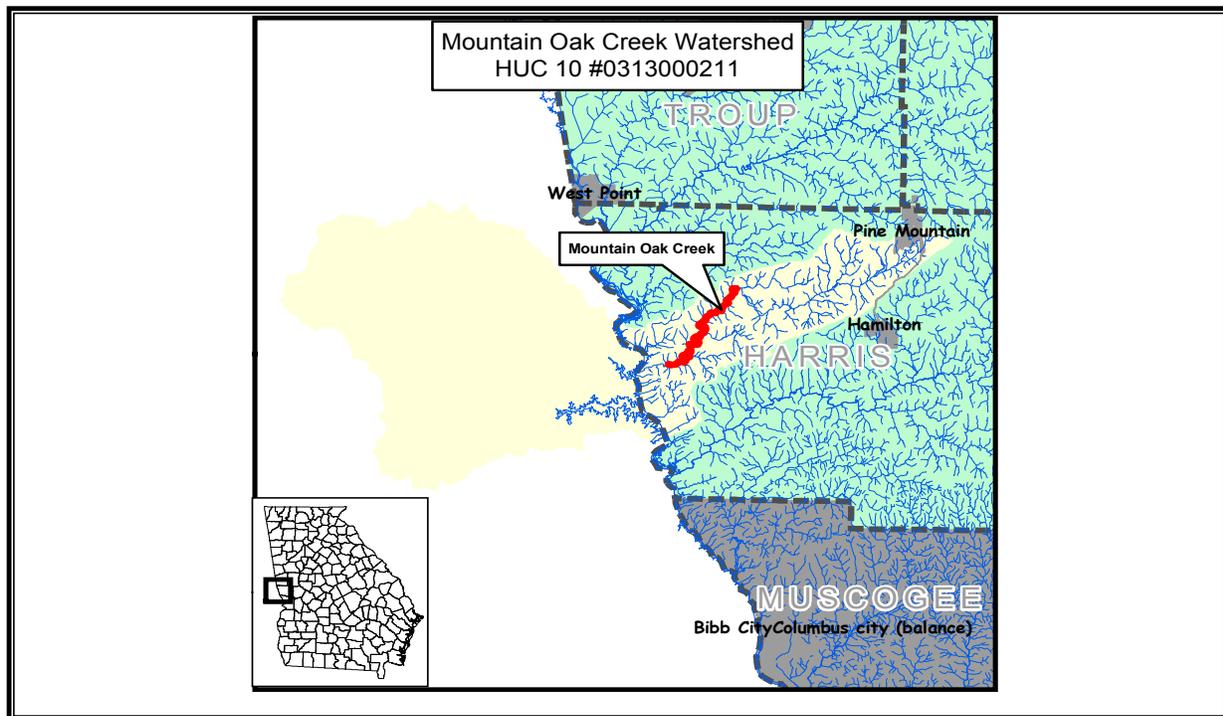


**STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN**

**MOUNTAIN OAK CREEK
(Fecal Coliform)**

Prepared by
The Georgia Department of Natural Resources
Environmental Protection Division
Atlanta, GA

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. 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. This plan was originally prepared as an implementation inventory by the Lower Chattahoochee RDC with a Section 604(b) Grant. TMDL load allocation information has been updated to reflect the approved TMDL.



Impaired Waterbody*	Impaired Stream Location	River Basin	Miles/Area Impacted	Partially Supporting/ Not Supporting
Mountain Oak Creek	Hamilton	Chattahoochee	5	Partially Supporting

Mountain Oak Creek TMDL Implementation Plan

Mountain Oak Creek is located in Harris County, Georgia. It discharges into the Chattahoochee River north of Lake Harding. The vast majority of the creek's approximate 22 mile length is located within county jurisdiction but a small portion in the northeasterly-most reaches is located in Roosevelt State Park. The creek's watershed is also located predominantly within Harris County jurisdiction with a portion under the jurisdiction of the Town of Pine Mountain and Roosevelt State Park. The watershed is comprised of approximately 44,525 acres of land. Mountain Oak Creek is classified as a "Fishing" use for water quality purposes and 1995 data shows the creek is only partially supporting its designated use.

General Land Use in the Watershed

Land uses in the watershed consist primarily of scattered large-lot residential uses served by septic systems, a few "hobby farm" uses, and undeveloped land. Callaway Gardens is located in the eastern portion of the watershed as is a small portion of Roosevelt State Park and a portion of the Town of Pine Mountain. Callaway Gardens operates a 30+ year old wastewater treatment plant that serves the Callaway Gardens Resort. The wastewater treatment plant discharges into Mountain Oak Creek. The Town of Pine Mountain also operates a wastewater treatment facility but it discharges into the Turkey Creek basin system. In addition, a relatively small amount of selective timber harvesting occurs in the watershed.

Callaway Gardens owns significant portions of the undeveloped land in the watershed. There are plans to develop approximately 5,000 acres of the watershed with residential and commercial/industrial uses. At this time, plans are to operate a private wastewater treatment facility to serve this development since Harris County does not operate a public system.

