

**STATE OF GEORGIA
REVISED TMDL
IMPLEMENTATION PLAN
WATERSHED APPROACH
Oconee River Basin**

Local Watershed Governments
Central Savannah River Area RDC
Washington County
City of Sandersville

The Code of Federal Regulations 40 CFR 130.33(b)(10) requires States to include an implementation plan as part of a TMDL development and submittal. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired waterbody segments and the corresponding pollutants.** The impaired waterbody segments are located in the same sub-basin identified by a HUC10 code (Figure 1).

This Implementation Plan addresses an action plan, education/outreach activities, stakeholders, pollutant sources, and potential funding sources affecting the sub-basin. In addition, the Plan describes (a) regulatory and voluntary practices/control actions (*management measures*) to reduce target pollutants, (b) milestone schedules to show the development of the management measures (*measurable milestones*), (c) a monitoring plan to determine the efficiency of the management measures and measurable milestones, and (d) criteria to determine whether substantial progress is being made towards reducing pollutants in impaired waterbodies. The overall goal of the Plan is to define a set of actions that will help achieve water quality standards in the state of Georgia. Following this section is information regarding individual segments.

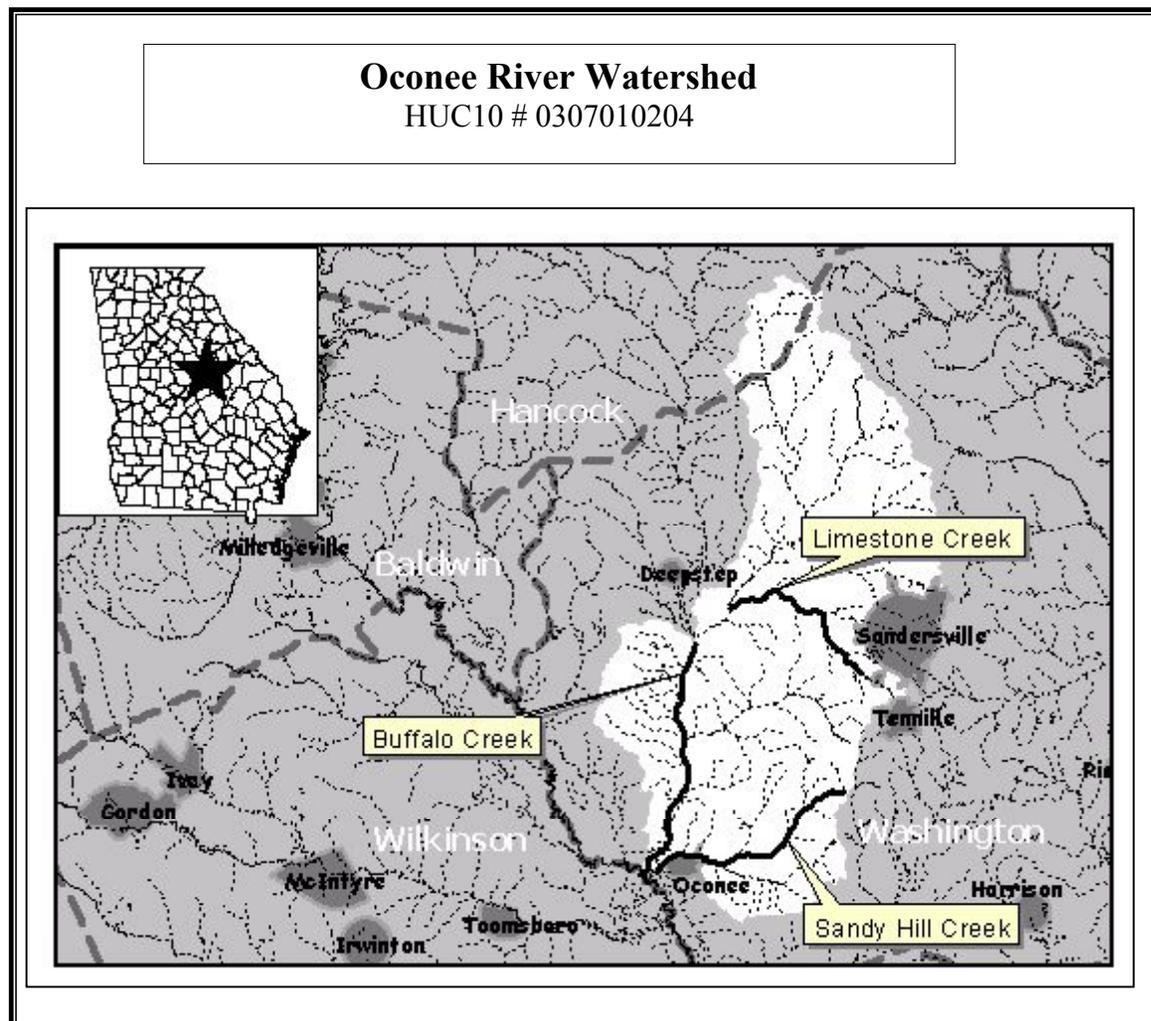


FIGURE 1

Impaired Waterbody*	Impaired Segment Location	Impairment
1. Buffalo Creek	Keg Creek to Oconee River	Zn, pH
2. Limestone Creek	Kaolin Road to Keg Creek	Bio (sediment)

