Total Maximum Daily Load Implementation Plan
Whitewater Creek – Macon County
(HUC 031300051507)
Flint River Basin

Prepared by
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228 West Lamar Street, Americus, Georgia
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Whitewater Creek TMDL Implementation Plan
Macon County Georgia - Flint River Basin
HUC # 031300051507

Background

The State of Georgia assesses its water bodies for compliance with water quality standards criteria as required by the Federal Clean Water Act (CWA). Assessed water bodies are placed into one of three categories; supporting, partially supporting or not supporting their designated uses depending on water quality assessment results. These water bodies are placed on Georgia's 305(b) list as required by that section of the CWA that addresses the assessment process, and are published every two years in *Water Quality in Georgia*.

Some of the 305(b) partially supporting and not supporting water bodies are also assigned to Georgia's 303(d) list, also named after the corresponding section of the CWA. Water bodies on the 303(d) list are required to have a Total Maximum Daily Load (TMDL) evaluation if water samples are found to exceed water quality standards for any of numerous contaminants. Whitewater Creek in Macon County was one of many in the Flint River basin found to be in violation of water quality standards for fecal coliform bacteria. Based on analysis of water quality samples collected, the TMDL calls for a 1% reduction in the fecal coliform bacteria count, from 3.78E+13 to 3.75E+ 13.

The TMDL process establishes the allowable loading of pollutants or other quantifiable parameters for a water body based on the relationship between pollution sources and in-stream water quality conditions. This allows water quality-based controls to be developed to reduce pollution and restore and maintain water quality.

Water samples were collected by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources between February and December, inclusive, 2000, at trend monitoring station #11058501 located on the northern city limit of the City of Ideal, at Marvis Chapman Road, formerly state route 195. The 303(d) listing (impaired segment) consists of the 13 mile segment of Whitewater Creek from Cedar Creek to the Flint River.

Environmental Parameter

Fecal coliform bacteria are indicators of a potential public health risk, and not an actual cause of disease. They have been traditionally used by public health authorities to indicate health risk from a wide range of living organisms too small to see with the naked eye (microbes), and to set water quality standards for drinking water, shellfish consumption and water contact recreation.

Fecal coliform bacteria suggest the co-presence of bacterial pathogens (disease-causing microbes) which can cause dysentery, gastrointestinal illness, cholera, typhoid fever and Astaph@ infections. The actual risk of contracting a disease from a pathogen depends on

a host of factors, such as the method of exposure or transmission, pathogen concentration, incubation period and the age and health status of the infected party.

Fecal coliform are an imperfect indicator of water safety, and regulators continually debate whether other bacterial species are better indicators of potential health problems. The debate remains largely academic; however, as over 90% of states still rely on fecal coliform, in whole or in part, as their recreational water quality standard.[1]

The water safety standard used by the State of Georgia for fecal coliform bacteria is based on a 30-day geometric mean (at least four samples collected during a thirty day period at intervals of not less than twenty-four hours) of 200 cfu/100 ml[2] for water samples collected during the six month period May through October, inclusive, and a 30-day geometric mean of 1,000 cfu/100 ml (with a maximum of 4,000 cfu/100 ml) for water samples collected during the months of November through April, inclusive. The geometric mean is a statistical method used to adjust for great variability in sample values; quite characteristic of fecal coliform bacteria.

Whitewater Creek Water Quality Sampling Data
HUC 031300051507

Sample Date 2000	Observed Fecal Coliform (counts/100 ml)	Geometric Mean (counts/100 ml)
February 23	20	
March 1	50	
March 7	140	
March 14	110	63
May 16	330	
May 24	130	
May 31	80	
June 13	80	129
July 26	490	
August 2	170	
August 9	220	
August 16	90	202
November 14	50	
November 16	130	
November 28	20	
December 6	50	50

Source: Total Daily Maximum Daily Load Evaluation for Twenty-Eight Stream Segments in the Flint River Basin for Fecal Coliform, GA. DNR-EPD, January 2002

Data show only one of the four geometric means exceeding standards; by the slimmest of margins-two points over the 200 cfu/ 100 ml threshold. Consequently, Whitewater was classified as not supporting the creek's designated use of fishing.

