (CTP) of the Federal Emergency Management Agency (FEMA), updates regulatory and non-regulatory flood risk products to better identify, assess, and communicate vulnerability to flood hazards. During FFY2018, the FMU received an Honorable Mention Award for exceptional achievement in developing CTP Program tools and resources at the Association of State Floodplain Managers' annual conference in Phoenix, Arizona. In addition, the FMU achieved the following milestones in ongoing Flood Risk Map studies:

Resilience meetings were held in **14** counties where new maps became effective. Letters of Final Determination (LFDs) were issued for **two** counties where new maps became effective. Preliminary Digital Flood Insurance Rate Maps Community Coordination (PDCC) meetings were held in **five** counties. Engineering hydraulic and hydrologic studies were completed in **19** counties and are ongoing for **five** counties. By the end of the

(TO BE CONTINUED)

FFY2018 In Review

FLOODPLAIN AND FLOOD RISK MANAGEMENT (CONTINUED)

FFY2018 timeframe, **561** Georgia communities were participating in the National Flood Insurance Program (NFIP). The FMU is working with the **86** remaining communities with mapped Special Flood Hazard Areas to join the NFIP. There were **53** communities participating in NFIP's Community Rating System (CRS) in Georgia.

During the reporting period, the FMU conducted **one** week-long course entitled "Managing Floodplain Development through the National Flood Insurance Program" (L-273) in Brunswick, and coordinated **four** Community Assistance Visits (CAV) to provide technical advice on floodplain management regulations. **Seventy-six** NFIP Community Assistance Contacts (CAC) were accomplished to assess local floodplain management ordinances and enforcement practices. The FMU supported FEMA in providing General Technical Assistance to assess property damage and enforcement of NFIP requirements for repairs undertaken in **seven** counties declared disaster areas after Hurricane Irma.

In FFY2018, the FMU continued to update the Georgia Flood Plain Program online Georgia Flood M.A.P. resource (<http://www.georgiadfirm.com/>) and continued to migrate the historical engineering model inventory to the Flood Model Search Application, making models available for **119** counties.

SAFE DAMS AND NONPOINT SOURCE POLLUTION CONTROL

The Safe Dams Unit inventories, classifies, inspects and permits (as appropriate) more than **4,100** dams in Georgia, as well as regulates several coal ash ponds. During FFY2018, the Safe Dams Unit hosted **two** Dam Owner Workshops on dam basics, proper inspection and maintenance, Emergency Action Plans, and liability to a combined audience of **65** property owners. Increased efforts to permit Category 1 (high hazard) dams have resulted in dam upgrades or removals with Unit staff ensuring that proper sediment and erosion controls are in place to reduce potential nonpoint source pollution.

REGIONAL WATER PLAN SEED GRANTS

GA EPD awards State funds based on a competitive process to support the regional coordination and implementation of projects identified in Regional Water Plans. Eligible grant proposals have been endorsed by the applicable Regional Water Planning Councils and are consistent with policies and recommendations in the Statewide Water Plan.

During the FFY2018, a total of **\$320,942** were awarded as cost-share grants to **six** statewide proposals limited to a maximum of \$75,000 and 30 months in duration. The projects included updating two watershed-based plans (\$30,000 and \$32,000); implementing agricultural-related management practices spanning three regional water council areas (\$75,000); installing Phase 2 of variable rate irrigation technology for water conservation (\$74,000); removing trash pollution from stormwater run-off in a major metropolitan waterway (\$75,000); and conducting microbial or DNA source tracking (MST) of fecal coliform bacteria (\$34,942).

FFY2018 IN REVIEW

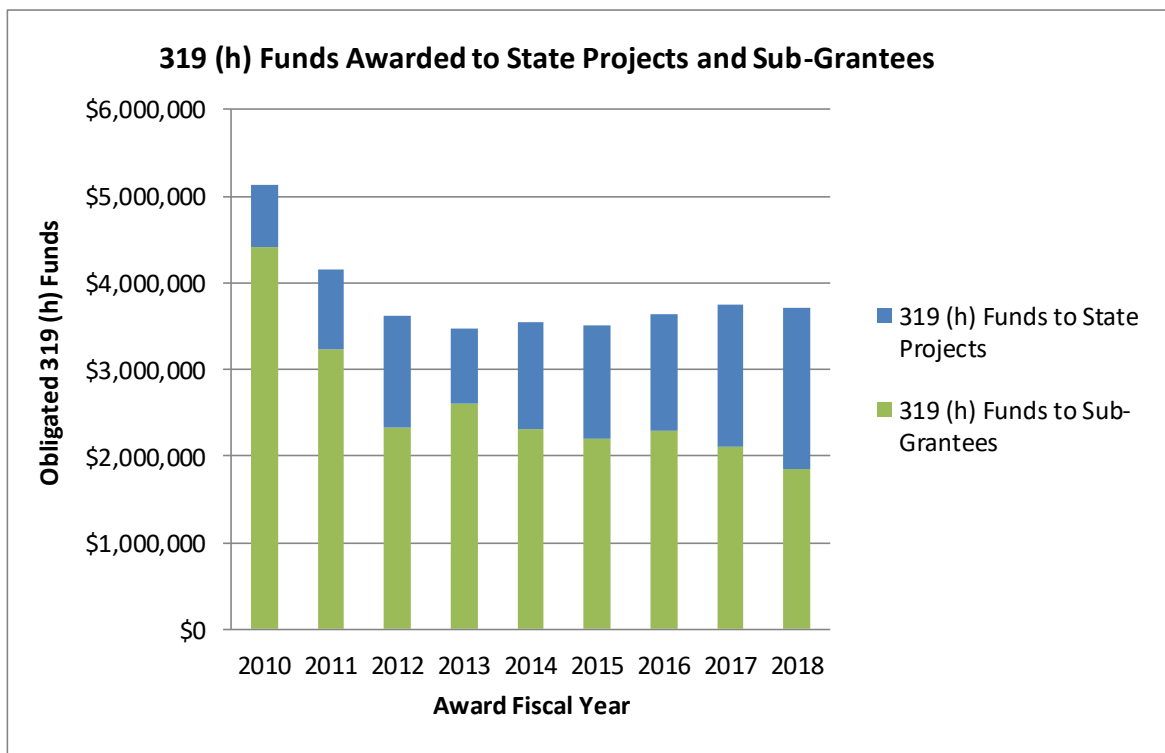
319(h) GRANT FINANCIAL REPORTING

In the reporting period for FFY2018, the NPSP Grants Unit was able to expend **100 percent** of the State's allocations from the FFY14 Section 319(h) Grant that expired on September 30, 2018. As such, the NPSP did not return funds from the FFY14 Section 319(h) Grant to USEPA. The chart below demonstrates that over half of the State's 319(h) funding continues to go to local sub-grantees to implement water quality improvement projects across Georgia.

The Grants Unit continued to track the status of project activities and the expenditure of federal and matching funds. Project schedules negotiated with sub-grantees provided distinct timeframes for each project task and estimated the associated expenditures by quarter.

Sub-grantees also continued to submit required quarterly and annual reports and invoices. These reports keep track of project status according to implementation and drawdown schedules and budget allocations, allowing Grants Unit staff to recognize the need for contract amendments in enough time to address any issues that may develop. Grants Unit staff used the reports to track project progress and work more pro-actively with contractors to address any potential issues. The Grants Unit will continue to develop new tools and procedures to enable better grant management.

The NPSP continues to work with both GA EPD and the Georgia Department of Natural Resources (GADNR) administrative and accounting staff to expend federal funds based on quarterly invoicing by sub-grant partners. In addition, the Grants Unit continues to cooperate with GA EPD accounting to provide monthly financial tracking summaries. These summaries calculate both federal and matching expenditures, and update the grant balance accordingly.



FFY2018 In Review

319(h) Success Story: Upper Butler Creek Meets Bacteria Water Quality Standards

In FFY2018, GA EPD submitted a **WQ-10** Success Story to USEPA for approval. The City of Augusta, GA, partnered with the Southeastern Natural Sciences Academy in 2012-2014 to address fecal coliform bacteria impairment in the Butler/Rocky/Reeds creeks watershed with educational outreach and expanded monitoring. Public education strategies included a “Water Fun Block Party” that targeted a specific residential community with information about septic system maintenance. The event cycled 30 neighbors through educational activities designed for families, with participants correctly selecting more signs of a septic system malfunction in post-education surveys. The increase in awareness of septic system management between pre- and post-education surveys indicated the potential for improved on-the-ground NPS control practices. Monitoring activities conducted by the Augusta Engineering Department in 2013-2014 included Lagrangian water sampling for *E. coli* from the water column and sediment *E. coli* sampling. Data collected in a nine-mile segment (Upper Butler Creek) of the watershed met Georgia fecal coliform standards (FC 0/4 gm) supporting the designated use of Fishing. Georgia EPD removed the fecal coliform impairment from the Upper Butler Creek segment in the 2016 305(b)/303(d) List.

This federal fiscal year, GA EPD did not submit an **SP-12** Success Story on water quality data trends indicating reductions in sediment, fecal coliform bacteria, or nutrients. USEPA published a “National Water Program Guidance FY2018-2019” in which the following text was deleted and the following rationale was supplied to suspend the measure:

WQ-SP12.N11 (FY 2019)

Deleted text:

Improve water quality conditions in impaired watersheds nationwide using the watershed approach.

Rationale:

As a follow-up to the conversations on the replacement measures for SP-10 and SP-11, EPA decided to suspend this measure in FY 2019. In late FY 2018, the EPA will begin working with the Regions on a potential replacement measure for documenting incremental water quality improvement.

