

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH
Savannah River Basin

Local Watershed Governments

Northeast Georgia RDC
 Madison County
 Oglethorpe County
 Unified Government of Athens-Clarke County
 Cities of Ila, Danielsville, Comer, Carlton, Hull, Arnoldsville,
 Crawford, Winterville

TMDL Implementation Plans are platforms for establishing a course of actions to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired streams and the corresponding pollutants.** The impaired streams 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.

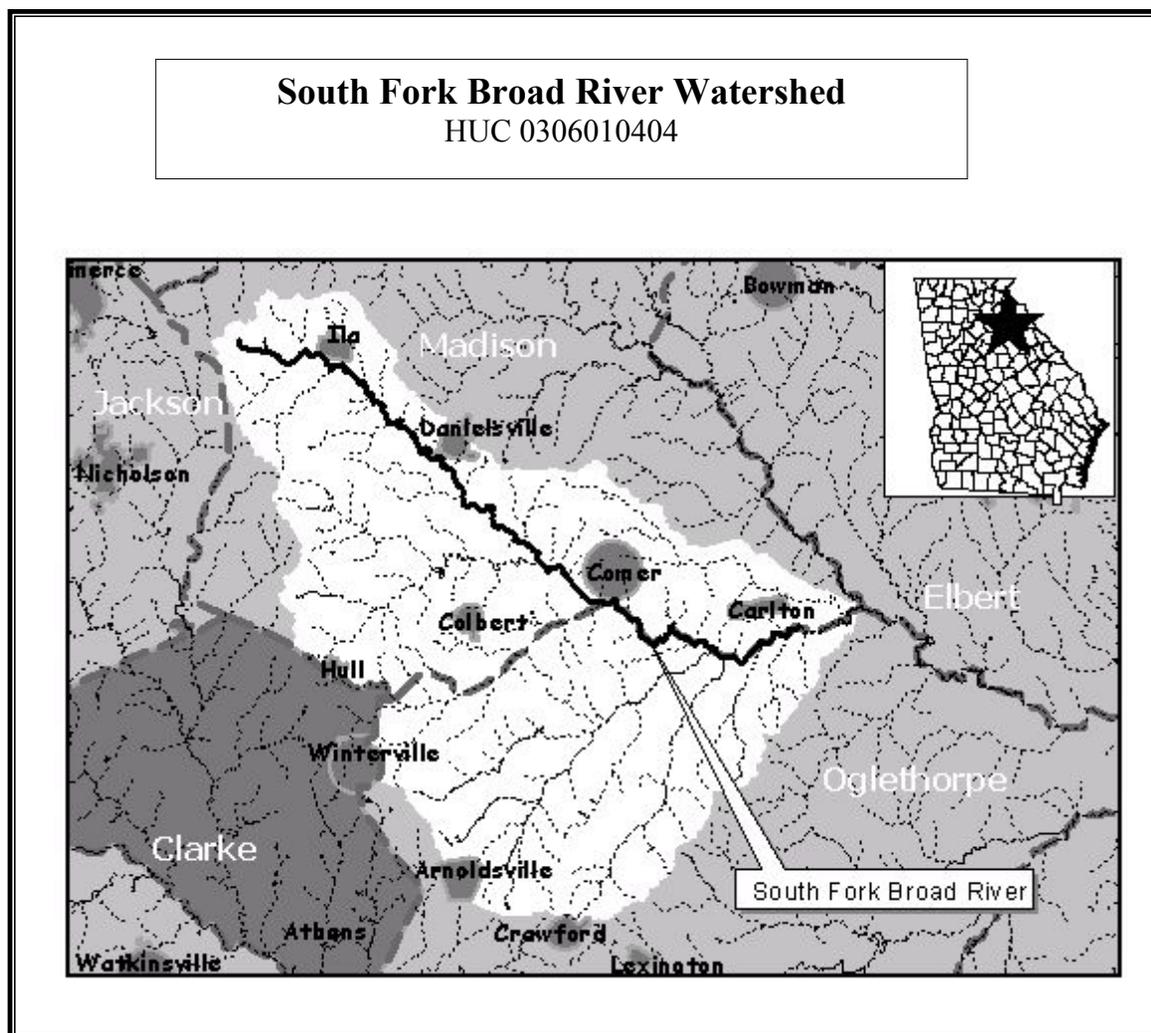


FIGURE 1

Impaired Waterbody*	Impaired Stream Location	Impairment
1. South Fork Broad River	Madison County and Oglethorpe County	Sediment (Biota impaired)

*These Waterbody Numbers are referenced throughout the Implementation Plan.