It is well documented that fecal coliform bacteria counts typically increase immediately after rain events, in part because the fecal coliform bacteria present across the landscape are washed into surface waters. Static-state conditions (conditions not influenced by

[1] Watershed Protection Techniques, vol..3, no.1, April, 1999
[2] coliform units/100 milliliters

rainfall) are preferred for collecting water samples used in water quality analysis. Rain events may have influenced the highest sample count recorded (490 cfu on July 26). This count was included in the geometric mean which exceeded the state water quality standard for fecal coliform bacteria. According to the Record of River and Climatological Observations made at the three nearest recording stations,[3] rainfall was recorded in the area as recently as two days preceding the highest count: on the 23rd .82 inches in Plains, .64 inches in Perry, and 1.46 inches in Pine Mountain; and on the 24th .23 inches in Perry and .76 inches in Pine Mountain.

Watershed Description

The single collection point used for this impaired segment is located in the primary hydrologic unit (Hydrologic Unit Code) 031300051507, a watershed of approximately 21,000 acres. That portion of this watershed (approximately half) upstream of this collection site is included in the adjoining segment of the Whitewater Creek impairment whose primary watershed (HUC 031300051503) is located in Taylor County. The lower portion of HUC -07 (approximately 10,500 acres) is the focus of this implementation plan.

It is important to note that at this collection point waters of Cedar Creek flow into Whitewater. The road identifying the location of the trend monitoring station (11058501) used in previous testing is ±200 feet downstream of the confluence of these two waterways. If the 2000 samples were taken at the roadway, it included waters from Cedar Creek.

Land Use

The predominant land use in the applicable portion of the watershed is forestry, accounting for ±50% of the land area. The heaviest forest cover is along the creek. Other land uses include conventional row-crop agriculture and hay production. The county owns and maintains a ±475 acre recreation park (with 125 acre lake) near the downstream extremity of the creek.

This area has not experienced development in the past decade. Total estimated population is ±700. Housing units (single-family with septic systems) total approximately 100 in the unincorporated area (for a rural average of one hundred acres per residence) with no concentrations and no residential development along the water's edge. The majority of the City of Ideal is located within the watershed, adding approximately 185 housing units to the total. These dwellings are connected to the municipal sanitary sewer system.

[3] Southwest Georgia Agricultural Experiment Station near Plains, Fort Valley State University in Fort Valley, and Callaway Gardens at Pine Mountain

Source Assessment

Pollution originates from two broad sources; point sources and nonpoint sources. A point source is defined as a discernable, confined, and discrete point or site from which pollutants are discharged into surface waters. Examples of point sources are municipal and industrial wastewater treatment plants. These sources have been addressed through the federal Clean Water Act=s National Pollutant Discharge Elimination System (NPDES) permit program and are not the subject of this implementation plan. Wastewater treated by the City of Ideal subsequently flows down Whitewater Creek.
The second broad category of pollution is nonpoint sources. These are diffuse and generally involve accumulation of fecal coliform bacteria on land surfaces that wash off as a result of rain events. In general, nonpoint sources cannot be identified as discharging wastewater into a water body at a single location. Typical nonpoint sources of fecal coliform bacteria include:

Wildlife	Agricultural Livestock	Urban Development
	Animal grazing/confinement	Leaking septic systems
	Animal access to streams	Land application systems
	Use of manure on crop/pasture	Landfills
		Storm sewers

Wildlife

The importance of wildlife as a source of fecal coliform bacteria in streams varies considerably, depending on the animal species present in the watershed. Animals that spend a large portion of their time in or around aquatic habitats are considered to be the most significant wildlife contributors of fecal coliform bacteria.

A feral hog population of unknown size has been reported in the watershed. Feral hogs are adaptable to almost any habitat, but prefer wooded areas close to water. Lacking sweat glands they regulate body temperature by lying in water or mud and cannot survive in hot climates without a plentiful supply of water. Areas elsewhere with significant feral hog populations have recorded high concentrations of fecal coliform bacteria. Their ability to thrive on a very diverse diet gives them a distinct survival advantage over other species. Because they are so prolific, adaptable, tenacious, and have no natural predators, it is difficult to control their population.