*These Waterbody Numbers are referenced throughout the Implementation Plan.

POLLUTANT:	SOURCE:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input type="checkbox"/> Dissolved Oxygen (DO) <input type="checkbox"/> Fecal Coliform (FC) <input checked="" type="checkbox"/> Sediment <input checked="" type="checkbox"/> Metals <input type="checkbox"/> Fish Consumption Guidelines (FCG) <input checked="" type="checkbox"/> Other (Please List) pH	<input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Urban <input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Forestry <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Other (Please List) Silviculture	<input checked="" type="checkbox"/> Habitat <input type="checkbox"/> Recreation <input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> Aesthetics <input type="checkbox"/> Other (Please List)	<p>Help the county and cities meet this TMDL (by <u>reducing sedimentation</u> in the creeks and by <u>reducing the velocity</u> of stream flow during and after rain storms) by doing the following:</p> <ul style="list-style-type: none"> • Learn more about erosion and sedimentation • Cease mowing stream buffers • Teach students about erosion and sedimentation and the effects on water quality and land use quality • Start or help fund an Adopt-A-Stream in your neighborhood 	<p>Help the county and cities meet this TMDL (by <u>reducing sedimentation</u> in the creeks and by <u>reducing the velocity</u> of stream flow during and after rain storms) by doing the following:</p> <ul style="list-style-type: none"> • Learn more about erosion and sedimentation • Cease mowing stream buffers • Start or help fund an Adopt-A-Stream club at your business • Gov't can enforce ordinances already in place • Farmers can suggest to county reps to provide incentives for stream buffer protection • Farmers can reduce sedimentation at individual sites with gov't help • Silviculture industry can look for ways to reduce sedimentation • Georgia Mining Association – Education to miners and forum for exchange of ideas

INFORMATION/EDUCATION/OUTREACH ACTIVITIES

An education/outreach component will be used to enhance public understanding of and participation in implementing the TMDL Implementation Plan.
List of all previous and planned information/education/outreach activities.

Responsible Organization Or Entity	Description	Impacted Waterbodies*	Target Audience	Anticipated Dates (MM/YY)
CSRA RDC	Contracted with GA EPD to provide TMDL Implementation Planning	1,2	CSRA RDC region (east Georgia)	Continuous
Georgia Forestry Commission	Conduct forestry Best Management Practices education training at Master Timber Harvester and continuing logger education programs, civic programs, and landowner meetings.	1,2	Foresters, timber buyers and loggers, site preparation contractors, landowners	Continuous
UGA – Agriculture and Applied Economics	Recently received a Section 319 grant to establish a database of private landowners who would be willing to work with NRCS to protect streamside or riparian areas that are vulnerable	1,2	Private landowners	05/02-09/05
USDA Farm Service Center	Sandersville office of farming tech assistance	1,2	Agricultural Community	Continuous
USDA-NRCS	The NRCS provides money and assistance to private landowners who wish to help conserve soil and water	1,2	Private landowners	Continuous
Georgia Mining Association	Educates miners about laws and regulations that affect them. Provides for the education of miners and a forum for the healthy exchange of ideas.	2	Mining Activities	Continuous

STAKEHOLDERS

EPD encourages public involvement and the active participation of stakeholders in the process of improving water quality. Stakeholders can provide valuable information and data regarding their community and the impaired water bodies and can provide insight and/or implement management measures.