Action Plan for South Fork Broad River Watershed

POLLUTANT:	SOURCE:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input type="checkbox"/> Dissolved Oxygen (DO)	<input checked="" type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Habitat	<ol style="list-style-type: none"> 1. Limit the amount of impervious surfaces in your landscape. Use permeable paving wherever possible. Direct runoff from impervious surfaces across vegetated areas. 2. Allow thick vegetation or buffer strips to grow beside water ways to filter and slow runoff and absorb pollutants. 3. Plant trees, shrubs, and ground cover to absorb up to 14 times more water than a grass lawn. 	<ol style="list-style-type: none"> 1. Implement agricultural BMP's. 2. Leave natural vegetated buffers beside streams. 3. Implement recommended BMP's from Georgia Forestry Commission.
<input type="checkbox"/> Fecal Coliform (FC)	<input checked="" type="checkbox"/> Urban	<input type="checkbox"/> Recreation		
<input checked="" type="checkbox"/> Sediment	<input checked="" type="checkbox"/> Agriculture	<input type="checkbox"/> Drinking Water		
<input type="checkbox"/> Metals	<input checked="" type="checkbox"/> Forestry	<input type="checkbox"/> Aesthetics		
<input type="checkbox"/> Fish Consumption Guidelines (FCG)	<input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Other (Please List)		
<input type="checkbox"/> Other (Please List)	<input type="checkbox"/> Other (Please List)			

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)
Georgia Forestry Commission	Conduct forestry Best Management Practices educational training at Master Timber Harvester and continuing logger education programs, civic programs, and landowner meetings.	1	Foresters, timber buyers and loggers, site preparation contractors, landowners	Continuous
Natural Resource Conservation Service (NRCS)	Provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment	1	Private land owners	Continuous
Broad River Soil & Water Conservation District	Provides water stewardship materials for schools. Hosts Water Stewardship Week in Spring.	1	Private landowners	Continuous
Madison Co. Extension Office	Will begin a Watershed Stewardship program modeled on those in western states and on Georgia's Master Gardener program. Eight training sessions. Will consider incorporating monitoring techniques into curriculum.	1	Private landowners, businesses.	01/02 forward
Broad River Watershed Association	Begin a local monitoring program for stream health.	1	Local environmental group members	04/02 forward

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
Georgia Forestry Commission (GFC)	P.O. Box 819	Macon	GA	31202	478-751-3485	
Georgia Forestry Association	500 Pinnacle Court, Ste. 505	Norcross	GA	30071	770-416-7621	
Southeastern Wood Producers Association – Dudley Hartel	P.O. Box 9	Hilliard	FL	32046	904-845-7133	
Broad River Watershed Association – Dudley Hartel	1339 Madison St.	Comer	GA	30629	(706)783-3111	drhartel@negia.net
Steve Sorrells, City of Comer and Carlton	P.O. Box 65	Comer	GA	30629	706-783-4552	Stve1173@aol.com
Jay Baker – Madison County	P.O. Box 510	Danielsville	GA	30633-0510	(706)795-3892	jbaker@mail2.southernlink.net
Ken Whitehead – Oglethorpe County Commission (home)	2236 Comer Road	Comer	GA	30629	(706)783-5477	wkwhitehead@msn.com
Oglethorpe County Board of Commissioners	341 West Main Street	Lexington	GA	30648-0261	(706)743-5270	
Carl Varnadoe – Madison Co. Extension Service	P.O. Box 68	Danielsville	GA	30633	706-795-2281	carlv@uga.edu
Lee Moon – Watson’s Mill State Park	650 Watson Mill Bridge	Comer	GA	30629	706-783-5349	
Carol Voss – Natural Resources Conservation Service	1458 Ila Road	Commerce	GA	30530	706-335-7145	
City of Danielsville	P.O. Box 339	Danielsville	GA	30633-0339	706-795-2189	
City of Crawford	P.O. Box 383	Crawford	Ga	30630-0383	706-743-5260	
City of Arnoldsville	P.O. Box 2	Arnoldsville	GA	30619-0002	706-743-3322	
Brad Griffin -- Athens-Clarke County Planning Dept.	120 W. Dougherty St.	Athens	GA	30601	706-613-3515	acczone@co.clarke.ga.us
Frank Stancil – U.S.E.P.A.	960 College Station Road	Athens	GA	30605	706-355-8100	
Robin Mock, TrusJoist		Comer	GA	30629	706-788-3551	mockr@trusjoist.com

