TMDL IMPLEMENTATION PLAN

FLAT SHOALS CREEK

Submitted by Chattahoochee-Flint RDC

In furtherance of Georgia Environmental Protection Division contract #751-10102. The preparation of this document was financed in part through a grant from the U.S. Environmental Protection Agency under the Provisions of Section 604(b) of the Federal Water Pollution Control Act, as amended.

August 2, 2006

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
FLAT SHOALS CREEK, TROUP & MERIWETHER COUNTIES, GEORGIA

Background

Flat Shoals Creek, which flows through Troup, Harris and Meriwether Counties, Georgia, has a beneficial water use classification of fishing and is currently listed as an impaired water body. The target TMDL for Flat Shoals Creek is set at 200 cfu/100ml. Achieving this level will allow the water body to be removed from the 303(d) list.

The TMDL is the total amount of pollutant that can be assimilated by the receiving water body while achieving water quality standards. Section 303(d) of the Federal Clean Water Act and EPA's Water Quality Planning and Management Regulations (40 CFR Part 130) require states to develop total daily maximum load (TMDL) management plans for the water bodies that do not meet designated uses under technology-based controls for pollution. The TMDL process establishes the allowable loadings of pollutants or other quantifiable parameters for a water body based on the relationship between pollution sources and in-stream water quality conditions, so that states can establish water-quality based controls to reduce pollution from both point and nonpoint sources and restore and maintain the quality of their water resources (USEPA, 1991). For bacteria such as fecal coliform, loads are expressed in terms of cells per 100ml of water.

A general implementation plan outlining mitigating activities to be established in the Flat Shoals Creek Watershed is included in this document. The purpose of this plan is to reduce or eliminate the pollutants contained in the runoff into Flat Shoals Creek. The implementation plan will be carried out with full participation of all interested parties. The implementation plan is to be considered a living document. In the process of carrying out the plans additional water quality data will be generated and the results will be integrated into the plans. Load capacity will be adjusted, for example, if new data indicates that the targets used are not appropriate or if new standards are adopted.

Existing TMDL and Monitoring Data

The source of data used for the development of this plan was the TMDL document. The levels indicated in the TMDL document are based on a model run for 1987 and 1988 critical time periods using 'calibrated' fecal and flow parameters. The representative critical summer time period used was May through October 1987 and the representative critical winter time period was November 1987 through April 1988. This model resulted in a summer fecal coliform 30-day geometric mean of 297cfu/100ml. This is 97 cfu/100ml above the target level of 200 cfu/100ml.

More data is needed to identify sources of nonpoint pollution within the watershed. Local expertise and involvement from environmental agencies, federal agencies, schools and universities, and other sources will play a critical role in identifying and reducing the levels of fecal coliform in Flat Shoals Creek.

Land Use

Flat Shoals Creek watershed encompasses 214 square miles (137,219 acres) in the northern portion of Troup County, the northern part of Harris County, and the southwestern portion of Meriwether County, Georgia. Agricultural use accounts for 20% of land use within the watershed. The remaining 80% is distributed between forest (79%), barren land (.2%), and urban uses (.8%).

Potential nonpoint sources of fecal coliform are numerous and often occur in combination. The greatest rural nonpoint sources of fecal coliform are generally associated with animal operations, in which large quantities of fecal matter are generated.

Existing Regulatory or Voluntary Action

Troup County has three regulatory measures in place that affect water quality in Flat Shoals Creek. The Wetlands Protection Ordinance aims to protect water quality by regulating land use in wetlands. Flat Shoals Creek lies within a groundwater recharge area and is protected under a Groundwater Recharge Protection District, which also regulates land use. Troup County's Subdivision Regulations require site plans and mitigation for all erosion caused by construction activities.

In addition to Troup County land use controls, Flat Shoals Creek lies within Meriwether County's Flood Hazard District, which regulates land use in flood hazard areas.

Georgia is in the process of implementing a watershed approach to water resource management through River Basin Management Planning. River basin planning is the foundation for implementation of water protection strategies in Georgia. This approach provides the framework and schedule for actions to address the waters of Georgia 303 (d) list. The basin planning program is based on legislation in 1992 (O.C.G.A. 12-5-520) by the Georgia Assembly that calls for EPD to develop river basin management plans for each of the major river basins in Georgia. The Chattahoochee River Basin Management Plan was adopted in 1997.