List of local governments, agricultural organizations or significant landholders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

Name/Organization	Address	City	State	Zip	Phone	E-Mail
Washington County Commission	PO Box 271	Sandersville	GA	31082	478-552-2325	
City of Sandersville	PO Box 71	Sandersville	GA	31082	478-552-3459	
Thiele Kaolin Company	PO Box 1056	Sandersville	GA	31082	478-552-3951	
Imerys	4062 Deepstep Road	Sandersville	GA	31082	478-553-5801	
International Paper	PO Box 1310	Thomson	GA	30824	706-595-6496	
Burgess Pigment	PO Box 349	Sandersville	GA	31082	478-552-2544	
Engelhard	PO Box 37	Gordon	GA	31031	478-628-7274	
J.M. Huber Corp	833 Huber Road	Macon	GA	31298	478-750-5410	
KT Clay Company	PO Box A	Sandersville	GA	31082	478-552-6995	
CSRA RDC	2123 Riverwatch Parkway, Suite A	Augusta	GA	30907	706-210-2000	
Progress Energy	1177 County Line Road	Sandersville	GA	31082	706-444-0988	
UGA	PO Box 310	Sandersville	GA	31082	478-552-2011	
NRCS		Tennille	GA		478-552-6073	

WATER BODIES/STREAMS COVERED IN THIS PLAN:

These impaired waterbody segments are located in the same sub-basin identified by a HUC10 code. Most of the information contained in this section comes from the 303(d) list and has been completed by employees of the EPD Water Protection Branch.

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Buffalo Creek	Keg Creek to Oconee River	10	Fishing	NS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Washington			Nonpoint	

Pollutants	Water Quality Standards	Required Reduction	TMDL ID	Date TMDL Established
Zinc	62 ug/l (acute)	0%		January 2002
	57 ug/l (chronic)	5%		
pH	6.0-8.5 Std. units			

Waterbody Name #2	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Limestone Creek	Kaolin Road to Keg Creek	8	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Washington				

Pollutants	Water Quality Standards	Required Reduction	TMDL ID	Date TMDL Established
Bio (sediment)	No degradation of fish community	58.7%		January 2002

POLLUTANT SOURCES

It is important to recognize the potential source(s) causing water quality impairment. Each source must be controlled to comply with target TMDL/Load Allocations for each pollutant. Included is a description of how the sources contribute to the impairment and the waterbody that is impaired.

List of major nonpoint source categories and sub-categories or individual sources (Urban Runoff, Agriculture, Forestry, Municipal Sewage Treatment Plant)

Pollutant	Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
Zinc	Unknown		1
PH	Unknown		1
Impacted Biota (sediment)	Silviculture	Possible introduction of sediment from normal practices and stream crossings when BMPs are not followed..	2
Impacted Biota (Sediment)	Unpaved or poorly maintained roads	Dirt roads on public and private roads contribute to much of the sedimentation pollution	2
Impacted Biota (Sediment)	Urban Development	Urbanization increases imperviousness, resulting in an increase in the volume of runoff entering the streams. In addition, the streamflow rates may increase significantly from pre-construction rates causing stream bank erosion and stream bottom down cutting.	2
Impacted Biota (Sediment)	Mining Sites	Removal of vegetation, displacement of soils and other significant land disturbing activities are typically associated with surface mining. These operations can result in accelerated erosion and sedimentation of surface waters.	2

MANAGEMENT MEASURES, MEASURABLE MILESTONES AND SCHEDULE

(i.e. Local codes and ordinances, Erosion and Sedimentation Control, Storm Water Management, Local water resource monitoring)

The following table lists management measures that have been or will be implemented to achieve water quality standards and the load reductions established in the TMDL. The management measures, including regulatory or voluntary actions or other controls by governments or individuals, specifically apply to the pollutant and the waterbody for which the TMDL was written. A description is provided of how these management measures are/will be accomplished through reliable and effective delivery mechanisms, and how these management measures are/will help achieve the target TMDL. Included is the source of the pollutant, anticipated/past effectiveness of the management measure (very effective, somewhat effective, not effective), the current status (i.e. enforced, in-progress, planning), and measurable milestones and schedule. Milestones are used to measure progress in attaining water quality standards and to determine whether management measures are being implemented.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Erosion and Sedimentation Control Ordinance	Washington County	Establishes stream protection measures for construction sites in county and cities.	2000	Currently enforces	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Land Disturbance Sites	2	

Measurable Milestones	Schedule		Comments
	Start	End	
Updates can be obtained by county enforcement officer			Because of the problems associated with soil erosion, Washington County and all of its cities enforce provisions of the GA Soil E&S Control Act as part of their permitting processes. Some of these controls include the following: minimizing cut-fill operations; retaining as much natural vegetation on the site as possible; installing temporary vegetation on exposed and vulnerable soil areas; trapping sediment run-off by use of silt traps, sediment basins, berms and minimizing the duration a disturbed area is exposed.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
GA Growth Planning Act (OCGA 12-2-8)	GA DNR, DCA and local governments	Authorized GA DNR to develop minimum planning standards and procedures that local jurisdictions could adopt and enforce pertaining to the protection of river corridors, ground water recharge areas and wetlands. Silvicultural activities may be exempted from permitting requirements provided the activity complies with BMPs.	2001	Washington County jurisdictions have adopted and are enforcing these ordinances	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
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Biota, habitat, sediment	Land Disturbance Activity	2	
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Measurable Milestones	Schedule		Comments
	Start	End	