Details in the guidance document can be accessed at:

<https://www.epa.gov/sites/production/files/2017-09/documents/fy18-19-ow-npm-guidance.pdf>

STATE NONPOINT SOURCE PARTNERS

GEORGIA SOIL & WATER CONSERVATION COMMISSION (GSWCC): NPS LEAD FOR AGRICULTURE

During FFY2018, GSWCC and GA EPD partnered to reduce agricultural NPS pollution with the mission of restoring healthy waters within the State of Georgia. GSWCC projects funded by Section 319(h) Grants included developing a watershed management plan for Chickasawatchee Creek, updating the Coosawattee River-Carters Lake watershed management plan, and implementing BMPs recommended in the 2014 Scull Shoal Creek watershed management plan. These tasks were outlined in an agreement reached with GA EPD in FFY2016. In addition, GSWCC has begun establishing a working group that will offer advice in setting goals, objectives, approaches, milestones, and measures of success to be written into a revision of Georgia's Statewide Nonpoint Source Management Plan. Expenses incurred for work GSWCC performed on these projects through September 30, 2018, totaled \$140,319.29 (federal \$78,218.51; local match \$61,920.78).

In addition, GSWCC entered a Section 106 Grant contract with GA EPD to develop a Brushy Creek watershed management plan that will establish and implement ongoing water pollution control programs. As of September 30, 2018, approximately \$24,552.00 of Section 106 funds have been expended towards this effort.

Coordination of existing and new programs coupled with implementation of appropriate education, technical assistance, BMP installation, and monitoring projects related to agricultural NPS pollution continue to drive GSWCC's targeted spending of federal funds.

GEORGIA FORESTRY COMMISSION (GFC): NPS LEAD FOR SILVICULTURE

NOTE: 2017 Forestry BMP Implementation Survey Highlights on pages 27-28.

The GFC encourages and monitors voluntary implementation of forestry BMPs statewide, resulting in a silvicultural BMP Implementation and Compliance Survey published every other year. In addition, the GFC also provides Georgia's State Board of Registration for Foresters with opinions on matters of BMP negligence in the complaint-resolution process. During the FFY2018 reporting period, the GFC finished implementing its FFY15 Silvicultural Nonpoint Source Management Program contract (\$325,000), which expired December 31, 2017. Outcomes included a **93%** statewide BMP implementation rate; an increase to **94%** of inspected stream miles in compliance with BMPs; quick and efficient investigation and mediation of forestry complaints and inquiries; and educational outreach activities to prevent and lower sediment pollution statewide.

In addition, the GFC started implementation of the FFY17 Silvicultural Nonpoint Source Management Program contract (\$362,500), with the following tasks to be completed by December 31, 2019: educational/advice/training events; complaint/request mediation; approved/vetted updates to the forestry BMP manual; and the 2019 Forestry BMP Survey.

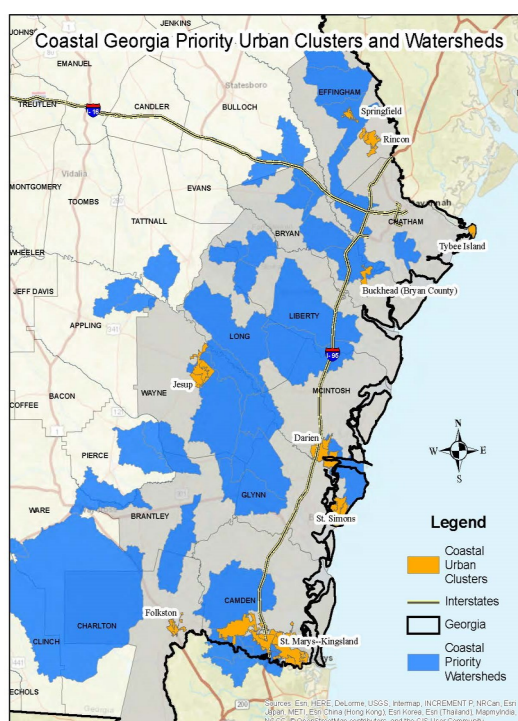
GEORGIA'S RESOURCE CONSERVATION & DEVELOPMENT COUNCILS AND REGIONAL COMMISSIONS

In FFY2018, the NPSP Grants Unit contracted with selected Georgia Resource Conservation & Development Councils (RC&Ds) and Regional Commissions (RCs) to develop and implement watershed-based plans (WBPs) in order to best meet the goals of the *Georgia 2014 Statewide Nonpoint Source Management Plan*.

STATE NONPOINT SOURCE PARTNERS

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS (GADCA): TECHNICAL ASSISTANCE ON THE COASTAL NONPOINT SOURCE PROGRAM

During the FFY2018 reporting period, GADCA staff closed the Section 319(h) FFY14 *Finalize & Implement the Coastal Nonpoint Source Program in Georgia's 24 Coastal Counties* grant contract. Approval of the Coastal Nonpoint Pollution Control Program was pending NOAA legal review. And although outside of this reporting period, it's important to note that Georgia received official approval on November 1, 2018. Further implementation of Georgia's Coastal NPS Program/Implementation Plan (CZARA), the Coastal Stormwater Supplement (CSS), and coastal sections of the Statewide NPS Management Plan were contracted with other agencies due to GADCA's decision to no longer accept Section 319(h) grant funds for water quality improvement projects.



GEORGIA DEPARTMENT OF NATURAL RESOURCES COASTAL RESOURCES DIVISION (CRD): IMPLEMENTATION OF THE COASTAL NONPOINT SOURCE PROGRAM/IMPLEMENTATION PLAN (CZARA)

In FFY2018, the NPSP entered into memoranda of understanding (MOUs) with GADNR's CRD staff to execute the Section 319(h) FFY15 *Implement the Coastal Nonpoint Source Program in 24 Georgia Coastal Counties* (\$217,452) and the FFY16 *Update Coastal Sections of Georgia's 2014 Statewide NPS Management Plan and Implement Agricultural Components of the Coastal Nonpoint Source Program (CZARA)* (\$100,000) grant projects. Deliverables will include Green Infrastructure/Low Impact Development trainings; one Better Back Roads improvement; revision to the Well and Septic Tank Referencing and Online Mapping (WeIStROM) website; implementation of agricultural BMPs in upland coastal counties; and update to the Coastal sections of the *Georgia 2014 Statewide NonPoint Source Management Plan* to meet the 5-year revision required by USEPA.

UNIVERSITY OF GEORGIA MARINE EXTENSION AND GEORGIA SEA GRANT (UGA MarEx): IMPLEMENTATION OF THE COASTAL NONPOINT SOURCE PROGRAM/IMPLEMENTATION PLAN (CZARA)

The UGA MarEx entered into **two** contracts with the NPSP during the FFY2018 reporting period: FFY15 *Photo-Based Operations & Maintenance Tools for Coastal Georgia Green Infrastructure/Low Impact Design* (\$60,000) and FFY17 *Coastal Green Infrastructure/Low Impact Development BMP Implementation Project* (\$175,000.00). These projects will develop a suite of GI/LID operations and maintenance tools that include photo representation from sites in coastal Georgia; address associated TMDLs for dissolved oxygen and fecal coliform impairments; and target the urban clusters in the 11 Coastal counties to install recommended green infrastructure and low impact development BMPs for infiltration and treatment of stormwater according to technical and design specifications in the Coastal Stormwater Supplement (CSS).

STATE NONPOINT SOURCE PARTNERS

SOUTHFACE ENERGY INSTITUTE: NPS STORMWATER TRAINING

During October 2017-September 2018, Southface closed out the FFY16 *Green Infrastructure / Low Impact Development Contractor Training* project (\$25,000). Deliverables included developing and teaching a course at four locations statewide on the technical requirements of the revised 2016 Georgia Stormwater Management Manual (GSMM Blue Book). Although revisions emphasize GI/LID practices to create sustainable development/redevelopment and to reduce the impact of urbanization on water quality, the lack of contractor, builder and developer knowledge interfered with adoption of GI/LID designs and practices. Southface's training was intended to remove this barrier by showing how to implement GI/LID practices from an attainable constructability perspective. A total of **105** individuals attended the sessions, the combined course ranking was **4.5** out of **5**, and **95 percent** of the total course evaluations showed that participants believed they were somewhat or much better prepared to assist their organization.

In addition, Southface contracted with the NPSP to implement the FFY17 *Green Infrastructure/ Low Impact Development Operations and Maintenance Training* project (\$82,000). Activities involve design and delivery of classroom sessions at **four** regional locations for building managers, landscape maintenance crews, and government public works staff to learn GI/LID BMP operations and maintenance (O&M). To address the need for a reliable workforce, this project will also develop a pilot GI/LID Workforce Development module, marketing materials and reports, as well as recruit and screen participants for one combined classroom/hands-on training at no charge that focuses on both GI O&M and GI business development skills.

GEORGIA ASSOCIATION OF WATER PROFESSIONALS (GAWP): NPS STORMWATER TRAINING

Although not receiving direct support using 319(h) funding, during the reporting period, GAWP continued localized training programs to help the regulated community comply with the Phase I Medium MS4 Permit requirement for runoff reduction:

Two sessions in Basics of Stormwater Plan Review with a total of **32** participants were held at the GAWP Marietta Offices and on Jekyll Island. **One** training each in Fundamentals of Pipe Installation and National Green Infrastructure Certification with a total of **51** attending were conducted at the GAWP Marietta Offices. **One** Stormwater Risk & Innovation Panel and **one** course in Stormwater Fundamentals with a total audience of **100** were hosted at the GAWP Annual Conference in Savannah. And, a total of **85** participated in **two** Stormwater Industrial General Permit Compliance trainings at the GAWP Marietta Offices and Henry County WSA.