Local residents commented there are significant numbers of hunting camps in the county, most of which are patronized by deer hunters. Residents commented about having seen deer carcass in local creeks.

According to 2000 deer census data of the Wildlife Resources Division of the Georgia Department of Natural Resources, there are approximately 35 deer in Macon County per square mile. On the basis of this information it is assumed there are approximately 600 deer in the study area, equivalent to approximately one for every eighteen acres of land area.

Although deer are generally considered to be one of the less significant contributors of fecal coliform bacteria, the feces they deposit on the land surface can result in the introduction of fecal coliform to streams during runoff (rain) events. It should be noted that between rain events considerable decomposition of the fecal matter should occur, resulting in a decrease in the associated fecal coliform numbers. This also holds true for other terrestrial mammals such as squirrel, rabbit and terrestrial birds.

There are not believed to be sufficient numbers of other wildlife species present in the area to contribute significantly to elevated counts of fecal coliform bacteria.

Agricultural Livestock

Agricultural livestock are potential sources of fecal coliform bacteria whether on open pasture or in confinement. Cattle, sheep, horses, and goats grazing on pasture deposit feces onto land surfaces from where it can be transported to nearby streams during rain events. Livestock on open grazing also often have direct access to streams that pass through pastures, and as such can impact water quality in a more direct manner. Confined animal feeding operations (CAFO), such as beef cattle in feedlots, poultry houses and confined dairy cattle and swine, generate large quantities of fecal material within a limited area with potential for significant bacterial runoff.

According to 2000 agricultural statistics there were 3,000 beef cattle in Macon County. Any beef cattle which were in the watershed were in small, sparse herds of the size which supplement producer income rather than serve as a source of livelihood.

With 9,600 head, Macon County may have the state's largest dairy cattle herd. This activity is concentrated in the east half of the county, and no dairy cows are believed to be present in this watershed.

Agricultural statistics indicate only 25 head of swine in the county, none of which are believed to be in the study area. However, there is the reported presence of a very small pig production facility on Cedar Creek (an adjoining hydrologic unit) immediately upstream of its confluence with Whitewater. This is of such proximity to the previous collection site that it could have influenced the bacteria counts.

In 2000 seventeen million chickens were raised in 170 poultry houses distributed across the county.[4] Fourteen of these houses are located in the watershed adjacent to a Whitewater tributary. Another dozen were located above the previous collection site in Taylor County.

It is assumed that litter from these and other poultry houses was applied to land within the watershed. Unless the poultry farmer also row-crops, the litter applied to cropland must be purchased, just as any other soil enhancer. And like any other fertilizer it must be incorporated soon after application to achieve maximum benefit.

[4] Georgia County Guide 2001

In recent years the poultry industry has been promoting the use of nutrient management planning; matching nutritional value of poultry litter with the nutritional needs of any given application site. This refinement to an existing best management practice further reduces the potential for bacterial runoff.

Urban Development

For TMDL purposes, septic tanks are considered an "urban" development. After solids are trapped in a septic tank, wastewater is distributed through a subsurface drain field and allowed to percolate through the soil. If the septic system is properly located, installed and maintained, bacteria are effectively removed by filtering and straining water through the soil profile. A large number of septic systems fail, however, when wastewater breaks out or passes through the soil profile without adequate treatment.

The causes of septic system failure are numerous; inadequate soils, poor design, siting, testing or inspection, hydraulic overloading, tree growth in the drain field, old age, and failure to clean out. Among the factors officials should consider when investigating whether septic systems are likely to be a major bacteria source are age (systems older than twenty years) and small lots. The design life of most septic systems is 15-30 years, at which point major rehabilitation or replacement is often needed.

Only one public road (state road 90) crosses or provides access to this impaired segment, and it is located near the downstream extremity. This serves to limit public access to the waterway. There are approximately 100 single-family housing units (with septic systems) in the study area with no significant concentrations and no units proximate to the creek. No problems with malfunctioning septic systems have been reported in the county.

