

STATE OF GEORGIA
REVISED TMDL IMPLEMENTATION PLAN
Chattahoochee and Flint River Basins

Partially Supporting Streams due to Fecal Coliform Bacteria

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TMDL Implementation Plans are platforms for establishing courses of actions to restore water quality to impaired water bodies in a watershed. They are intended to be 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 water quality of the water bodies.

Table 1. This Implementation Plan is applicable to the following partially supporting streams in the Chattahoochee and Flint River Basins:

Stream	River Basin	Location
Anneewakee Creek	Chattahoochee	House Creek to Lake Monroe
Big Creek	Chattahoochee	Headwaters to Cheatham Creek
Blue John Creek	Chattahoochee	LaGrange
Camp Creek	Chattahoochee	Fulton County
Chattahoochee River	Chattahoochee	Ga. Hwy 17, Helen to SR 255
Chattahoochee River	Chattahoochee	Downstream W.F. George Dam
Chattahoochee River	Chattahoochee	N. Highland Dam to Upatoi Creek
Chattahoochee River	Chattahoochee	Wahoo Creek to Franklin
Chattahoochee River	Chattahoochee	Morgan Falls Dam to Peachtree Creek
Clear Creek	Chattahoochee	Atlanta
Cracker Creek	Chattahoochee	Douglas County
Crawfish Creek	Chattahoochee	Douglas County
Flint River	Flint	Hwy 138 to N. Hampton Rd
Fowltown Creek	Flint	D/S Armena Rd to Kinchafoonee Creek
Foxwood Branch	Chattahoochee	Tributary to Rottenwood Creek
Hilly Mill Creek	Chattahoochee	Heard/Coweta County
Hog Waller Creek	Chattahoochee	Roswell (Fulton County)
Kelly Mill Branch	Chattahoochee	Headwaters to Orr Creek
Mud Creek	Chattahoochee	South Hall County
Mud Creek	Flint	Downstream Hapeville
Mulberry Creek	Chattahoochee	Ossahatchie Cr. to Five Points Branch near Mulberry Grove
North Fork Balus Creek	Chattahoochee	Gainesville
North Utoy Creek	Chattahoochee	Atlanta
Pataula Creek	Chattahoochee	Hodchodkee Creek to W. F. George Lake
Pea Creek	Chattahoochee	Fulton County
Red Oak Creek	Flint	Little Red Oak Cr to Flint River near Imlac

Sweetwater Creek	Chattahoochee	Noses Creek to Chattahoochee River
Swift Creek	Flint	Tobler Creek to Flint River
Tanyard Branch	Chattahoochee	Atlanta
Tanyard Creek	Chattahoochee	LaGrange
Tributary to Mud Creek	Chattahoochee	Cobb County
Ulcohatchee Creek	Flint	Headwaters to Auchumpkee Creek
Ward Creek	Chattahoochee	Cobb County
Willeo Creek	Chattahoochee	Cobb/Fulton Counties
Woodall Creek	Chattahoochee	Atlanta

INTRODUCTION

The Total Maximum Daily Load (TMDL) process establishes the allowable pollutant loadings or other quantifiable parameters for a water body based on the relationship between pollutant sources and in-stream water quality conditions. This allows water quality-based controls to be developed to reduce pollution and to restore and maintain water quality.

In 2003, the Georgia Environmental Protection Division (EPD) developed TMDLs for fecal coliform for streams in the Chattahoochee and Flint River Basins. Fecal coliform bacteria are used as an indicator of the potential presence of pathogens in a stream. Table 1 presents the streams in the Chattahoochee and Flint River Basins that are listed on Georgia’s 2002 303(d) list for partially supporting their designated use. A stream is placed on the partial support list if more than 10% of the samples exceed the fecal coliform criteria and on the not support list if more than 25% of the samples exceed the standard. Water-use classifications of the impacted streams include Fishing, Recreation, and Drinking Water.