Throughout FFY2018, GAWP worked with the Stormwater Foresite Group to develop stormwater Site Design and Plan Review Training Resources to be used in future trainings. GAWP also obtained Trainer certification in the National Green Infrastructure Certification Program (NGICP) and continued working with the Stormwater Training Advisory Group to develop Georgia-specific educational materials.

ADDRESSING GEORGIA'S NPS POLLUTION SOURCES

AGRICULTURE

During FFY2018, the NPSP continued to work with NRCS agents statewide to leverage EQIP funding for agricultural water quality projects. A FFY2014-funded contract with the Golden Triangle RC&D Council for Phase 2 of the project to *Provide Technical Assistance to Georgia Environmental Protection Division in Collecting Data for the Tired Creek Watershed* (\$14,835) was closed out. Phase 2 was accomplished by water quality monitoring of specific site locations, data gap analysis and collection of existing water and land use, assessment of current practices in place, and creation and disbursement of the draft nine-element Watershed Management Plan to stakeholders and GA EPD.

NUTRIENT TRADING

In FFY2018, partners associated with the SFY2017 State Seed Grant entitled *Alternative Nutrient Permitting Strategy Development for the Coosa-North Georgia and Savannah-Upper Ogeechee Water Planning Regions* developed a DRAFT *Alternative Nutrient Management Strategies* Report. The DRAFT Report explores alternative nutrient permitting strategy options by reviewing specific, viable examples implemented throughout the nation and gathering input from the Water Planning Councils and other local stakeholders on an initial research summary and preliminary framework. Resulting recommendations will then be compiled with feedback from the North Georgia Water Resources Partnership into a FINAL Report. Administered by the Northwest Georgia Regional Commission (NWGRC), the Seed Grant expires in December 2018 when the FINAL Report will be delivered to GA EPD and the Coosa-North Georgia and Savannah-Upper Ogeechee Regional Water Planning Councils for consideration.

NATIONAL WATER QUALITY INITIATIVE (NWQI)

Based on NWQI data collected in 2014, the state water quality standard for Dissolved Oxygen (DO) was met in Piscola Creek (Allen Branch to Okapilco Creek, near Boston), and the DO impairment was removed from the segment in the 2016 Georgia 305(b)/303(d) List of Waters.

In FFY2018, GA EPD continued sampling **four** sites in Piscola Creek as part of NWQI monitoring for field in-situ parameters, bacteria and nutrients. The first site in the chart is an original listing assessment sampling location. The other three were added for the NWQI study.

Piscola Creek Watershed Monitoring Sites			
Piscola Creek at US Hwy 84	RV_09_3230	30.793056	-83.706389
Piscola Creek at SR 33	RV_09_16763	30.830549	-83.769923
Piscola Creek at Hwy 122	RV_09_16764	30.939235	-83.768289
Piscola Creek at Coffee Rd	RV_09_16765	30.881135	-83.771941

In addition, during October 2017-September 2018, GA EPD resumed NWQI monitoring in Northwest Georgia at **11** original and **six** new data collection sites, totaling **17** sampling locations in the Oostanaula, Salacoa and Etowah watersheds.

(TO BE CONTINUED)

ADDRESSING GEORGIA'S NPS POLLUTION SOURCES

NATIONAL WATER QUALITY INITIATIVE (NWQI) (CONTINUED)

Monitoring at **five** of the **11** original sites stopped in December 2017 (gray shade) while sampling at the remaining **six** original sites spanned the entire 2018 fiscal year (clear). Data collection at the **six** new sites did not begin until January 2018 (blue shade). All **17** sites were tested for field in-situ and routine parameters (nutrients, hardness and BOD). In addition, **14** sites were tested for fecal coliform (red, bold type), **five** sites were sampled for metals, **three** for macroinvertebrates, **two** for ortho-phosphates, and **two** for periphyton (not shown in chart).

Oostanaula, Salacoa and Etowah Watershed Monitoring Sites			
RV_14_17272	Robins Creek at W. Kinman Rd near Calhoun	34.43012	-84.994258
RV_14_17273	Woodward Creek at Gaines Loop near Rome, GA	34.36436	-85.07319
RV_14_17276	Marlow Branch at Hwy 61 near Ranger, GA	34.48576	-84.706371
RV_14_17274	Lick Creek at Liberty Church Rd near Ranger, GA	34.5146	-84.724472
RV_14_17277	Fuller Branch at Riddle Mill Rd near Fairmount, GA	34.411026	-84.67179
RV_14_17275	Redbud Creek at Red Bud Rd near Ranger, GA	34.533641	-84.728596
RV_14_17477	Ninety-Nine Branch at Irwin Mill Rd	34.41753	-84.6899
RV_14_16793	Marlow Branch at Covington Bridge	34.471	-84.716
RV_14_4841	Lick Creek at Langford Road	34.53483	-84.796
RV_14_4823	Crane Eater Creek at Pine Chappel Road	34.53111	-84.8722
RV_14_4480	Bow Creek at Old Rome-Dalton Road	34.53859	-85.0267
RV_14_4425	Snake Creek at Pocket Road in Sugar Valley	34.55722	-85.0164
RV_14_16794	Robins Creek at Miller's Ferry Road @ Tressel	34.44919	-85.0123
RV_14_4531	Woodland Creek at Bells Ferry Road	34.34324	-85.1103
RV_14_4825	Dozier Creek at Bells Ferry Road	34.32083	-85.1103
RV_14_16687	Etowah River at South Broad Street, Rome, GA	34.2515	-85.1763
RV_14_16799	Town Creek at Newton Creek Loop near Calhoun, GA	34.528	-84.899

CONSTRUCTION

As of September 30, 2018, **three** NPDES State General Permits for Stormwater Discharges Associated with Construction Activities were reissued (stand alone, infrastructure, common development). A total of **42,040** construction sites in Georgia were under permits (**12,121** Primary, **12,012** Secondary, **17,907** Tertiary). In addition, **322** Local Issuing Authorities (LIAs) were certified. In areas with no LIAs, GA EPD continued to enforce the NPDES General Permits. Statewide workshops were conducted for LIAs, design professionals, and regulated communities subject to the Erosion & Sedimentation Act and NPDES General Permits.

URBAN RUNOFF

From October 2017-September 2018, **\$2.63 million** in Section 319(h) funds were dedicated to projects that focused on reducing the impacts of stormwater on water quality. During

(TO BE CONTINUED)

ADDRESSING GEORGIA'S NPS POLLUTION SOURCES

URBAN RUNOFF (CONTINUED)

FFY2018, no new systems were placed under Municipal Separate Storm Sewer (MS4) permits (Phases I & II: Large, Medium or Small). A total of **114** permittees were regulated under three GA EPD Phase II MS4 NPDES general permits: **107** Small MS4, **one** Georgia Department of Transportation, and **six** U. S. Department of Defense. In addition, a total of **57** municipalities are under GA EPD Phase I MS4 NPDES permits: **12** Medium and **45** Large. The Phase II Small MS4 general permit was reissued December 6, 2017, while the permit for DOD facilities is scheduled to be reissued January 15, 2019. The Phase I Large MS4 NPDES Permit is scheduled to be reissued June 11, 2019. The General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000) was reissued June 1, 2017, with **272** new industrial facilities applying for coverage, totaling **3,029** industrial facilities under the permit.

FAILING SEPTIC SYSTEMS

In FFY2018, approximately **\$1.08 million** in federal funds were dedicated to projects that addressed failing septic systems as a nonpoint source of fecal coliform in impaired waters by offering pump-out, repair, or replacement options, and homeowner education.

GREEN INFRASTRUCTURE IMPLEMENTATION

Within the FFY2018 timeframe, GA EPD executed **four** new contracts to implement GI/LID stormwater best management practices (BMPs). UGA launched a FFY2016 Section 319(h) project, *Green Infrastructure Implementation and Capacity Building in Folkston, Georgia*, to install and monitor GI/LID BMPs in prioritized urban watersheds of Charlton County. Funded by FFY2017 Section 319(h) grants, UGA, in partnership with the Marine Extension and Georgia Sea Grant, initiated the *Coastal Green Infrastructure/Low Impact Development BMP Implementation Project* to install GI/LID infiltration/treatment BMPs according to technical and design specifications in the Coastal Stormwater Supplement (CSS). In addition, the Georgia Mountains Regional Commission (GMRC) partnered with The Chattooga Conservancy, Inc. on the *Stekoa Creek Watershed Management Plan Implementation Project* to install GI/LID BMPs at the Food Bank of Northeast Georgia's "Covered Bridge Parking Lot" site in Clayton, GA. And, the Seven Rivers RC&D Council, Inc. executed the *Implementing Best Management Practices in the Upper Satilla Creek Watershed (HUC 0307020201) to Improve Water Quality* contract to install a GI/LID BMP focused on bio-retention within Hazlehurst, GA.

