

# TMDL IMPLEMENTATION PLAN

## ***WHOOPING 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  
WHOOPIING CREEK, CARROLL COUNTY, GEORGIA**

**Background**

Whooping Creek in Carroll County, Georgia has a beneficial water use classification of fishing and is currently listed as an impaired water body. The target TMDL for Whooping Creek is set at 175 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 Whooping Creek Watershed is included in this document. The purpose of this plan is to reduce or eliminate the pollutants contained in the runoff into Whooping 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 290cfu/100ml. This is 115 cfu/100ml above the target level of 175 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 Whooping Creek.

**Land Use**

Whooping Creek Watershed encompasses 31.1 square miles (19,815 acres) in the southeastern portion of Carroll County, Georgia. Agricultural use accounts for 28% of land use, urban impervious for .4%, and urban pervious for 4%. The remaining 71.2% is distributed between forestry (71%), and barren land (.2%).

Potential nonpoint sources of fecal coliform are numerous and often occur in combination. 10% of the land is in agricultural land use. The greatest rural nonpoint sources of fecal coliform are generally associated with animal operations, in which large quantities of fecal matter are generated. Fecal coliform reach water bodies through direct runoff from animal lots or from the

application of animal waste on fields. Nonpoint sources from urban land use are surface storm flow, failing septic tanks, and leakage of sanitary sewer lines. Fecal coliform concentrations in urban storm water may be higher than concentrations in treatment plan effluent.

### **Existing Regulatory or Voluntary Action**

Carroll County's Flood Overlay District regulates land use in flood prone areas. In addition, Nutrient Management Plans, administered by the Cooperative Extension Service, are enforced to meet requirements of CAFO regulations.

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 Whooping Creek Watershed. NRC'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. In addition, Rolling Hills Resource Conservation and Development District (RC&D) runs the Poultry Litter/ Dead Bird Management Program, which offers cost sharing with poultry producers to mitigate fecal coliform contamination from runoff.

### **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.

Carroll County is in the process of 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 local governments within Carroll County adopt a Chattahoochee River Corridor Protection Overlay Zone that would extend protection measures to tributaries and to expand the Nutrient Management Program run through the County Cooperative Extension Service to include fecal coliform reduction. The plan also recommends that the county establish an Adopt-A-Stream program for Whooping Creek.

### **Implementation Plan Schedule**

The Implementation Plan for Whooping 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 Whooping 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 fourth year of the plan, the process to develop a more stringent Phase II plan should begin during the fifth 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 Whooping Creek in 2005. Additionally, the County Department of Environmental Health will monitor yearly for septic system assessment and the West Georgia Watershed Assessment will monitor on an annual basis for wastewater 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 Whooping Creek Watershed will also serve as a measure of progress. The implementation plan will be considered successful if the TMDL level for Whooping 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 Carroll County. Removal of Whooping Creek from the 303 (d) list and compliance with the Federal Clean Water Act is in the best possible environmental and economic interest of the County. Without the success the of TMDL Implementation Plan the county 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 Whooping 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: Whooping Creek  
(STREAM)

Fecal coliform  
(PARAMETER)