WATER QUALITY STANDARD

Fecal coliform bacteria are used as an indicator of the potential presence of pathogens in a stream. The current water quality standard states that four or more water samples collected within a 30-day period that have a geometric mean for fecal coliform either in excess of 200 counts per 100 milliliters during the period May through October, or in excess of 1000 counts per 100 milliliters during the period November through April are in violation of the bacteria water quality standard. In addition, a single sample in excess of 4000 counts per 100 milliliters during the period November through April can also provide a basis for adding a stream segment to the 303(d) listing.

POLLUTANT SOURCES

Identification of potential source categories is an important part of the TMDL analysis. Sources are identified as either point or nonpoint. A point source is defined as a discernable, confined, and discrete conveyance from which pollutants are or may be discharged to surface waters. Nonpoint sources are diffuse and generally, but not always, involve accumulation of fecal coliform bacteria on land surfaces that wash into surface waters as a result of storm events.

Some stormwater runoff that may contain fecal coliform is regulated under the National Pollutant Discharge Elimination System (NPDES) Permit Program. Phase I NPDES permits regulate storm water discharges associated with specific industrial activities (including construction sites one acre or greater) and large and medium municipal separate storm sewer systems (MS4s) that serve populations of 100,000 or more. Storm water discharges associated with industrial activities are currently covered under a General Storm Water NPDES Permit. The permit requires the development and implementation of a Stormwater Implementation Plan which requires visual monitoring of storm water discharges, site inspections, implementation of Best Management Practices (BMPs), and record keeping.

In March 2003, small MS4s serving urbanized areas were required to obtain a storm water permit under the Phase II NPDES storm water regulations. An urbanized area, as defined by the 2000 census, is an entity with a residential population of at least 50,000 people and an overall population density of at least 1,000 people per square mile.

MS4 permits prohibit non-storm water discharges (i.e. illicit discharges) from entering into the storm sewer systems and require controls or BMPs to reduce the discharge of pollutants to the maximum extent practicable. A site-specific Storm Water Management Plan (SWMP) outlining appropriate controls is required by and referenced in the permit. The intent of the storm water NPDES permits is not to treat the water after collection, but to reduce the exposure of storm water to pollutants. It would be infeasible and prohibitively expensive to try to control pollutant discharges from each storm water outfall. Table 2 identifies the 24 streams in this plan that are either in part or wholly surrounded by MS4 permittees.

Table 2. Streams and corresponding permitted MS4s in the Chattahoochee and Flint River Basins

STREAM	LOCATION	PERMITTEE
Anneewakee Creek	House Creek to Lake Monroe	City of Douglasville – Phase II Douglas County – Phase II
Camp Creek	Fulton County	Fulton County – Phase I
Chattahoochee River	N. Highland Dam to Upatoi Creek	Columbus – Muscogee Co. – Phase I
Chattahoochee River	Morgan Falls Dam to Peachtree Creek	Fulton County – Phase I Cobb County – Phase I City of Atlanta – Phase I
Clear Creek	Atlanta	City of Atlanta – Phase I
Cracker Creek	Douglas County	City of Douglasville – Phase II
Flint River	Hwy 138 to N. Hampton Road	Clayton County – Phase I
Fowltown Creek	D/S Armena Rd. To Kinchafoonee Cr.	Lee County – Phase II
Foxwood Branch	Tributary to Rottenwood Creek	Cobb County -- Phase I
Hog Waller Creek	Roswell (Fulton County)	City of Roswell – Phase I
Kelly Mill Branch	Headwaters to Orr Creek	City of Cumming - Phase II
Mud Creek	South Hall County	City of Oakwood - Phase II Hall County - Phase II
Mud Creek	Downstream Hapeville	Clayton County – Phase I
North Fork Balus Creek	Gainesville	City of Gainesville - Phase II
North Utoy Creek	Atlanta	City of Atlanta - Phase I Fulton County - Phase I
Pea Creek	Fulton County	Fulton County - Phase I
Sweetwater Creek	Noses Creek to Chattahoochee River	City of Austell - Phase I Cobb County - Phase I Douglas County - Phase II City of Douglasville - Phase II
Tanyard Branch	Atlanta	City of Atlanta - Phase I
Tributary to Mud Creek	Cobb County	Cobb County - Phase I
Ward Creek	Cobb County	Cobb County - Phase I City of Marietta - Phase I
Willeo Creek	Cobb/Fulton Counties	City of Roswell - Phase I Cobb County - Phase I
Woodall Creek	Atlanta	City of Atlanta - Phase I