The Natural Resource Conservation Service (NRCS), Georgia Soil and Water Conservation Commission (GSWCC), and Georgia Forestry Commission (GFC) are actively disseminating information on Best Management Practices (BMPs) within the Flat Shoals Creek Watershed. NRCS's focus is on BMPs targeted at erosion and sedimentation control and agricultural practices, GSWCC does consulting on all BMP applications for all land use types and GFC focuses on BMPs for forestry.

Recommended Regulatory or Voluntary Actions

Implementation of measures to address the TMDL involves the cooperation of all landowners and land users in the watershed. Broad awareness and involvement are essential to the success of the implementation plan. Through careful land use planning and the use of best management practices, the impacts of storm water runoff can be minimized. Storm water runoff can be improved through methods like erosion control and the establishment of green spaces, parklands and stream buffers.

Troup, Harris, and Meriwether Counties are in the process of amending their Zoning Ordinances to comply with more stringent state requirements. This includes amending the Soil Erosion and Storm Water Ordinances to implement state National Pollution Discharge Elimination System (NPDES) requirements and their Soil Erosion Ordinance to include recommendations of the Erosion and Sedimentation Control Technical Study Committee (DIRT II). The Implementation Plan also recommends that all three counties expand the Nutrient Management Program run through the County Cooperative Extension Services to include fecal coliform reduction.

Implementation Plan Schedule

The Implementation Plan for Flat Shoals Creek Watershed contains a work plan outlining the tasks to be accomplished during Phase I of the program (years 1 through 5).

A stakeholder group for Flat Shoals Creek Watershed has been identified. During the first year, this group will meet and determine how it will function to best achieve its goals. The stakeholders group must work together to identify additional remedial measures and sources of funding needed for their implementation. Management programs must be established and/or expanded as well as implemented during this first year. Educational programs focused at schools, interest groups and landowners will be developed and implemented during the first year. Monitoring and status reports of fecal coliform levels will be implemented during the first year. Work will also begin on detecting and eliminating any illicit discharges.

After the first year, work will continue throughout Phase I in the following areas: implementing and educational and outreach programs, detecting and eliminating illicit discharges, evaluation of additional management controls, monitoring and evaluating progress, and providing period progress reports. If the fecal coliform levels remain above the targeted level during the fifth year of the plan, the process to develop a more stringent Phase II plan should begin during the fourth year. The projected attainment date is ten years from the acceptance of this implementation plan by the EPD.

Monitoring Plan

Monitoring is a critical component in determining the success of the implementation plan. Monitoring helps assess compliance with regulations, major sources of loading and the effect of regulatory and voluntary measures implemented in the drainage basin. No two watersheds are alike. Therefore, in determining actual fecal coliform levels, it is essential to rely on monitoring of particular watersheds rather on computer modeling.

The EPD will monitor levels of fecal coliform in Flat Shoals Creek in 2005. Additionally, the Health Departments of all three counties will monitor yearly for septic system assessment.

Criteria to Determine Progress

Progress in meeting the goals of the Implementation Plan will be determined through analysis of water quality sampling results. Periodic monitoring will show the trends of fecal coliform levels throughout the five-year period. The number of regulatory controls or best management practices implemented in the Flat Shoals Creek Watershed will also serve as a measure of progress. The implementation plan will be considered successful if the TMDL level for Flat Shoals Creek meets the target TMDL level and the stream is removed from the 303 (d) list.

Conclusion

The development and implementation of an effective TMDL plan is critical to the environmental health of Troup, Meriwether, and Harris Counties. Removal of Flat Shoals Creek from the 303 (d) list and compliance with the Federal Clean Water Act is in the best possible environmental and economic interest of Troup, Meriwether and Harris Counties. Without the success of the TMDL Implementation Plan, the counties could face difficulty in areas such as the expansion or development of wastewater treatment facilities and the location of industries that may contribute to increased levels of fecal coliform.

Success will be achieved through the continued enforcement of existing regulatory measures as well as the implementation of new measures. In addition, new, existing, and expanded voluntary measures will play a key role in achieving the ultimate goal. If fecal coliform levels in Flat Shoals Creek have not reached acceptable levels at the completion of the first five-year period, a second phase of implementation will be developed.