SILVICULTURE

During FFY2018, the Georgia Forestry Commission (GFC) conducted annual statewide Best Management Practice (BMP) Assurance Monitoring of active forestry operations in watersheds listed for Biota (sediment) impairments on Georgia's Integrated 305(b)/303(d) List of Waters. GFC staff gave forestry BMP presentations at **118** public events to **7,639** cumulative attendees; performed **26** Field Demonstrations of BMPs for **523** participants; conducted **205** BMP Advice Visits, **601** Firebreak BMP Inspections, and **53** one-to-one Logger Conferences; hosted **17** one-to-one and/or group GFC Forester Trainings; distributed **2,461** copies of BMP brochures; investigated **43** Initial Complaints; completed **96** Complaint Site Visits; recorded **33** BMP Surveys; checked **156** BMP Assurance Exams; and provided training for GFC Foresters on random site suitability collections for the upcoming 2019 BMP Survey.

GEORGIA'S NPS PROGRAM MANAGEMENT GOALS

FACILITATE TMDL IMPLEMENTATION FOR ALL SECTION 305(b)/303(d) LISTED WATERSHEDS

During the FFY2018 reporting period the DRAFT 2016 Section 305(b)/303(d) List was still pending approval from USEPA. Although not occurring within this reporting period, it is important to note that the 2016 Section 305(b)/303(d) List was approved by USEPA on October 4, 2018. The GA EPD biennial report on a primary assessment of the State's water quality includes an integrated list of waters that are both "Supporting" and "Not Supporting" their designated uses. "Not supporting" waters are placed on the 303(d) portion of the List, which identifies the causes of impairments and establishes ranking priorities, including those waters targeted for TMDL development. The NPSP prioritizes projects that implement TMDLs to receive Section 319(h) grant funding. A request for data has been issued by GA EPD to use in the assessment of waters for Georgia's 2018 305(b)/303(d) List of Waters. Guidance and requirements for water quality data submission and acceptance are posted at <https://epd.georgia.gov/guidance-submitting-data-305b303d-listings>.

IDENTIFY WATERSHEDS WHERE NPS POLLUTION IS CAUSING IMPAIRMENT AND RESTORE DESIGNATED USES FOR ALL SECTION 305(b)/303(d) LISTED WATERSHEDS

During FFY2018, GA EPD continued to apply Georgia's List of Priority Waters, based on the Draft Priority Framework, to prioritize impaired waters for development of TMDLs or TMDL alternatives. The Framework complies with the USEPA Long-Term Vision for Assessment, Restoration, and Protection of waters under Section 303(d) of the Clean Water Act. Six elements in the Vision focus on Prioritization, Assessment, Protection, Alternatives, Engagement, and Integration.

IMPLEMENT MANAGEMENT MEASURES SPECIFIED IN SECTION 6217 OF CZARA

On June 26, 2018, the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (USEPA) issued a Federal Register Notice of Intent to find that Georgia had satisfied all conditions of approval on its coastal nonpoint pollution control program. The NOAA and USEPA invited public comment on their proposed finding, and individuals or organizations had 30 days to submit comments. The public comment period closed on July 27, 2018, and there were no comments. Georgia's Coastal Nonpoint Source Program/Implementation Plan was officially approved on November 1, 2018. Information on the Coastal Nonpoint Source Program in general, is available for download at the NOAA website at <https://coast.noaa.gov/czm/pollutioncontrol/>.

MANAGE NUTRIENTS FROM COMBINED ANIMAL FEEDING OPERATIONS (CAFO)

GA EPD covers **four** facilities under two NPDES CAFO permits (**one** individually permitted and **three** under the NPDES General Permit). There are also **110** CAFO facilities under **two** LAS CAFO General Permits (**37** Large and **73** Medium). Between October 2017 and September 2018, the Georgia Department of Agriculture, under contract with GA EPD, inspected **54** permitted CAFO facilities and investigated **34** water quality complaints.

GEORGIA'S NPS PROGRAM MANAGEMENT GOALS

STATEWIDE MILESTONES FOR WATER QUALITY IMPROVEMENT

The GA EPD has continued to compile data on progress to meet milestones developed in the current *Georgia 2014 Statewide Nonpoint Source Management Plan*. The chart below tracks implementation of the Statewide Plan during the reporting period of October 2017 through September 2018. Milestones are currently being revised in the Statewide Plan, and final results will be published in the *2019 Georgia Statewide Nonpoint Source Management Plan* and the FFY2019 NPSP Annual Report. Milestone targets for 2019 in this chart may change.

Statewide Milestones for Water Quality Improvement	2018	Milestone Progress	2019
WATER QUALITY IMPROVEMENTS FROM NONPOINT SOURCE CONTROLS			
<u>Number of stream segments meeting designated use on Georgia's biennial 305(b)/303(d) list of waters:</u> Identify the number of streams meeting water quality standards and take appropriate actions to protect these waters.	1,030	37 new streams/coastal streams making a total of 971 segments "Supporting" designated use on final 2016 Georgia 305(b)/303(d) List of Waters	NA
<u>Additional number of stream segments meeting one or more water quality standards on Georgia's biennial 305 (b) / 303(d) list of waters:</u> Identify the number of stream segments meeting one or more water quality standards and take appropriate actions to protect these waters	40	44 additional streams/coastal streams meeting one or more water quality standards on final 2016 Georgia 305(b)/303(d) List of Waters	NA
INTERIM PROGRESS TOWARD RESTORED WATER QUALITY AND HYDROLOGY			
<u>Number of water bodies identified in Georgia's 2016 305(b)/303(d) list of impaired waters or subsequent years as being primarily NPS impaired that are partially or fully restored (WQ-10):</u> Identify fully restored water bodies primarily impaired by NPS pollutants; review NPS related activities in watershed where water body was restored; write NPS success story	1	Submitted one WQ-10 Title: <i>Municipal Total Maximum Daily Load Implementation Program Leads to Restoration of Water Quality in Upper Butler Creek</i>	1
<u>Number of water bodies where in-stream concentrations of NPS parameters have been reduced (i.e. sediment, fecal coliform, and bacteria) (SP-12):</u> Annually review water quality data for data trends indicating reductions in sediment, fecal coliform bacteria and nutrients as a result of NPS activities; write NPS success story;	1	Discontinued per USEPA "National Water Program Guidance FY2018-2019"	1
<u>Percentage of TMDL or WMP recommended BMPs implemented:</u> Implementing target percentage of recommended BMPs for each grant project implementing specific WMPs that meet EPA's nine elements.	50%	Active projects making progress to date towards implementing 50% BMPs recommended in WMPs	50%
<u>Percentage of landowners in a watershed cooperating in the program by implementing targeted water quality practices:</u> Meeting landowner percentage cooperation goals for each grant project implementing WMPs that meet EPA's nine elements.	60%	Making progress to date towards 60% landowner cooperation in active projects implementing WMPs	60%

Statewide Milestones for Water Quality Improvement	2018	Milestone Progress	2019
<u>Tracking ambient water quality vs. stream water quality standards for Nitrogen, Phosphorus, Fecal Coliform, Dissolved Oxygen, and Biota:</u> Number of streams where water quality data were collected by Adopt-a-Stream or GA EPD for use in meeting watershed based WQ targets.	50	Monthly sampling during FFY2018: 198 rivers/streams, lakes/estuaries, sounds at 241 sites (nutrients, BODS, TSS, DO, pH, temperature, conductivity) including 103 ortho-phosphate sites; 136 bacteria sites; 79 metal sites; 78 chlorophyll a sites; 54 diatom sites; 41 macroinvertebrates sites; and 3 anions/TDS sites	50
<u>Tracking target trophic status in lakes and estuaries:</u> Produce waterbody reports documenting trophic status in Georgia lakes and estuaries.	Report; On-Going	During FFY2018, monthly ambient WQ sampling: 28 lakes, 7 estuaries at 78 sites	Report; On-going
<u>Green infrastructure within watersheds:</u> Target number of grant projects implementing green infrastructure BMPs.	1	FFY17-07 & FFY18-14 <i>Phases 1 & 2 of Coastal Urban Stormwater BMP Retrofits using GI/LID</i> City of St Marys - \$500,733 with 52% match	1
PROTECTION OF HIGH QUALITY WATERS			
<u>Attain specific load reduction or maintenance goals in protection oriented plans covering healthy watersheds:</u> Attaining specific load reduction goals (Nitrogen, Phosphorus, Sediment, Fecal Coliform) for grant projects implementing Healthy Watershed Initiative WMPs that meet EPA's nine elements.	NA	NA	1
<u>Number and type of BMPs implemented at critical areas:</u> Tracking the number and type of BMPs grant projects implemented in concurrence with Healthy Watershed Initiative WMPs that meet EPA's nine elements.	NA	NA	1
NONPOINT SOURCE POLLUTANT LOAD REDUCTION			
<u>Estimated annual reductions in pounds of nitrogen from NPS to water bodies (from Section 319 funded projects) (WQ-9a):</u> Annually review information from NPS staff and project stakeholders for NPS load reductions of nitrogen; and include information in NPS annual report and GRTS.	200,000 lbs.	17,040 lbs. Georgia Soil & Water Conservation Commission will submit load reductions from their current 2-year contract in FY2019, resulting in an expected numeric increase towards meeting milestone targets.	200,000 lbs.