Fecal coliform loads from NPDES permitted MS4 areas may be significant, but these sources cannot be easily segregated from other storm water runoff. Other sources of fecal coliform in urban areas include wastes that are attributable to domestic animals, leaks and overflows of sanitary sewers, illicit discharges of sanitary waste, and leaking septic systems. In agricultural areas, potential sources of fecal coliform may include confined animal feeding operations (CAFOs), animals grazing in pastures, dry manure storage facilities and lagoons,

chicken litter storage areas, and direct access of livestock to streams. Wildlife and waterfowl can also be an important source of fecal coliform bacteria.

Fecal coliform bacteria are responsible for approximately 45 percent of the impaired streams in the State of Georgia. This TMDL Implementation Plan addresses only those streams listed as being “partially impaired” by fecal coliform, meaning that water quality standards were generally exceeded only once during a minimum of four separate sampling periods. Identification of specific fecal coliform sources for the majority of these streams is not possible at this time due to the widespread nature of these bacteria in natural environments. With these factors in mind, TMDL implementation for the streams included in this plan should concentrate on educating the public on potential sources of fecal coliform and encouraging implementation of ‘good housekeeping practices’ directed toward reducing introduction of this contaminant to surface waters.

PLAN FOR TMDL IMPLEMENTATION

The Georgia EPD is responsible for administering and enforcing laws to protect the waters of the State and is the lead agency for implementing the State’s Nonpoint Source Management Program. Georgia is working with local governments, agricultural, and forestry agencies such as the Natural Resource Conservation Service (NRCS), the Georgia Soil and Water Conservation Commission (GSWCC), and the Georgia Forestry Commission (GFC) to foster the implementation of BMPs that address nonpoint source pollution. The following management practices are recommended to reduce fecal coliform loads to stream segments:

- Sustained compliance with NPDES permit limits and requirements where applicable;
- Adoption of NRCS Conservation Practices for primarily agricultural lands;
- Application of BMPs appropriate to specific agricultural and urban land uses,
- Further development and streamlining of mechanisms for identifying, reporting, and correcting illicit connections, breaks, and other sanitary sewer system problems;
- Adoption of local ordinances requiring periodic septic system inspection, pumpout, and maintenance where appropriate; and
- Ongoing public education efforts on the sources of fecal coliform and common sense approaches to lessen the impact of this contaminant on surface waters.

Public education efforts are targeting individual stakeholders to provide information regarding the use of BMPs to protect water quality. EPD will also continue efforts to increase awareness and educate the public about the impact

of human activities in urban settings on water quality, ranging from the consequences of industrial and municipal discharges down to individual activities and personal behavior in residential neighborhoods.

MONITORING PLAN

Water quality monitoring is conducted at a number of locations across the State each year. EPD has adopted a basin approach to water quality management that divides Georgia's major river basins into five groups. This approach provides for additional sampling work to be focused on one of the five basin groups each year and offers a five year planning and assessment cycle. The Chattahoochee and Flint River Basins were the subjects of focused monitoring in 2000 and will again receive focused monitoring in 2005.

The EPD also encourages local governments and municipalities to develop a water-quality monitoring program. These programs can help pinpoint various fecal coliform sources as well as verify the 303(d) stream segment listings. This will be especially valuable for those segments where no data or old data resulted in the listing. In addition, regularly scheduled sampling will determine if there has been some improvement in the water quality of the listed stream segments.