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN FOR: Flat Shoals Creek (STREAM) Fecal coliform (PARAMETER) RIVER BASIN: Chattahoochee PLAN DATE: March 31,2001

Prepared by:	Or Prepared By:
Chattahoochee-Flint Regional Development Center Address: 13273 GA Hwy 34 E, P.O. Box 1600 City: Franklin State: GA Zip: 30217-1600 e-mail: lnicholas@cfrdc.org Date Submitted to EPD: 03-29-01	_____ Address: _____ City:_____State: _____ Zip: _____ e-mail: _____ Date Submitted to EPD:

General Information		Significant Stakeholders						
Obtain this information from the TMDL document or other information. When completed, this document will be a self-contained report independent of the TMDL document.		Identify local governments, agricultural organizations or significant land holders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body.						
TMDL ID (to be entered by EPD)		Name/Organization	Troup County					
Water body name	Flat Shoals Creek	Address	PO Box 1149					
HUC basin name	Flat Shoals Creek	City	LaGrange	State	GA	Zip	30241	
HUC number	0313000210	Phone	706-883-1610			e-mail		
Primary county	Meriwether	Name/Organization	Harris County					
Secondary county	Troup	Address	PO Box 365					
Primary RDC	Chattahoochee-Flint	City	Hamilton	State	GA	Zip	31811	
Secondary RDC	Lower Chattahoochee	Phone	706-628-4958			e-mail		
Water body location	Meriwether County	Name/Organization	Troup County Cattleman's Association					
	Troup County, Harris County	Address	207 N Lewis St					
Miles or area impacted	26	City	LaGrange	State	GA	Zip	30240	
Parameter addressed in plan	Fecal coliform bacteria	Phone	706-882-5561			e-mail		
Water use classification	Fishing	Name/Organization	Meriwether County					
Degree of impairment	Partially supporting use ☐	Address	PO Box 428					
	Not supporting use ✕	City	Greenville	State	GA	Zip	30222	
Date TMDL approved by EPA		Phone	706-672-1314			e-mail		
Impairment due to	Point sources ☐	Name/Organization	Troup County Health Department					
	Nonpoint sources ✕	Address	107 Medical					
	Both ☐	City	LaGrange	State	GA	Zip	30240	
Point source-Form A; Nonpoint source-Form B; Both-Form A+B+C		Phone	706-845-4085				e-mail	

Stakeholders continued on last page

SUMMARY OF ALLOCATION MODEL RESULTS FROM TMDL DOCUMENT (existing load, target TMDL, and needed reduction)

EXISTING LOAD	TARGET TMDL	NEEDED REDUCTION
297 cfu/100 ml	200 cfu/100 ml	97 cfu/100 ml

I. IDENTIFY NONPOINT SOURCE CATEGORIES AND SUBCATEGORIES OR INDIVIDUAL SOURCES WHICH MUST BE CONTROLLED TO IMPLEMENT LOAD ALLOCATIONS:

Major nonpoint sources contributing to impairment

SOURCE	DESCRIPTION OF CONTRIBUTION TO IMPAIRMENT	RECOMMENDED LOAD REDUCTION (FROM TMDL)
Agriculture or pasture land uses	100% contribution to the impairment. Important loads are associated with animal operations in which large quantities of fecal mater are generated or spread on fields. Loads may also be associated with the land application of municipal sludge.	40%

II. DESCRIBE ANY REGULATORY OR VOLUNTARY ACTIONS INCLUDING MANAGEMENT MEASURES OR OTHER CONTROLS BY GOVERNMENTS OR INDIVIDUALS THAT SPECIFICALLY APPLY TO THE POLLUTANT AND THE WATERBODY FOR WHICH THE TMDL WAS WRITTEN, THAT WILL BE ACCOMPLISHED THROUGH RELIABLE AND EFFECTIVE DELIVERY MECHANISMS, AND THAT WILL HELP ACHIEVE THE LOAD ALLOCATIONS IN THE TMDL:

A. Existing or required regulatory actions

RESPONSIBLE GOVERNMENT, ORGANIZATION OR ENTITY	NAME OF REGULATION/ORDINANCE	DESCRIPTION	ENACTED / PROJECTED DATE	STATUS
Meriwether County	Flood Hazard District	Regulates land use in flood hazard areas	05-00	Enforced
Troup County	Wetlands Protection District	Protects water quality. Restricts land use within wetlands	05-00	Enforced
Troup County	Groundwater Recharge Protection District	Regulates land use within district	05-00	Enforced
Troup County	Subdivision Regulations	Requires site plan and mitigation for erosion during construction	05-00	Enforced

B. Existing voluntary actions

RESPONSIBLE ORGANIZATION OR ENTITY	NAME OF ACTION	DESCRIPTION	ENACTED / PROJECTED DATE	STATUS
Georgia Forestry Commission	BMP's for forestry	Disseminating information to interested individuals and organizations		Ongoing
Natural Resource Conservation Service	BMP's for agriculture	Disseminating information to interested individuals and organizations		Ongoing
Natural Resource Conservation Service	BMP's for Erosion and Sediment Control	Disseminating information to interested individuals and organizations		Ongoing
Georgia Soil & Water Conservation Commission	Consulting on BMPs	Disseminating information to interested individuals and organizations		Ongoing