Updates can be obtained by local government enforcement officers

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Surface Mining Act 1968	Georgia DNR-EPD-Land Protection Branch	Requires Mined Land Use Plan, reclamation strategies, and surety bond requirements. Mined Land Use Plan specifies activities prior to, during and following mining to dispose of refuse and control erosion and sedimentation. The reclamation strategy includes the use of operational BMPs and procedures	1968	In effect	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Surface Mining	2	

Measurable Milestones	Schedule		Comments
	Start	End	
Monitor for permit violations			

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Federal Clean Water Act Section 404	EPA (situations involving forestry and normally referred to the GFC to determine compliance with this regulation)	Requires permit for dredge and fill activities in the lakes, rivers, perennial and intermittent streams, wetlands, sloughs and natural ponds.	June 6, 1988	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Agriculture and silviculture	2	EPA identifies silviculture as the lowest contribution source of nonpoint source pollution

Measurable Milestones	Schedule		Comments
	Start	End	
GFC can report status on accomplishments or complaints investigated involving this act to the RDC as needed.		Continuous	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Water Quality Control Act	GA DNR EPD	Makes it unlawful to discharge excessive pollutants (sediments, nutrients, pesticides, animal waste, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats.	1964	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Silviculture	2	

Measurable Milestones	Schedule		Comments
	Start	End	
<p>GFC investigates and mediates silvicultural complaints on behalf of EPD. Unresolved complaints are turned over to EPD for enforcement. Status reports can be provided to the RDC as needed.</p>			

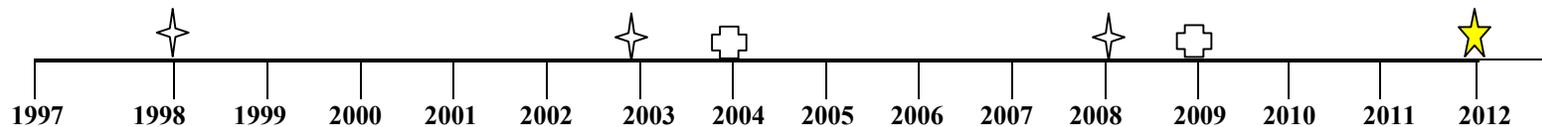
POTENTIAL FUNDING SOURCES:

The identification and discussion of dedicated funding is important in determining the economic feasibility of the above-mentioned management measures.

Funding Source	Responsible Authority	Status	Anticipated Funding Amount	Impacted Waterbodies*
Section 319 Nonpoint Source Pollution	US EPA, GA DNR	Potential		1,2
Mitigation Banking Credits	US ACE	Potential		2
State Revolving Loan Fund	GEFA	Potential		2
State Wetlands Grant Program	US EPA	Potential		2

PROJECTED ATTAINMENT DATE:

The projected date to attain and maintain water quality standards in this watershed is 10 years from acceptance of the TMDL Implementation Plan by EPD.



EPD Monitoring ☆
 Evaluate TMDL & Attainment Date ⊕
 Project Attainment ☆

MONITORING PLAN:

The purpose of this monitoring plan is to determine the effectiveness of the target TMDL and the management measures being implemented to meet water quality standards. List of previous, current or planned/proposed sampling activities or other surveys. (Monitoring data that placed stream on 303(d) list will be provided if requested.)

Name Of Regulation / Ordinance Or Management Measure	Organization	Impacted Waterbodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
Forest Water Quality Program	GFC	2	Biota	BMP Education			Current
	GFC	2		Complaint Investigation			Current
	GFC	2		BMP Monitoring monthly assurance exams			Proposed
EPA's TMDL Monitoring Program	US EPA	1,2	Sediment, Zinc, pH	Used to develop TMDL			Previous

CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE:

The following set of criteria will be used to determine whether any substantial progress is being made towards reducing pollutants in impaired waterbodies and attaining water quality standards. Discussion on each criteria is recorded in the space provided. Additional relevant criteria are presented in comments.

Percent of concentration or load change (monitoring program) _____

If monitoring results show that it is unlikely that the TMDL will be adequate to meet water quality standards, revision of the TMDL may be necessary.

- Categorical change in classification of the stream (delisting the stream is the goal) _____

- Regulatory controls or activities installed (ordinances, laws) _____

- Best management practices installed (agricultural, forestry, urban) _____

COMMENTS

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**Environmental Protection Division of the Department of Natural Resources,
State of Georgia.**

TOGETHER WE CAN MAKE A DIFFERENCE!