Statewide Milestones for Water Quality Improvement	2018	Milestone Progress	2019
<u>Estimated annual reductions in pounds of phosphorus from NPS to water bodies (from Section 319 funded projects) (WQ-9a):</u> Annually review information from NPS staff and project stakeholders for NPS load reductions of phosphorus; and include information in NPS annual report and GRTS.	35,000 lbs.	3,766 lbs. Georgia Soil & Water Conservation Commission will submit load reductions from their current 2-year contract in FY2019, resulting in an expected numeric increase towards meeting milestone targets.	35,000 lbs.
<u>Estimated annual reductions in tons of sediment from NPS to water bodies (from Section 319 funded projects) (WQ-9a):</u> Annually review information from NPS staff and project stakeholders for NPS load reductions of sediment; and include information in NPS annual report and GRTS.	800 tons	2,359 tons	800 tons
IMPLEMENTATION OF NONPOINT SOURCE CONTROLS			
<u>Develop plan for Prioritization of TMDL development per the EPA303(d)/305(b) visioning process:</u> Plan for prioritizing TMDL or alternative development. This plan will be coordinated with the nonpoint source program's prioritization.	NA	NA	NA
<u>Number of TMDLs or alternatives developed for impaired watersheds:</u> Developing TMDLs or alternatives (i.e. 5R or WMP) for impaired waters	1	During October 2017 – September 2018, 8 draft TMDLs developed for impaired waters on the 2014 Georgia 305(b)/303(d) List of Waters	1
<u>Number of Lakes with Nutrient Criteria where none previously existed:</u> Number of lakes where new standards are developed per "Georgia's Plan for the Adoption of Water Quality Standards for Nutrients"	NA	NA	NA
<u>Statistically based survey of implementation rates:</u> Conduct the Biennial Silviculture and Agricultural NPS compliance and implementation survey.	1	GFC FY15 Grant Contract Close-Out Report <i>Silvicultural Nonpoint Source Management Program</i> December 2017	1
PUBLIC EDUCATION, AWARENESS, AND ACTION			
<u>Participation rates in citizen monitoring activities:</u> Maintain a database of Georgia Adopt-A-Stream participating volunteers to determine number of active monitoring sites annually.	300	During October 2017 – September 2018, 11,321 volunteers at 681 active monitoring sites	300

Statewide Milestones for Water Quality Improvement	2018	Milestone Progress	2019
<u>Participation rates in public awareness and education efforts:</u> Maintain a database of RiversAlive volunteers to determine number of active participants annually.	24,000	During October 2017 – September 2018, 26,505 Rivers Alive volunteers at 272 events.	24,000
<u>Calculate and track a “measure of local interest” to assess the geographic diversity and productivity of local watershed groups:</u> Maintain a database of Georgia Adopt-A-Stream participating volunteers to track productivity and diversity of local watershed groups. Number of active watershed groups annually.	150	During October 2017 – September 2018, 218 active watershed groups	150
PROGRAM MEASURES OF SUCCESS			
<u>Track number and diversity of partners in statewide NPS plan:</u> Use Nonpoint Source Plan tracking form to annually track the number and diversity of partners participating in 2014 Statewide NPS Plan goals.	5	During FFY2018, 27 different organizations: 5 Cities, 7 RC&Ds, 5 RCs, 4 State Agencies, 2 Universities, 1 Contractor, 3 Counties	5
<u>Track number and diversity of partners in watershed project implementation:</u> Use Grants Reporting and Tracking System to annually track the number and diversity of partners participating in watershed project implementation.	15	During FFY2018, 19 different partners: 6 RC&Ds, 2 RCs, 4 Cities, 3 Counties, 3 State Agencies, 1 University	15
<u>Number of new nine element watershed based plans reviewed and accepted for funding:</u> Nine element watershed based plans, WMP developed by NPS plan partners and reviewed and accepted by GA EPD or USEPA.	NA	NA	1
<u>Progress in reducing unliquidated obligations (ULO):</u> Percentage of ULO funds anticipated yearly GA EPD (total remaining funds/total awarded = percentage ULO).	20%	During FFY2018, 16.81%	19%

MOVING FORWARD IN FFY2019

319(h) FFY2019 GRANT CALL

The NPSP Grants Unit made the official Application and associated Grant Guidelines available online in July 2018 for competitive Section 319(h) FFY2019 Grant awards. A mass email “blast” totaling **2,330** messages was sent to the following: **980** Mayors and Clerks; **919** Association of County Commissioners of Georgia; **19** Board of Directors; 196 General Contacts; **203** Georgia Municipal Association; and **13** Resource Conservation & Development Councils. In addition, approximately **1,500** grant announcements were mailed to public utilities and local governments.

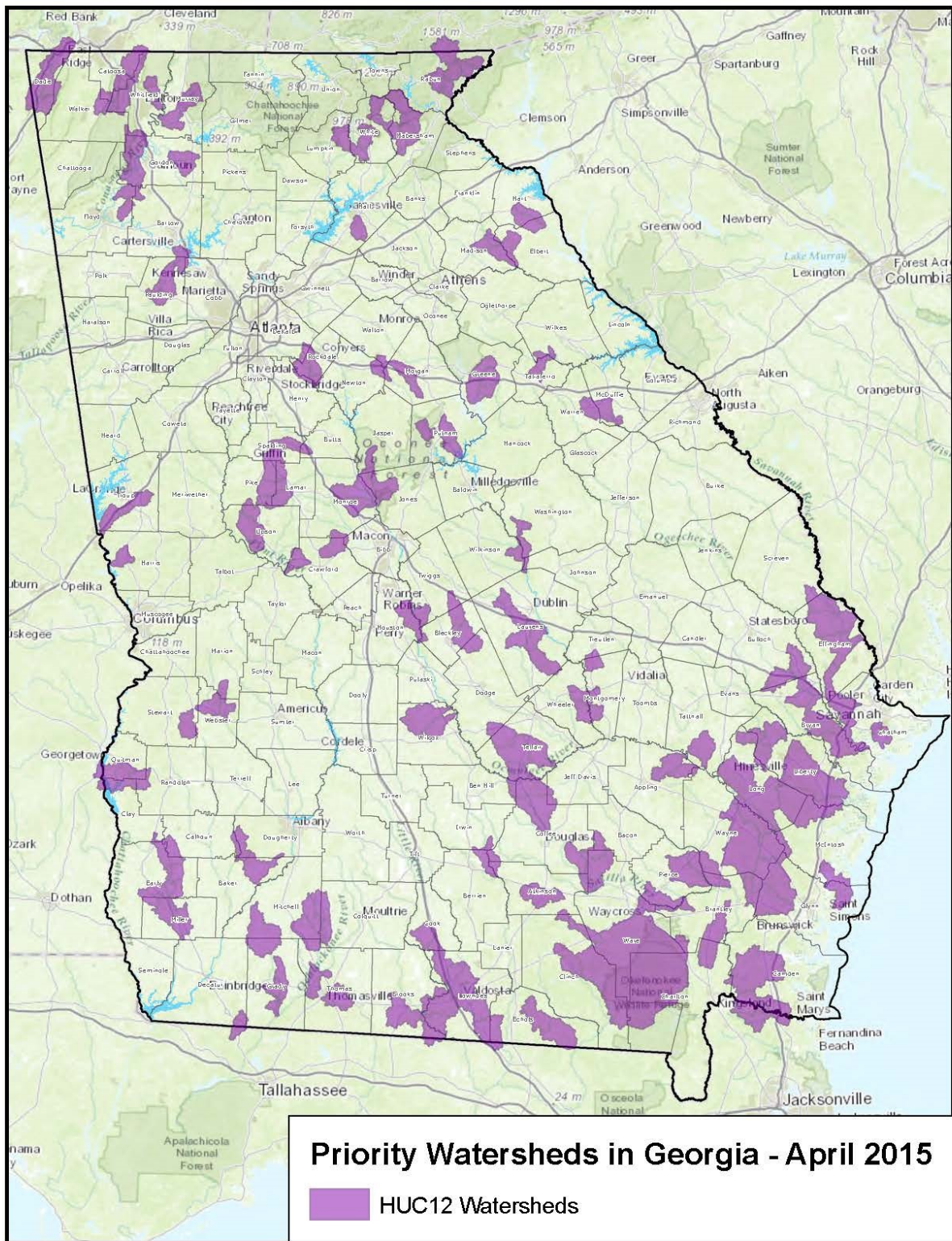
A pre-application webinar, required for all applicants, was hosted on September 6 and October 3, 2018, and attended by **23** and **25** participants, respectively. GA EPD NPSP Grants Unit staff delivered a slide show and answered questions on how to evaluate a potential water quality improvement project and apply for the FFY2019 Section 319(h) Grant. Slides, as well as a recording of the mandatory webinar were made available upon request. The webinar had to be viewed prior to submittal of the application.

DRAFT application proposals received by September 28, 2018, were reviewed in writing by GA EPD staff. The hand-delivery or post-mark deadline for applications to be submitted to GA EPD was October 31, 2018 for most applicants. However, for those applicants in areas of the State where severe weather, due to Hurricane Michael, had caused delays based on power outages and closed offices, the deadline was extended to November 15, 2018. Proposals submitted by the two deadlines will be reviewed and scored, and applicants will be notified of award decisions in Spring 2019.

While 50% of Section 319(h) Grant funds, at most, is assigned to programmatic work, the other 50%, at a minimum, is allocated to projects (competitive and noncompetitive) that implement the goals of the current *Georgia Statewide Nonpoint Source Management Plan*. Proposals eligible for competitive awards must implement existing watershed-based plans or alternative plans that meet USEPA’s Nine Elements of Watershed Planning. Implementation projects eligible for funding must specify the nonpoint sources of pollution and identify the activities best suited to address those sources. Acceptable activities can include watershed restoration; local regulatory or non-regulatory enforcement programs; urban stormwater controls not included in NPDES permits; technical and financial assistance; education and training; and water quality monitoring to evaluate BMPs.