Land Application Systems

Many smaller communities use a land application system (LAS) for treatment of sanitary wastewater. These facilities are required through state-issued LAS permits to treat wastewater by land application and to have zero discharge. However, runoff during rain events may carry surface residual containing fecal coliform bacteria to nearby streams. There are not any such systems in the watershed. The City of Ideal owns and operates a conventional sanitary sewer system. Wastewater treated in compliance with a NPDES permit flows from this system into Whitewater Creek.

Landfills

Leachate from landfills may contain fecal coliform bacteria and may at some point discharge into surface waters. Sanitary (municipal) landfills are the most likely type of landfills to serve as a source of fecal coliform bacteria. These receive household wastes, animal manure, offal, hatchery and poultry processing plant wastes, dead animals, and other types of wastes. Older sanitary landfills were not lined and those that remain active operate as construction/demolition landfills. Newer sanitary landfills are lined and have

leachate collection systems. All landfills, except inert landfills, are now required to install environmental monitoring systems for groundwater sampling. No such waste facility operates in the watershed, and none is known to have been in existence.

Storm Sewers

Municipalities typically collect storm water flow (runoff) via a storm sewer system, and discharge it through distinct outlet structures into creeks and streams. Documented sources of nonhuman fecal coliform in urban watersheds include dogs, cats, raccoons, rats, beaver, gulls, geese, pigeons. Dogs in particular appear to be a major source of coliform bacteria and other microbes, because of their population density, daily defecation rate, and pathogen infection rates.

There are not any storm water treatment requirements applicable to the City of Ideal. The city's storm water collection system consists of a system of unpaved drainage ditches. The natural flow of surface water for the majority of Ideal's incorporated area is toward Whitewater Creek.

Stakeholder Involvement

Owners of land contiguous to the impaired segment of Whitewater Creek were identified from courthouse tax records. Local government officials, Farm Bureau officers, health department and forestry officials, and agricultural experts from the County Extension Office and National Resources and Conservation Service were also identified. Forty-two invitations were mailed to property owners and other stakeholders, and block ads were published in local newspapers inviting public participation in development of this document. Eighteen attended the Macon County meeting.

Potential Funding Sources

Georgia EPD
Watershed Assistance Grants
Volunteer Activities (Adopt-A-Stream)
Water Quality Cooperative Agreements
Nonpoint Source Implementation Grants (319)

Whitewater Creek Water Quality Sampling/Monitoring Plan
HUC 031300051507
(refer to map in rear of document)

Additional water sampling and analysis is proposed to help identify areas where efforts to locate possible contributors of fecal coliform loading are likely to be most beneficial. Additional sample collections are proposed for the following sites:

Collection site 1 — This location is immediately upstream of the confluence of Cedar and Whitewater Creeks and trend monitoring station 11058501. Scientific analysis of water samples taken from this location may help determine whether waters from the 30,000 acre Cedar Creek watershed could have influenced the samples taken in 2000 from this monitoring station in Whitewater Creek.

Collection site 2 — Railroad Street/Marvis Chapman Road, formerly GA 195 – This is the site where sampling took place February-December, 2000, and is only a few hundred feet downstream of site #1.

Collection site 3 — Backwater of Whitewater Creek Park – This site must be accessed by boat. The precise collection point must be carefully selected because depending on the location, samples could be influenced by discharge from HUC 031300051506 and runoff from eight poultry houses located in the mouth of this HUC several hundred feet upstream of Whitewater Lake.

STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN FOR: WHITEWATER CR (STREAM) FECAL COLIFORM (PARAMETER) RIVER BASIN: FLINT

PLAN DATE: June 30, 2003

Prepared by: Gerald Mixon Middle Flint Regional Development Center Address: 228 West Lamar City: Americus State: GA. Zip: 31709 e-mail: gmixon@sowega.net Date Submitted to EPD: June 30, 2003	Or Prepared By: 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 landholders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body. Additional stakeholders identified on page 15					
TMDL ID (to be entered by EPD)		Name/Organization	Macon County Board of Commissioners				
Water body name	Whitewater Creek	Address	P. O. Box 297				
HUC basin name	Middle Flint River	City	Oglethorpe	State	GA	Zip	31068
HUC number	031300051507	Phone	478-472-7040			e-mail	
Primary county	Macon	Name/Organization	City of Oglethorpe				
Secondary county	Taylor	Address	P. O. Box 425				
Primary RDC	Middle Flint	City	Oglethorpe	State	GA	Zip	31068
Secondary RDC		Phone	478-472-6485			e-mail	
Water body location	Cedar Cr. To Flint River	Name/Organization	City of Montezuma				
	Ideal to Oglethorpe	Address	P. O. Box 388				
Miles or area impacted	13 miles	City	Montezuma	State	GA	Zip	31063
Parameter addressed in plan	Fecal coliform	Phone	478-472-8144			e-mail	
Water use classification	Fishing	Name/Organization	City of Ideal				
Degree of impairment	Partially supporting use	Address	P. O. Box 9				
	Not supporting use X	City	Ideal	State	GA	Zip	31041
Date TMDL approved by EPA	April 30, 2002	Phone	478-949-2720			e-mail	
Impairment due to	Point sources	Name/Organization	Macon County Health Department				
	Nonpoint sources X	Address	100 Sumter Street				
	Both	City	Oglethorpe	State	GA	Zip	31068
Point source-Form A; Nonpoint source-Form B; Both-Form A+B+C		Phone	478-472-8121			e-mail	

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

EXISTING LOAD	TARGET TMDL	NEEDED REDUCTION
3.78 E+13	3.75E+13	1%

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)
Nonpoint	None identified in the TMDL document	1% *

* "required" per Total Maximum Daily Load Evaluation for Twenty-Eight Stream Segments in the Flint River Basin For Fecal coliform, January 2003, p. v.

II. DESCRIBE ANY REGULATORY OR VOLUNTARY ACTIONS INCLUDING MANAGEMENT MEASURES OR OTHER CONTROLS BY GOVERNMENTS OR INDIVIDUALS 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
Macon County Board of Comm.	Poultry Ordinance	Regulates development of poultry houses	03-94	active
Macon County Board of Comm.	Wetland Protection Ord.	Prohibits development in wetland areas	02-99	active
Macon County Board of Comm.	Groundwater Recharge Area Protection Ord.	Regulates development in significant groundwater recharge areas	02-99	active
Macon County Board of Comm.	Zoning Ordinance	Regulates location of development	09-02	
Macon County Health Dept.	State Rules and Regs. for On-site Sewage Management Systems	Regulates installation of septic tanks	01-98	active
GA EPD	Concentrated Animal Feedlot Operations	Enforcement of wastewater treatment regulations applicable to feedlot operations	09-74	enforced as needed

Existing voluntary actions

RESPONSIBLE ORGANIZATION OR ENTITY	NAME OF ACTION	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Ag producers	Best Management Practices	Maximizing production without causing deleterious effects on other resources	1990s	active
Landowners	Wild game hunting and trapping	Hunting feral hogs for recreational purposes	2000	active
Cooperative Extension Service and Experiment Stations	Disseminate information	Consulting assistance, information on nonpoint-related impacts on water quality, water quality monitoring, analysis of nutrients and other constituents in animal waste, nutrient management plans	1914	active
Soil and Water Conservation District	Promote voluntary adoption of agricultural best management practices	Provide leadership in the protection, conservation, and improvement of soil, water and related resources	1937	active
USDA Natural Resources Conservation Service (NRCS)	Environmental Quality Incentives Program and other T/A	Develop standards and specification regarding conservation practices, animal waste management systems, grazing activities, et.al. – implements state priorities	1997	Needs funding
Farm Services Agency (FSA)	water quality improvement practices (Conservation Reserve Program)	Administration of cost-sharing and incentive programs for practices that improve environmental quality of farms. Funds targeted for high-priority watersheds with water quality problems.	1985	active
Georgia Department of Agriculture	disease control	Provides guidance in location of animal waste facilities and disposal of dead animals.	1874	as needed
USDA Agricultural Research Service (ARS)	agriculture research and monitoring	Research on grazing land systems and irrigation methods relevant to watershed-scale monitoring projects and nutrient movement in surface water and groundwater.		as needed
Resource Conservation and Development Council	Volunteer activism	Citizen activism in conservation of natural resources	1962	as needed