WATER BODIES/STREAMS COVERED IN THIS PLAN:

These impaired streams 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. Data that placed stream on 303(d) list will be provided upon request.

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
South Fork Broad River	Madison County & Oglethorpe County	314.1 mi.	Fishing	Not Listed in TMDL
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Madison	Oglethorpe		Nonpoint	
Pollutants	Water Quality Standards	Required Reduction	TMDL ID	Date TMDL Established
Sediment (Biota impacted)	7.6 million kg/year (low flow) 84 million kg/year (average annual loading capacity)	Not Listed in TMDL		May 2000

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*
Sediment	Forestry	Land disturbance related to forestry. Forestry is the largest land use in the Oglethorpe County portion of the drainage area.	1
Sediment	Agriculture: Pasture and poultry production	Poultry with associated moderate cattle production is the most common land use in Madison County drainage. Poultry houses provide much of impervious surface; runoff often not treated. Cattle in streams and lack of vegetated buffers contribute to sediment runoff and bank sloughing.	1
Sediment	Agriculture: Row crops	Very small contributor due to rapidly reducing amount of land in row crops.	1
Sediment	Urban	Primarily Comer, Colbert, and Danielsville (the largest and most urban in the drainage). None of the cities in the basin have storm water ordinances or SW controls incorporated into their development regulations.	1
Sediment	Industrial	The stakeholder group identified a potential source of sediment at an industry on a tributary to the South Fork. More investigation will be required.	1
Sediment	Civic: Road design, construction, and maintenance	Runoff containment and BMP's may not be incorporated into design of both local roads and state highways, leading to direct runoff into streams. Maintenance practices (particularly in "pulling ditches" may contribute to erosion. Unpaved road design and process of scraping may contribute to sediment runoff. DOT widening of SR 72 (past and ongoing) has contributed substantial sediment load.	

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
Soil Erosion & Sediment Control Ordinance	Georgia EPD	Has enforcement responsibility for Carlton, Danielsville, Hull, Arnoldsville, Hull	Continuing		Regulatory
Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness		
Sediment	Construction runoff	1	Variable		
Measurable Milestones		Schedule		Comments	
		Start	End		

SE&SC Plans are reviewed by Broad River S&W Conservation District. Status of enforcement is unknown. Continuing

Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Soil Erosion & Sediment Control Ordinance	Oglethorpe County, Madison County, Cities of Comer, Ila, Colbert	Plans reviewed by Broad River S&WCD. Implementation monitored by local governing bodies.	Continuous	Ongoing	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
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Measurable Milestones	Schedule		Comments
	Start	End	

EPD is given the task of monitoring effectiveness of implementation of ordinances. Continuing

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Nutrient Management Plans	County Extension, NRCS	Nutrient management plans include aspects of rotating stock to reduce over-grazing and erosion, managing high use areas, maintaining vegetative buffers, etc..	Continuing	Ongoing	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Runoff from impacted pasture.	1	The majority of farms in Madison County have NMP's in place.