FFY2019 Section 319(h) Grant Competitive Awards Time Line

- **July 2018:** GA EPD call for proposals
- **Early September & October 2018:** Pre-application Webinar/Teleconference
- **September 28, 2018:** DRAFT proposals for GA EPD written review (optional)
- **October 31, 2018:** Deadline for applications to reach GA EPD
- **Winter 2019:** Grant award selection
- **Spring 2019:** Notification of award to selected recipients
- **Summer 2019:** GA EPD and award recipients finalize project scopes of work
- **Fall 2019:** Execute contracts, start work



GEORGIA NPSP PRIORITY HUC12 WATERSHEDS

WATERSHEDS IMPACTED BY THE NINE PRIORITY COASTAL URBAN CLUSTERS ARE HIGHLIGHTED

HUC12	WATERSHED NAME	DNR_BASIN	COUNTY
030702010401	Broxton Creek	Satilla	Coffee
031300050903	Gola Creek-Potato Creek	Flint	Pike
031300010105	Amys Creek-Chattahoochee River	Chattahoochee	Habersham
031501041604	Dykes Creek	Coosa	Floyd
031300100102	Perry Creek-Spring Creek	Flint	Calhoun
030601040302	Scull Shoal Creek-Broad River	Savannah	Madison
031102010103	Suwannee Creek	Suwannee	Clinch
031501020604	Marlow Branch-Salacoa Creek	Coosa	Gordon
030701060402	Penholoway Creek	Altamaha	Wayne
030602040301	Sterling Creek-Ogeechee River	Ogeechee	Bryan
030701020801	Oochee Creek-Oconee River	Oconee	Wilkinson
060200011102	Gulf Creek-Lookout Creek	Tennessee	Dade
031200020403	Lost Creek	Ochlockonee	Mitchell
030602020505	Caney Branch-Black Creek	Ogeechee	Bulloch
031501030203	Snake Creek-Oostanaula River	Coosa	Gordon
031300031313	Drag Nasty Creek-Chattahoochee River	Chattahoochee	Quitman
031300020906	Lower Long Cane Creek	Chattahoochee	Troup
030701011406	Middle Big Indian Creek	Oconee	Morgan
031102021003	Alapahoochee River	Suwannee	Lowndes
031102021002	Lower Mud Swamp	Suwannee	Lowndes
031300010202	Upper Soquee River	Chattahoochee	Habersham
030702010302	Little Red Bluff Creek	Satilla	Atkinson
030601020207	Upper Stekoa Creek	Savannah	Rabun
031501041103	Lawrence Creek-Pumpkinvine Creek	Coosa	Paulding
030701021103	Horse Branch-Turkey Creek	Oconee	Laurens
030701031503	Little Echeconnee Creek	Ocmulgee	Crawford
030702020501	Sixty Foot Branch	Satilla	Pierce
031102010201	Upper Tatum Creek	Suwannee	Clinch
031300070203	Lower Lanahassee Creek	Flint	Webster
031300010102	Smith Creek-Chattahoochee River	Chattahoochee	White
031300010504	Lower Tesnatee Creek	Chattahoochee	White
030701011803	Lower Rooty Creek	Oconee	Putnam
031300050906	Tenmile Creek	Flint	Upson
030702040904	Little St. Marys River	Saint Mary's	Camden
030701060405	Penholoway Swamp-Altamaha River	Altamaha	Wayne
031501030602	Woodward Creek	Coosa	Floyd
030701040703	Lower Horse Creek	Ocmulgee	Telfair
030601090202	Lower Runs Branch	Savannah	Effingham
030602040201	Hardin Canal-Little Ogeechee River	Ogeechee	Chatham
030602020508	Little Creek-Black Creek	Ogeechee	Bryan
030701011102	Upper Beaverdam Creek	Oconee	Greene
030701040504	Cedar Creek	Ocmulgee	Wilcox
031300100505	Town of Boykin-Spring Creek	Flint	Miller
030701060301	Fivemile Creek	Altamaha	Appling

HUC12	WATERSHED NAME	DNR_BASIN	COUNTY
030601080103	Whites Creek-Brier Creek	Savannah	McDuffie
031300090806	West Chickasawhatchee Creek- Chickasawhatchee Creek	Flint	Dougherty
030602030505	Middle Taylors Creek	Ogeechee	Liberty
030601020203	West Fork Chattooga River	Savannah	Rabun
060200010702	Lower East Chickamauga Creek	Tennessee	Catoosa
031501010402	Mill Creek-Holly Creek	Coosa	Murray
031300021103	Mountain Oak Creek	Chattahoochee	Harris
031300050901	Honey Bee Creek-Potato Creek	Flint	Lamar
030701031104	Cabin Creek	Ocmulgee	Spalding
030601030407	Little Coldwater Creek	Savannah	Hart
030701011401	Nelson Creek-Little River	Oconee	Newton
031300010505	Tate Creek-Chestatee River	Chattahoochee	Lumpkin
030702030101	Little Buffalo Creek	Satilla	Glynn
031300031501	Clear Creek-Pataula Creek	Chattahoochee	Stewart
031300050907	Jerry Reeves Creek-Potato Creek	Flint	Upson
031300031507	Lower Holanna Creek	Chattahoochee	Quitman
031102030404	Valdosta-Withlacoochee River	Suwannee	Lowndes
031102040501	Wells Mill Creek	Suwannee	Cook
030701011103	Lower Beaverdam Creek	Oconee	Greene
031200030205	Lower Swamp Creek	Ochlockonee	Decatur
031501030201	Camp Creek	Coosa	Gordon
030701040505	Folsom Creek	Ocmulgee	Wilcox
030701031305	Deer Creek	Ocmulgee	Monroe
030701040107	Thompson Mill Creek-Ocmulgee River	Ocmulgee	Houston
031200020401	Upper Little Ochlockonee Creek	Ochlockonee	Colquitt
030701050102	District Hollow Branch-Gum Swamp Creek	Ocmulgee	Bleckley
030602020503	Ash Branch-Lower Black Creek	Ogeechee	Bulloch
030701060302	Watermelon Creek	Altamaha	Tattnall
030701030106	Honey Creek	Ocmulgee	Rockdale
031501010403	Goldmine Branch-Holly Creek	Coosa	Murray
030601020205	Upper Warwoman Creek	Savannah	Rabun
060200010704	Upper Little Chickamauga Creek	Tennessee	Walker
031300100403	Upper Aycocks Creek	Flint	Miller
031300080506	Bay Pole Branch-Big Slough	Flint	Mitchell
031200020704	Little Tired Creek	Ochlockonee	Grady
031300050904	Little Potato Creek	Flint	Lamar
030701021403	Lotts Creek-Oconee River	Oconee	Wheeler
031300010502	Upper Tesnatee Creek	Chattahoochee	White
031300100103	Town of Crossroads-Spring Creek	Flint	Early
030601050105	Lick Creek-Little River	Savannah	Taliaferro
030701040701	Upper Horse Creek	Ocmulgee	Telfair
031102010502	Lower Toms Creek	Suwannee	Echols
031200020404	Big Creek	Ochlockonee	Mitchell
031101030102	Oliver Creek	Ochlockonee	Thomas
031102020604	Lower Willacoochee River	Suwannee	Berrien
031102030802	Tiger Creek-Withlacoochee River	Suwannee	Lowndes
030701010104	Upper Walnut Creek	Oconee	Hall
030602030503	Strickland Pond-Canoochee Creek	Ogeechee	Long
030701060203	Lower Tenmile Creek	Altamaha	Appling

HUC12	WATERSHED NAME	DNR_BASIN	COUNTY
031300100303	Long Branch-Spring Creek	Flint	Miller
031102040504	Franks Creek	Suwannee	Lowndes
031501010307	Bates Branch-Coahulla Creek	Coosa	Whitfield
031300100501	Town of Colquitt-Spring Creek	Flint	Miller
031501010406	Bullpen Branch-Holly Creek	Coosa	Murray
031102010105	Okeefenokee Swamp	Suwannee	Charlton
030602030507	Strum Bay-Canoochee Creek	Ogeechee	Liberty
030702020502	Little Satilla River	Satilla	Wayne
030602040601	Upper South Newport River	Ogeechee	McIntosh
030702040905	Catfish Creek-St. Marys River	Saint Mary's	Camden
030602030606	Clyde Creek-Canoochee River	Ogeechee	Bryan
030701021304	Upper Ochwalkee Creek	Oconee	Laurens
030702010603	Middle Hog Creek	Satilla	Bacon
060200010703	Tiger Creek	Tennessee	Catoosa
030701060501	Alex Creek-Altamaha River	Altamaha	Wayne
030701031303	Little Falling Creek	Ocmulgee	Jasper
030601090203	Ebenezer Creek	Savannah	Effingham
031300080304	Lower Cooleewahee Creek	Flint	Baker
060200010701	Upper East Chickamauga Creek	Tennessee	Whitfield
031300051206	Lower Uloahatchee Creek	Flint	Crawford
031300100401	Susian Ford Creek	Flint	Miller
030701011101	Town Creek-Richland Creek	Oconee	Greene
031300010206	Lower Soquee River	Chattahoochee	Habersham
030701021104	Bluewater Creek-Turkey Creek	Oconee	Laurens
031300050902	Turnpike Creek	Flint	Pike
030701060504	Altamaha Sound-Frontal Atlantic Ocean	Satilla	Glynn
031102030804	Redland Creek	Suwannee	Lowndes
031300100205	Lower Dry Creek	Flint	Early
030701040804	Gregeory Creek-Ocmulgee River	Ocmulgee	Coffee
031501020605	Lick Creek-Salacoa Creek	Coosa	Gordon
030702030102	Turtle River	Satilla	Glynn
030702010504	Cat Creek-Seventeen Mile River	Satilla	Coffee
030702010705	Caney Branch-Satilla River	Satilla	Pierce
060200011103	Crawfish Creek-Lookout Creek	Tennessee	Dade
031300070201	Clear Creek-Kinchafoonee Creek	Flint	Webster
030701021301	Cypress Creek	Oconee	Montgomery
030701031306	Rum Creek	Ocmulgee	Monroe
031200020402	Middle Little Ochlockonee Creek	Ochlockonee	Colquitt
031501030204	Bow Creek-Oostanaula River	Coosa	Gordon
060102020102	Middle Creek-Little Tennessee River	Tennessee	Rabun
060200011104	Sitton Gulch Creek-Lookout Creek	Tennessee	Dade
030701030107	Camp Creek-South River	Ocmulgee	Rockdale
031102021001	Upper Mud Swamp	Suwannee	Lowndes
030601020208	Lower Stekoa Creek	Savannah	Rabun
031501041102	Lane Creek-Pumpkinvine Creek	Coosa	Paulding
031300100104	Spring Branch-Spring Creek	Flint	Early
030702040902	Cabbage Creek-St. Marys River	Saint Mary's	Camden
030701011802	Upper Rooty Creek	Oconee	Putnam
030702010403	Rose Creek	Satilla	Coffee