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
GA DNR	Hunter education	Educate hunters of the environmental harm of disposing wild game entrails in waterways	Years 1-5	Pending plan approval and funding
GA DNR	Wildlife survey	Survey impaired creek segment to determine whether wildlife are present in numbers sufficient to be major contributors to any unsafe fecal coliform levels, and develop necessary plan to address any problems identified	Year 2	Pending plan approval and funding
Cooperative Extension Service, et. al.	Spot-check BMP applications	Visits to selected sites to assess proper implementation of applicable BMPs	Year 2-3	Pending plan approval and funding
Local Stakeholders	Adopt-A-Stream	Volunteer program active in watershed surveys, visual surveys, biological monitoring, chemical testing, clean-up, etc.	Year 2-5	Pending plan approval and funding

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

These must be implemented 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				
Identify sources of TMDL parameter	X	X			
Organize implementation work with stakeholders and local officials to identify remedial measures and potential funding sources	X	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		
Detect and eliminate illicit discharges		X	X		
Evaluate additional management controls needed			X		
Monitor and evaluate results			X	X	
Reassess TMDL allocations					
Provide periodic status reports on implementation of remedial activities		X	X	X	
If needed, begin process for Phase II (next 5 years) and subsequent phases					X*

* as needed

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 15

- Number of management controls and activities proposed in five-year work program 4

- Number of management controls and activities actually implemented in five-year work period _____

- Stream sampled to identify areas of concern See accompanying map

VI. MONITORING PLAN:

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

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
DNR-EPD Watershed Plng & Mon Prog.	Feb-Dec, 2000	Fecal Coliform	Quality Assessment (TMDL Development)	completed

Describe any planned or proposed sampling activities or other surveys.

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
"Friends of Whitewater"	2003-2006	Fecal coliform	Water quality monitoring	registration
Georgia Southwestern State University	2004-2005	Fecal coliform	verify of fecal and if necessary perform alternative bacteriological testing to distinguish between possible source(s)	Implementa-tion pending plan approval and funding
GA EPD	2005	Fecal coliform	basin planning	Scheduled

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

- % concentration or load change
  1% reduction in loading and/or resultant concentrations