C. Additional recommended regulatory or other measures which should be implemented to reduce the loads of the TMDL parameter

ENTITY/ORGANIZATION RESPONSIBLE	NAME OF PROPOSED REGULATION/ORDINANCE/ OTHER	DESCRIPTION	ENACTED / PROJECTED DATE	STATUS
Meriwether County	Amendment to Flood Hazard District	Include language " Land use practices shall not impair the drinking quality of the water as defined in the Federal Clean Drinking Water Act".		Under study
Meriwether County	NPDES Permit	Amend soil erosion and storm water ordinances to implement state NPDES requirements	08-00	Under review
Troup County	NPDES Permit	Amend soil erosion and storm water ordinances to implement state NPDES requirements	08-00	Under review
Harris County	NPDES Permit	Amend soil erosion and storm water ordinances to implement state NPDES requirements	08-00	Under review
Meriwether County	Amend Soil Erosion Ordinance	Include recommendations of the Erosion and Sedimentation Control Technical Study Committee (DIRT II)	06-02	Under review
Troup County	Amend Soil Erosion Ordinance	Include recommendations of the Erosion and Sedimentation Control Technical Study Committee (DIRT II)	06-02	Under review
Harris County	Amend Soil Erosion Ordinance	Include recommendations of the Erosion and Sedimentation Control Technical Study Committee (DIRT II)	06-02	Under review
Troup County Cooperative Extension Service	Nutrient Management Plans	Expand the program to include fecal coliform reduction	09-02	Under study
Meriwether County Cooperative Extension Service	Nutrient Management Plans	Expand the program to include fecal coliform reduction	09-02	Under study
Harris County Cooperative Extension Service	Nutrient Management Plans	Expand the program to include fecal coliform reduction	09-02	Under study

III. SCHEDULE FOR IMPLEMENTING MANAGEMENT MEASURES OR OTHER CONTROL ACTIONS:

These must be implemented as expeditiously as practicable within five years of when the implementation plan is accepted by EPA.

IMPLEMENTATION ACTION*	**YEAR 1**	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
Form stakeholders group	**X**				
Organize implementation work with stakeholders and local officials to identify remedial measures and potential funding sources	**X**				
Identify sources of TMDL parameter	**X**				
Develop management programs to control runoff including identification and implementation of BMPs (Phase I): Agriculture	**X**				
Forestry					
Urban					
Mining					
Organize and implement education and outreach programs	**X**	**X**	**X**	**X**	**X**
Detect and eliminate illicit discharges	**X**	**X**	**X**	**X**	**X**
Evaluate additional management controls needed	**X**	**X**	**X**	**X**	**X**
Monitor and evaluate results	**X**	**X**	**X**	**X**	**X**
Reassess TMDL allocations		**X**	**X**	**X**	**X**
Provide periodic status reports on implementation of remedial activities	**X**	**X**	**X**	**X**	**X**
If needed, begin process for Phase II (next 5 years) and subsequent phases				**X**	**X**

* **This schedule may be revised after meeting with the regional Water Issues Committee and stakeholders**

IV. PROJECTED ATTAINMENT DATE AND BASIS FOR THAT PROJECTION:

The projected attainment date is 10 years from acceptance of the implementation plan by EPA.

V. MEASURABLE MILESTONES:

- Number of management controls and activities already implemented 8

- Number of management controls and activities proposed in five-year work program 10

- Number of management controls and activities actually implemented in five-year work period _____(to be completed after 5 years)

- Stream sampled to identify areas of concern See monitoring plan

VI. MONITORING PLAN:

Monitoring data that placed stream on 303(d) list will be provided if requested.

Previous or current sampling activities or other surveys to detect sources or to measure effectiveness of management measures or other controls.

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
Meriwether County Dept of Health	2000-2005	Fecal coliform	Septic System Assessment	Ongoing
Troup County Department of Health	2000-2005	Fecal coliform	Septic System Assessment	Ongoing
Harris County Department of Health	2000-2005	Fecal coliform	Septic System Assessment	Ongoing

Planned or proposed sampling activities or other surveys.

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
EPD	2001	Multiple	Basin planning	On-going

VII. CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE:

- % concentration or load change (monitoring program)

- 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

Additional Stakeholders:

Meriwether County Department of Health, 51 Gay Connector, Greeenville, GA 30222, 706-672-4974

Harris County Health Department, PO Box 265 Hamilton GA, 31811, 706628-5375