Monitoring

The data used to place Mountain Oak Creek on the 303(d) list was collected at a single point on the creek during 1995. The data was collected once a month for nine months from April through December. Fecal coliform exceeded allowable levels in six of those months (June through November). The levels of fecal coliform in June, July, and August were just above the limit for 200 FCU. The samples showed a level of 220 FCU in June and August and 230 FCU in July. The highest sample was 1300 FCU in October.

Potential Fecal Coliform Loading Sources

The following potential sources of fecal coliform pollution within the watershed have been identified:

- Wildlife - especially deer. The deer population in the watershed is very high. Sighting herds of 75-100 deer is not uncommon. New technology allows DNA identification of fecal coliform bacteria. If the State of Georgia were to pursue a pilot program of using DNA to pinpoint fecal coliform sources, Mountain Oak Creek would be a very promising choice because it is strongly suspected that a significant portion of the fecal coliform loading comes from deer.
- Runoff from "hobby farm" uses
- Runoff from suburban/urban land uses
- Wastewater treatment plant discharging effluent with high levels of fecal coliform
- Improperly functioning septic systems

Existing and Potential Regulatory and Voluntary Actions

As is indicated in the attached TMDL Implementation Plan template, there are currently 9 regulatory and voluntary measures in place in Harris County that are related to addressing water quality issues. Seven additional measures are recommended that could be implemented to further address water quality in Harris County.

Funding

Some of the measures recommended to address water quality issues cannot be undertaken without new funding sources. Harris County simply does not have funding available to undertake activities such as monitoring. In addition, funding mechanisms to assist landowners with the costs of implementing potential BMP measures must be made available. Costs for implementing BMPs can be substantial and many landowners are not able to bear the full burden of those costs. The State of Georgia and the Federal government must consider implementing funding for BMP programs for rural, suburban, and urban uses.

Disclaimer

This narrative and the attached documentation has not been adopted by local governing bodies. Lower Chattahoochee staff worked with an advisory committee to develop the material, but until such time that measures are adopted by the appropriate governing body, the Implementation Plan and supporting documentation should be considered advisory only.

STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN FOR: Mountain Oak Creek - Fecal Coliform RIVER BASIN: Chattahoochee

(STREAM) (PARAMETER) PLAN DATE: _____

Prepared by: <u>Perdita Holtz, AICP</u> <u>Lower Chattahoochee</u> Regional Development Center Address: <u>1428 2nd Avenue</u> City: <u>Columbus</u> State: <u>GA</u> Zip: <u>31902</u> email: <u>plannerlcrdc@mindspring.com</u> Date Submitted to EPD: <u>9/25/01</u>	Or Prepared By: _____ Address: _____ City: _____ State: _____ Zip: _____ e-mail: _____ Date Submitted to EPD: _____
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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.
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TMDL ID (to be entered by EPD)	CHT0000036	Name/Organization	Please see attached sheets			
Water body name	Mountain Oak Creek	Address				
HUC basin name	Chattahoochee	City		State		Zip
HUC number	03130002	Phone				e-mail
Primary county	Harris	Name/Organization				
Secondary county	NA	Address				
Primary RDC	Lower Chattahoochee	City		State		Zip
Secondary RDC	NA	Phone				e-mail
Water body location	North-central portion of	Name/Organization				
	Harris County	Address				
Miles or area impacted	5 miles	City		State		Zip
Parameter addressed in plan	Fecal coliform	Phone				e-mail
Water use classification	Fishing	Name/Organization				
Degree of impairment	Partially supporting use <input checked="" type="checkbox"/>	Address				
	Not supporting use <input type="checkbox"/>	City		State		Zip
Date TMDL approved by EPD	February 2003	Phone				e-mail
Impairment due to	Point sources <input type="checkbox"/>	Name/Organization				
	Nonpoint sources <input type="checkbox"/>	Address				
	Both - (potentially) <input checked="" type="checkbox"/>	City		State		Zip
Point source-Form A; Nonpoint source-Form B; Both-Form A+B+C		Phone				e-mail

If more, add to comments on last page.

FORM B

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

EXISTING LOAD	TARGET TMDL	NEEDED REDUCTION
1.76E+12 (counts/30days)	1.68E+12 (counts/30days)	5%

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.