HUC12	WATERSHED NAME	DNR_BASIN	COUNTY
030701020407	Wheeler Creek-Buffalo Creek	Oconee	Washington
030602040303	Vernon River	Ogeechee	Chatham
031200020703	Middle Tired Creek	Ochlockonee	Grady
030701040702	Middle Horse Creek	Ocmulgee	Telfair
060200011105	Lookout Creek	Tennessee	Dade
030701060404	Lower Doctors Creek	Altamaha	Long
030602020507	Lower Mill Creek	Ogeechee	Bryan
030601090201	Upper Runs Branch	Savannah	Effingham
030701031307	Berry Creek-Ocmulgee River	Ocmulgee	Jones
031501030205	Robbins Creek-Oostanaula River	Coosa	Gordon
030601040304	Deep Creek-Broad River	Savannah	Elbert
031300010204	Middle Soquee River	Chattahoochee	Habersham
030702011202	Rose Creek-Satilla River	Satilla	Camden
031200020706	Lower Tired Creek	Ochlockonee	Grady
031501041105	Westbrook Creek-Pumpkinvine Creek	Coosa	Paulding
031200020602	Pine Creek-Ochlockonee River	Ochlockonee	Thomas
030701050101	Reedy Creek-Gum Swamp Creek	Ocmulgee	Bleckley
031300050908	Bell Creek-Potato Creek	Flint	Upson
030701021401	Larry Creek-Oconee River	Oconee	Wheeler
030602040401	Upper North Newport River	Ogeechee	Liberty
031300031508	Wilkey Creek-Pataula Creek	Chattahoochee	Quitman
030702010604	Lower Hog Creek	Satilla	Ware
031102010501	Upper Toms Creek	Suwannee	Echols
030701011104	Little Creek-Richland Creek	Oconee	Greene
030701011502	Pearson Creek-Little River	Oconee	Putnam
030701031304	Lower Falling Creek	Ocmulgee	Jones
031102030703	Lower Piscola Creek	Suwannee	Brooks
031300020905	Upper Long Cane Creek	Chattahoochee	Troup
030702011104	Lower Buffalo Creek	Satilla	Brantley
030701011405	Upper Big Indian Creek	Oconee	Morgan
030601030406	Upper Coldwater Creek	Savannah	Hart
030601020206	Lower Warwoman Creek	Savannah	Rabun
031300010201	Headwaters Soquee River	Chattahoochee	Habersham
030701021105	Reedy Creek-Turkey Creek	Oconee	Laurens

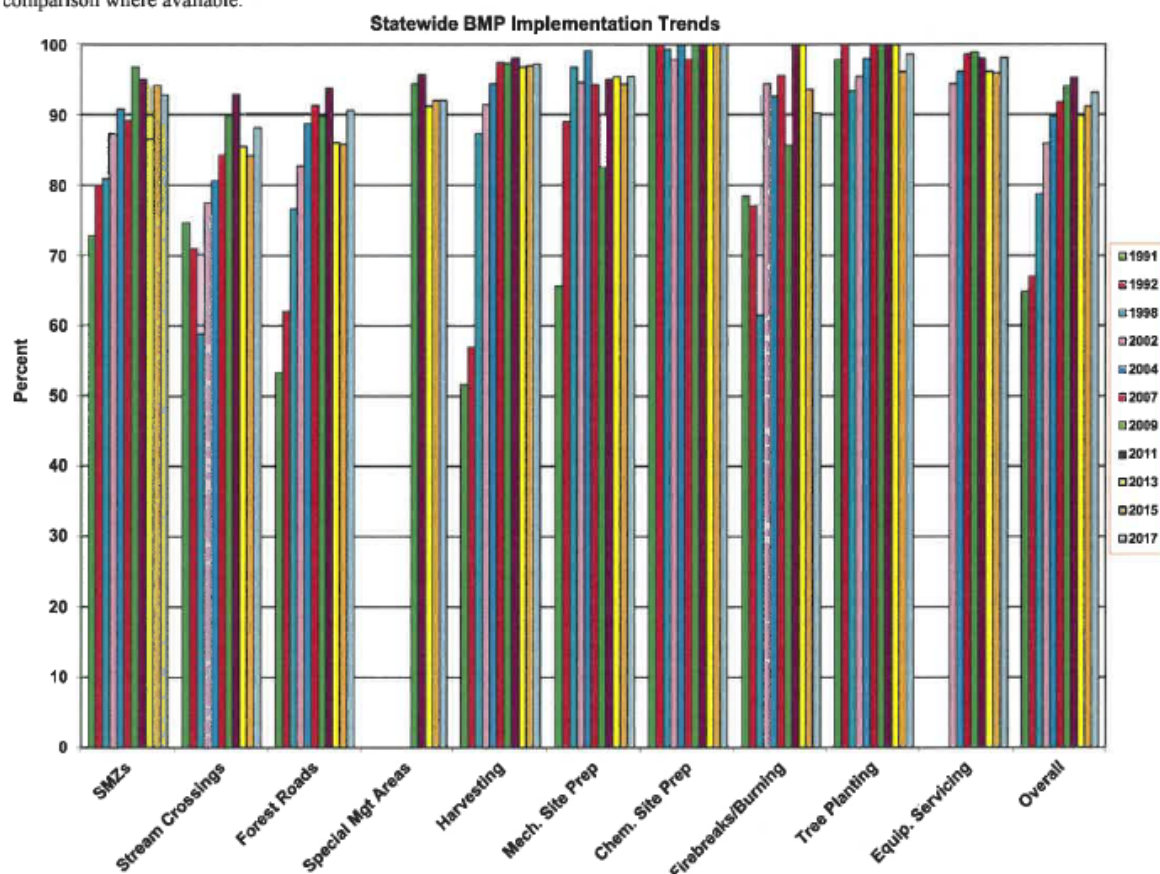
FFY2017 FORESTRY BMP IMPLEMENTATION HIGHLIGHTS



2017 Forestry Best Management Practices Implementation Survey Highlights

General Best Management Practices (BMP) Survey Results

The Georgia Forestry Commission (GFC) has completed its 2017 Forestry BMP Implementation Survey covering 232 randomly selected sites statewide. These 232 sites consist of 33,578 acres, which include 179.87 miles of forest roads, 63.73 streams miles, and 110 stream crossings. By ownership, 155 of the sites were on non-industrial private forest land (NIPF), 53 sites were corporate land, and 24 sites were public land. The survey also included an additional 35 state firebreak inspections. Overall, statewide BMP implementation for GFC's 2017 BMP Survey is 93.17%. The BMP implementation rate is the percentage of fully implemented BMPs compared to the total number of necessary/applicable BMPs at the tract level, the practice level, and the overall level. This represents an approximate 2.04 percentage point improvement from GFC's 2015 BMP Survey result of 91.13%. BMP implementation results were also calculated for each applicable category of practice for each tract. Categories of practice include Streamside Management Zones (SMZs), Stream Crossings, Forest Roads, Special Management Areas, Harvesting (outside SMZs), Mechanical Site Prep, Chemical Site Prep, Firebreaks/Burning, Tree Planting, and Equipment Servicing, as well as an Overall category. BMP implementation results for each category are shown in this chart along with the results from the last 10 BMP surveys for comparison where available.



BMP implementation for 2017, shown in blue on the right side of each category grouping in the chart, improved significantly for Forest Roads, by 4.83 percentage points since 2015, to a score of 90.63% in 2017. Stream Crossings also improved a fair amount from the 2015 survey, by 3.99 percentage points to a score of 88.19% in 2017. However, Stream Crossings were still the lowest scoring category for 2017. Very slight to modest improvements were also found in the categories of Special Management Areas, Harvesting, Mechanical Site Prep, Equipment Servicing, and Tree Planting. BMP Implementation remained high for Chemical Site Prep with a score of 100 percent. BMP implementation for 2017 declined marginally in the category of Firebreaks/Burning and to a lesser extent in the category of Streamside Management Zones (SMZs), but both categories maintained good scores above 90 percent. The categories of Stream Crossings, Forest Roads, Firebreaks/Burning, and to a lesser extent SMZs represent BMP educational opportunities going forward. Stream Crossings, Firebreaks/Burning, and Forest Roads represent the areas needing the most attention, due to their relatively lower scores.