- Categorical change in classification of the stream
  delisting is the goal

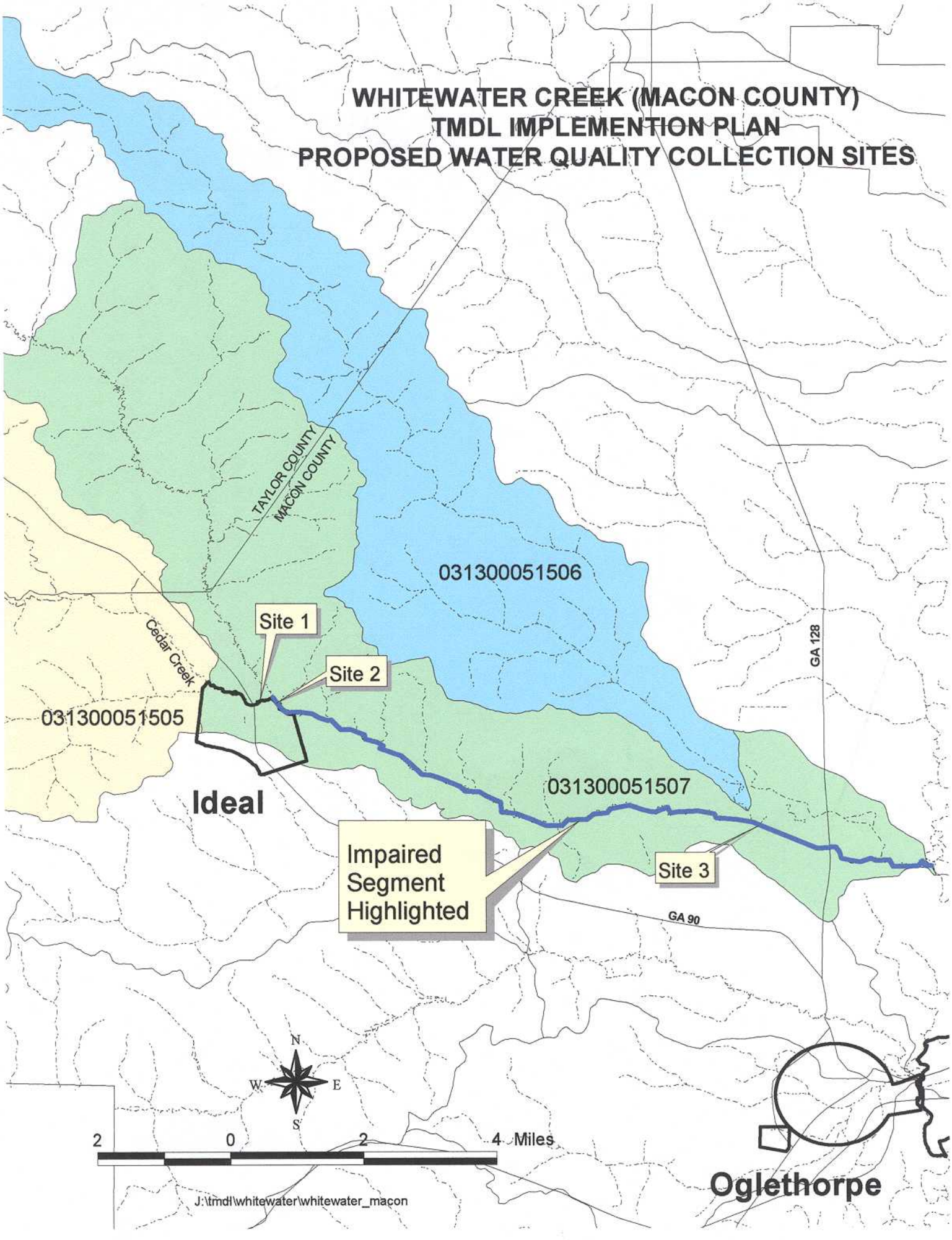
- Regulatory controls or activities installed
  four additional actions are proposed

- Best management practices installed
  inventory current BMP compliance, pending results of additional testing

COMMENTS – refer to attachments

Additional Stakeholders from page 9:

M L Layfield Jr. Gary Slaton Weyerhaeuser Company Christine Cannon Reginald & Nanne English Donna Giles Medley John & Patricia Mullis Gerald B. Saunders Jr. Ronald Gainey Wayne Griffin Charles & Donna Moore Arthur Jinks Ronald & J Anthon Tarrer G H Coogle Jr & Sr	William Brown KCOMMAH FARMS Lawrence Collier Jackie Kiff Williams Wells Carl Hill Martin Kennedy Macon County Clarence & Mabel Keene Richard Hagstrom Thomas Carlton Kelley Mark Kelley Sandra Busbee & Marcia Hawkins Flint River Wood, Inc.	Mr. Andy Page Dr. Elizabeth Elder Macon County Extension Agent Mr. Glen Lee Chase Mr. Charles W. Allen Mr. Phil Porter Mrs. Brenda Oglesby Mr. Carl Lowell, Chief Ranger Roselyn H. Starling Kenneth Robinson Stuart Bryant Gerald Beckum, Mayor Drew Marczak


WHITEWATER CREEK (MACON COUNTY)
TMDL IMPLEMENTION PLAN
PROPOSED WATER QUALITY COLLECTION SITES
TAYLOR COUNTY
MACON COUNTY
031300051506
Site 1
Site 2
Cedar Creek
031300051505
GA 128
Ideal
031300051507
Impaired
Segment
Highlighted
Site 3
GA 90
N
W
E
S
2
0
2
4 Miles
J:\tmdl\whitewater\whitewater_macon
Oglethorpe