Measurable Milestones	Schedule		Comments
	Start	End	

Extension programs in counties can report on implementation of NMP's. 2003 2007 Baseline numbers of participants in the drainage must be obtained. When and if the implementation plan is reviewed, NMP's will be compared with baseline.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Environmental Quality Incentives Program (EQIP)	United States Department of Agriculture (USDA)	The Environmental Quality Incentives Program (EQIP) was reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill) to provide a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible national goals. EQIP offers financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural land.		Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Agricultural runoff; bank sloughing due to cattle impact	1	Cattle having random access to streams is a known cause of erosion. Controlled access with alternative water sources reduces bank erosion.

Measurable Milestones	Schedule		Comments
	Start	End	
The number of farms participating in EQIP will be obtained as a baseline and compared with participation on plan review.	2003	2007	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Recreation Management	Watson's Mill State Park	Prevent horse trail users from entering streams by constraining them to trails and installing culverts on trails.	Ongoing	Ongoing	Regulatory and voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Bank sloughing due to entering and leaving stream beds	1	Very effective. Horseback riding impact is believed to be negligible.

Measurable Milestones	Schedule		Comments
	Start	End	
Park will continue with policy and with education.	Ongoing		

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
BMP's for Unpaved Roads design, construction, and maintenance.	Oglethorpe County, Madison County	Review stormwater management BMP's for unpaved roads with local road departments to improve sediment runoff conditions on local roads.	2003/2004	Planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Unpaved roads	1	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
Each county will review the BMP management guide with road staff.	2003	2004	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Madison County Storm Water Ordinance	Madison County	Storm water ordinance is under development and is expected to be implemented within 12 months.	2003	Being prepared	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Urban development	1	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
Adoption of ordinance; number of developments with BMP's implemented.	2003	2004	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Zoning Ordinance incorporating modern storm water BMP's	Oglethorpe County	Under development for several years, the ordinance is reportedly 87% complete.	2003	Draft	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Sediment	Urban development	1	Modern land development ordinances are effective in reducing urban sediment runoff into streams.

Measurable Milestones	Schedule		Comments
	Start	End	
Adoption of ordinance. Establishment of enforcement office/building inspection to enforce ordinance.	2003 ?	Unknown	

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(h) of the Clean Water Act	EPD/State of Georgia	Must Apply	N/A	
Environmental Quality Incentive Program	NRCS	Must Apply	N/A	
Conservation Reserve Program	NRCS (Farm Service Agency)	Must Apply	N/A	
Watershed Surveys and Planning	NRCS	Must Apply	N/A	
Conservation Technical Assistance	NRCS	Must Apply	N/A	
Conservation Buffer Initiative	NRCS	Must Apply	N/A	

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.

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	
EPA Sediment Transport Study	EPA Region IV Athens	1	Sediment	Research currently under way to evaluate sediment transport in South Fork and tributaries. Will provide baseline information and possibly geographic information about sources.	Current	Approx 2003	Previous, Current
River Basin Management Planning Cycle	Georgia DNR	1	Sediment, biota	Ongoing five-year monitoring sequence	2002, 2007	2003, 2008	Current and Proposed
Local Volunteer Monitoring Program	Broad River Watershed Association; Broad River Soil & Water Conservation District	1	Sediment, Biota	Train and mobilize local interested citizens in stream sediment and biota evaluation techniques to monitor stream health	2003	2007	Proposed

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) _____

The TMDL does not provide information on current loading, and therefore there can be no measure of reduction. _____

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) _____

Future RBMP monitoring should include biota sampling. Results of voluntary biota and stream habitat health can be measured over time. Substantial progress will be higher IBI index scores. _____

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

Madison County: adoption and implementation of storm water ordinance; report on effectiveness of SE&SC enforcement by S&W CD.

Oglethorpe County: adoption of zoning ordinance with storm water BMP's incorporated into ordinance; report on effectiveness of SE&SC enforcement by S&W CD. _____

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

Baseline detail on participation rates for agriculture and silviculture will be compared to participation when plan is reviewed. Substantial progress would be either 90% participation or improvement of 5% or more per year.

Periodic report by GFC on compliance with BMP's should show improvement of 5% per year or 90% plus compliance. _____

COMMENTS

South Fork Broad River Watershed
HUC 0306010404

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

TOGETHER WE CAN MAKE A DIFFERENCE!