Educational Opportunities

BMP implementation for Stream Crossings, Firebreaks/Burning, and Forest Roads are categories with the lowest scores, so our education plans will be focused on those categories. We will continue to push for additional improvements in all categories where possible, and for continued good compliance in those categories near or at the top. Primary educational opportunities include:

FFY2017 FORESTRY BMP IMPLEMENTATION HIGHLIGHTS

- Stream Crossings
 - ✓ Culvert crossing design and installation information.
 - ✓ Basic stream crossing design needs, including storm flow and aquatic migration requirements.
 - ✓ Stream crossing approach design and stabilization.
 - ✓ Temporary portable bridge use instead of culverts where suitable.
- Forest Roads
 - ✓ Stormwater control structure design and placement (proper water diversions).
 - ✓ Proper closeout needs following harvest activities.
- Firebreaks/Burning
 - ✓ Making more people aware of the importance of planning for and following BMPs for firebreak installation.
 - ✓ Continued information on proper construction and spacing of water diversions in firebreaks.
 - ✓ Minimizing soil disturbance when installing firebreaks, following contours, and using natural barriers.
 - ✓ Avoiding and/or proper tie-in with sensitive areas such as roads, special management areas, and streams/SMZs.
- Streamside Management Zones (SMZs)
 - ✓ Continued information on stormwater control structure design needs for roads in SMZs.
 - ✓ Continued information on SMZ width and residual forest cover requirements.
 - ✓ Continued information on stream classification for proper recognition of stream types.
 - ✓ Continued information on avoiding logging slash in stream channels and SMZs, and proper removal and rehab.
- Special Management Areas
 - ✓ Continued information on minimizing soil disturbance and avoiding interference with natural drainage.
 - ✓ Continued information on avoiding road/firebreak turn-outs tying directly into ephemeral areas.
 - ✓ Continued information on avoiding high-intensity burning in these areas.
- Harvesting
 - ✓ Continued information on basic timber harvesting BMPs, including log deck and skid trail stabilization.
- Mechanical Site Prep
 - ✓ Continued information on avoiding bedding that directs runoff into roads or road-ditches.
- Chemical Site Prep
 - ✓ Continued information on proper application, storage, and clean-up.
- Tree Planting
 - ✓ Continued information on planting on the contour for machine planting.
- Equipment Servicing
 - ✓ Continued information on proper clean-up of containers.

Where's the room for improvement, and why the somewhat lower numbers for stream crossings, firebreaks/burning, and roads?

Results from this survey point to definite improvements, yet continued issues with stream crossings, and to a lesser extent with roads, remain. Scores for these two categories, although improved, remain relatively lower at 88.19 percent and 90.63 percent, respectively. Also, some decline has been noted in the category of firebreaks/burning. All these issues are likely intensified by smaller tracts, parcelization, changes in ownerships, and access needs.

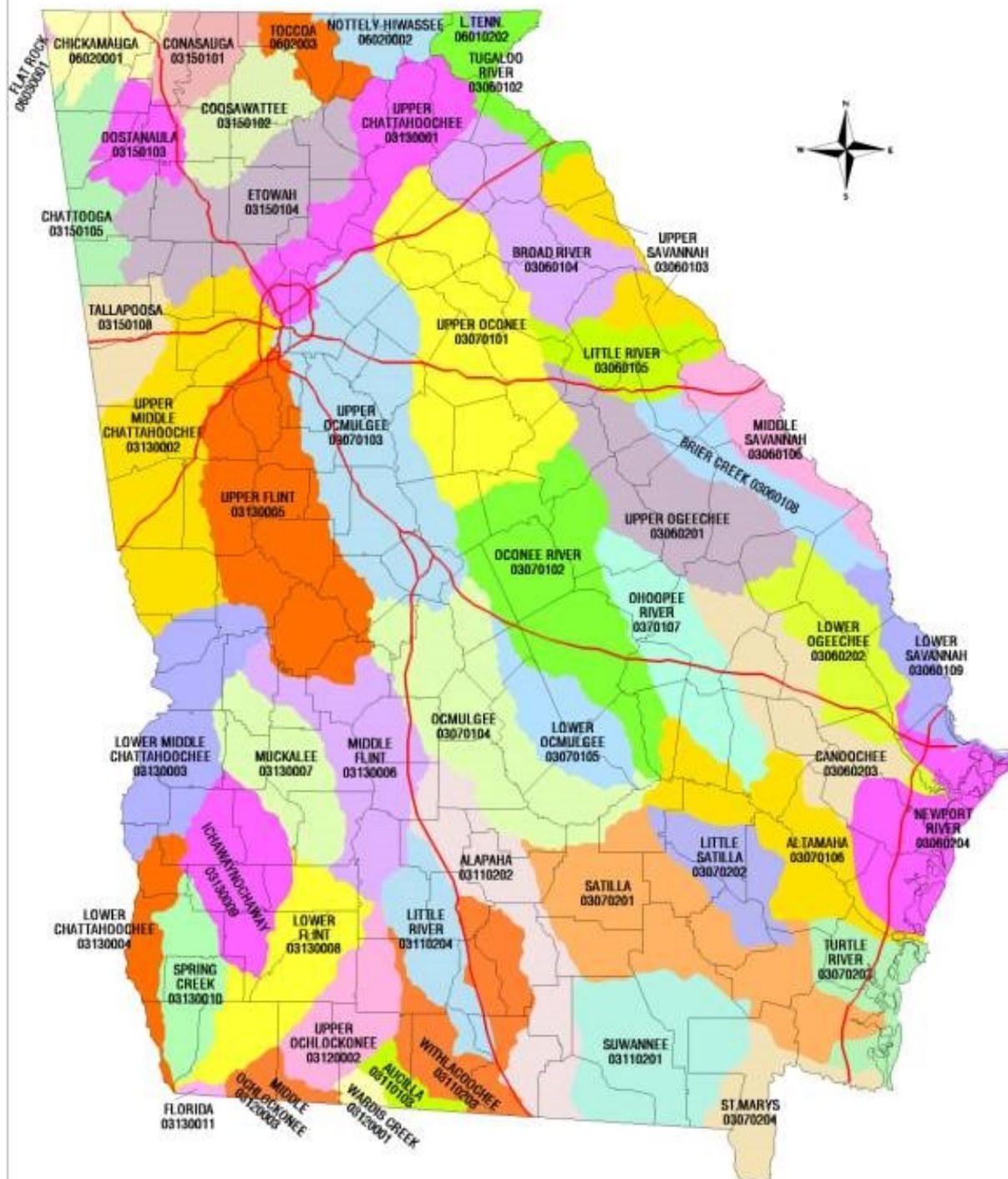
- The 2017 survey shows some of the same issues associated with continued parcelization of lands that we have seen in past surveys – especially former timber company lands or lands previously managed more closely. Such parcelization potentially results in:
 - ✓ Change of management levels and objectives, due to economics and smaller landowners often not having the resources and/or knowledge for proper land management including BMPs.
 - ✓ Tracts broken into smaller parcels with multiple landowners having a range of knowledge, personal resources, and objectives for ownership.
- Smaller properties result in more roads and stream crossings for access by multiple landowners who have more chances to make mistakes, especially when resources and/or knowledge about proper land management and BMPs may be in short supply

Past BMP survey results have indicated that as tract size decreases, so does the percentage of BMP implementation. While the 2017 survey does not show a definite trend in that regard, it does appear to show that as tract size goes down, the number of actual Water Quality Risks (WQRs) per acre tend to increase. While the number of WQRs and the rate of WQRs per acre for the 2017 survey were found to be low and concentrated on a relatively small number of sites, a trend was seen related to tract size. The 2017 survey shows the number of WQRs per acre for three tract size categories occurred as follows: 0.0025 WQRs/acre for tracts less than 100 acres; 0.0010 WQRs/acre for tracts 101-200 acres; and 0.0006 WQRs/acre for tracts 201 acres or more. Basically, tracts less than 100 acres (small tracts) had more than twice the rate of WQRs/acre of tracts 101-200 acres, and “small tracts” had more than four times the rate of WQRs/acre of tracts 201 acres or more.

What's the good news for the 2017 survey?

The good news includes a 2.04 percentage point improvement in overall BMP Implementation to 93.17%. This includes improvements of 4.83 and 3.99 percentage points in BMP Implementation for Roads and Stream Crossings to 90.63% and 88.19% respectively. The percentage of stream and road mileages in full compliance was found to be 96.12% and 95.96% respectively. Also, there was good improvement in the total number of WQRs going down to 51, a 19.05% reduction from 2015. The relatively few WQRs found were again concentrated on just a small number of sites, as has been the norm for most of the last decade. While there were some relatively small declines in BMP implementation in a couple of individual categories, those categories still continued to score above 90%. Finally, there were fair improvements in other more troublesome categories, and all individual categories except for stream crossings scored above 90% for BMP Implementation, with five of the 10 individual categories scoring above 95%. In conclusion, the overall trend continues to be positive as of 2017.

Georgia's 52 Watersheds



Map by the Geologic Survey Branch, Environmental Protection Division
 Provided to the Georgia Water Management Campaign
 Watershed boundaries from United States Geological Survey 8-digit Hydrologic Cataloging Units
 Watershed names from Water Protection Branch, Environmental Protection Division