RIVER BASIN: Chattahoochee  
PLAN DATE: March 31,2001

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: Inicholas@cfrdc.org		Or Prepared By:  Address: _____ City: _____ State: _____ Zip: _____ e-mail: _____					
Date Submitted to EPD: 03-29-01		Date Submitted to EPD: _____					
General Information  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.		Significant Stakeholders  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	Carroll County				
Water body name	Whooping Creek	Address	PO Box 338				
HUC basin name	Whooping Creek	City	Carrollton	State	GA	Zip	30117
HUC number	031300020404	Phone	770-830-5800		e-mail		
Primary county	Carroll	Name/Organization	Rolling Hills RC&D				
Secondary county		Address	203 Legion Road				
Primary RDC	Chattahoochee-Flint	City	Dallas	State	GA	Zip	30132
Secondary RDC		Phone	770-505-4288		e-mail		
Water body location	Carroll County	Name/Organization	Cattleman's Assoc. (Carrollton Branch)				
		Address	900 Newnan Road				
Miles or area impacted	13	City	Carrollton	State	GA	Zip	30117
Parameter addressed in plan	Fecal coliform bacteria	Phone	770-836-6646		e-mail		
Water use classification	Fishing	Name/Organization	West GA Poultry Growers' Association				
Degree of impairment	Partially supporting use <input checked="" type="checkbox"/>	Address	900 Newnan Road				
	Not supporting use <input type="checkbox"/>	City	Carrollton	State	GA	Zip	30117
Date TMDL approved by EPA		Phone	770-836-6646		e-mail		
Impairment due to	Point sources <input type="checkbox"/>	Name/Organization	Carroll County Department of Environmental Health				
	Nonpoint sources <input checked="" type="checkbox"/>	Address	1004 Newnan Road				
	Both <input type="checkbox"/>	City	Carrollton	State	GA	Zip	30117
<b>Point source-Form A; Nonpoint source-Form B; Both-Form A+B+C</b>		Phone	770-836-6781		e-mail		

Stakeholders continued on last page

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

<b>EXISTING LOAD</b>	<b>TARGET TMDL</b>	<b>NEEDED REDUCTION</b>
290 cfu/100 ml	175 cfu/100 ml	115 cfu/100 ml

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

**List major nonpoint sources contributing to impairment including those identified in TMDL document**

<b>SOURCE</b>	<b>DESCRIPTION OF CONTRIBUTION TO IMPAIRMENT</b>	<b>RECOMMENDED LOAD REDUCTION (FROM TMDL)</b>
Agriculture or pasture land uses	Most significant 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.	92%

**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**

<b>RESPONSIBLE GOVERNMENT, ORGANIZATION OR ENTITY</b>	<b>NAME OF REGULATION/ORDINANCE</b>	<b>DESCRIPTION</b>	<b>ENACTED OR PROJECTED DATE</b>	<b>STATUS</b>
Cooperative Extension Service	National Management Plans	Meet requirements of CAFO regulations	05-01	Ongoing
Carroll County	Flood Hazard Overlay Zone	Regulates land use in flood zone		

**B. Existing voluntary actions**

<b>RESPONSIBLE ORGANIZATION OR ENTITY</b>	<b>NAME OF ACTION</b>	<b>DESCRIPTION</b>	<b>ENACTED OR PROJECTED DATE</b>	<b>STATUS</b>
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
Rolling Hills Resource Conservation and Development	Poultry Litter/ Dead Bird Management Program	Cost sharing with poultry producers to mitigate fecal coliform contamination from runoff	06-01	Grant pending
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 OR PROJECTED DATE	STATUS
Carroll County	Chattahoochee River Corridor Protection Overlay District	Regulates land use on tributaries	06-02	Under review
Carroll County	NDPES Permits	Amend soil erosion and storm water ordinances to implement state NPDES requirements	08-02	Under review
Carroll County Cooperative Extension Service	Nutrient Management Plans	Expand the program to include fecal coliform reduction	09-02	Under study
Carroll Extension Service	Adopt-a-Stream	Involving 4-H, Scouts, Cattle Growers on water quality monitoring	5-01	Training
Carroll County	Storm Water Ordinance	Implement Ordinance to address water quality	06-02	Under review

**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):	X				
Agriculture					
Forestry	X				
Urban	X				
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 \_\_\_\_\_ 7 \_\_\_\_\_
- Number of management controls and activities proposed in five-year work program \_\_\_\_\_ 5 \_\_\_\_\_
- 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
West GA. Watershed Assessment	2000-2003	Fecal coliform	Wastewater Assessment	Ongoing
Carroll County Dept of Environmental Health	2000-2005	Fecal coliform	Septic System Assessment	Ongoing

**Describe any planned or proposed sampling activities or other surveys**

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
EPD	2001	Multiple	Basin planning	Ongoing

**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**

---

---

---

---

---

---