SOURCE	DESCRIPTION OF CONTRIBUTION TO IMPAIRMENT	RECOMMENDED LOAD REDUCTION (FROM TMDL)
Agricultural Uses	Animal waste/runoff from the few "hobby farms" that are located in the watershed	Not specific to this source
Urban runoff	Pollutants from the more developed areas are washed into the stream	Not specific to this source
Wildlife	Wildlife accessing water bodies within the watershed	This should be considered natural "background" levels.
Septic Systems	Improperly functioning septic systems from the scattered residential uses in the watershed.	Not specific to this source
Wastewater Treatment Plant	Effluent from the wastewater treatment plant operated by Callaway Garden could contain high levels of fecal coliform.	Not specific to this source

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:

Existing or required regulatory actions

RESPONSIBLE GOVERNMENT, ORGANIZATION OR ENTITY	NAME OF REGULATION/ORDINANCE	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Georgia DNR EPD	Chattahoochee River Basin Management Plan	Plan to protect, enhance, and restore the waters of the Chattahoochee River Basin by monitoring, regulating, allocating, and managing land uses in the river basin	1997	Ongoing
Harris County	Soil Erosion and Sedimentation Control Ordinance	Protects water quality through sedimentation and erosion control by establishing BMPs and regulating land-disturbing activities.	Updated 6/2001	Active
Harris County	Wetland Protection Ordinance	Establishes boundaries around wetlands within the county and limits types and density of development to protect water quality and habitats in these areas.	1998	Active
Town of Pine Mountain	Wetland Protection Ordinance	Establishes boundaries around wetlands within the town and limits types and density of development to protect water quality and habitats in these areas.	1998	Active
Harris County	Groundwater Recharge Ordinance	Establishes requirements to manage land use within significant groundwater recharge areas.	1998	Active
Town of Pine Mountain	Groundwater Recharge Ordinance	Establishes requirements to manage land use within significant groundwater recharge areas.	1998	Active
Harris County	River Corridor Protection Ordinance	Establishes measures to guide and control growth in areas along the Chattahoochee River to protect the water quality and the river corridors' plant and wildlife habitats.	1998	Active

Callaway Gardens Wastewater Treatment Plant	Monitoring	Treatment Plant must monitor on a regular basis and report the results of monitoring	??	Active
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Existing voluntary actions

RESPONSIBLE ORGANIZATION OR ENTITY	NAME OF ACTION	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Georgia Forestry Commission and forestry companies	Forestry Water Quality Program (BMPs)	Collection of Best Management Practices related to forestry operations. Included are education and compliance mechanisms.	1981 - updated in 1999	In place

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 (mm/yy)	STATUS
??	Additional monitoring	Perform additional monitoring at several points along Mountain Oak Creek to determine if the creek is eligible for delisting and to determine problem areas.	Should be done immediately	Funding for monitoring must be found
Harris County and municipalities within the county	Stormwater Ordinance	The County and the municipalities within the county should consider adopting Stormwater Ordinances.	Unknown	Has not been discussed with governing bodies
Harris County	Adopt-A-Stream program	A Georgia DNR, EPD, program designed to raise public awareness about water quality	TBA	TBA
Harris County and municipalities within the county	Stream Buffer Ordinances	The County and the municipalities within the county should consider adopting Stream Buffer Ordinances that encourage the use of BMPs.	Unknown	Has not been discussed with governing bodies

Health Department	Septic Systems	Implement a program to identify improperly functioning septic systems and fix them.	Dependent upon additional funding	Sources of funding must be found
Harris County	Monitoring Program	Implement a monitoring program to sample and test water quality of creeks within the county.	Dependent upon additional funding	Sources of funding must be found
Partnership of various agencies	Public Education	Implement a public education program to educate people about water quality issues and what they can do to help with the problem.	Dependent upon additional funding	Sources of funding must be found

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 EPD.

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	X			
Develop management programs to control runoff including identification and implementation of BMPs (Phase I):					
Agriculture	X	X			
Forestry	X	X			
Urban	X	X			
Mining	X	X			
Organize and implement education and outreach programs		X	X		
Detect and eliminate illicit discharges		X	X		
Evaluate additional management controls needed			X	X	X
Monitor and evaluate results			X	X	X
Reassess TMDL allocations				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

IV. PROJECTED ATTAINMENT DATE AND BASIS FOR THAT PROJECTION:

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

V. MEASURABLE MILESTONES:

- Number of management controls and activities already implemented ___9___
- Number of management controls and activities proposed in five-year work program ___7___
- 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
- Other _____ _____
- Other _____ _____

VI. MONITORING PLAN:

Describe 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
EPD Watershed Planning and Monitoring Program	1995	Several elements/ pollutants	Monitor water quality in the State of Georgia	EPD samples various areas of the State on a cyclical basis
??? - Funding must be identified	As soon as possible	Fecal Coliform	Determine if fecal coliform levels still warrant listing the creek on the 303(d) list	Funding for monitoring must be identified
??? - Funding must be identified	If additional monitoring determines fecal coliform levels exceed limits	Fecal Coliform	Monitor the creek at several point to better determine source(s) of contamination. Implement necessary measures to decrease fecal coliform load.	Needs to be done only if stream is not delisted. Funding must be identified.

Describe any planned or proposed sampling activities or other surveys. (Scheduled EPD sampling can be found in the Basin Planning document.)

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
EPD	2004 or 2005	All elements/ pollutants normally tested	basin planning - individual water bodies have not yet been chosen	Scheduled

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

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Mountain Oak Creek TMDL Implementation Plan
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