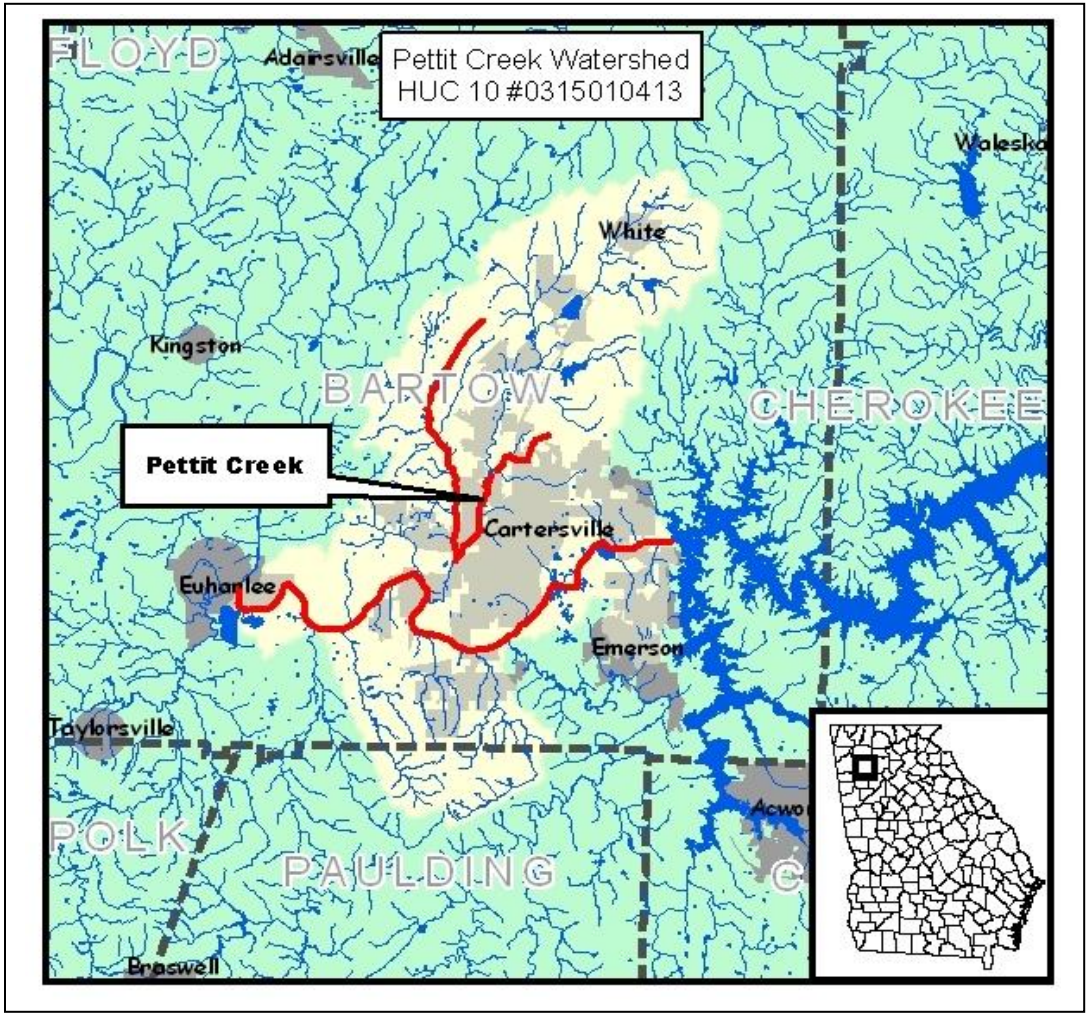
STATE OF GEORGIA
TIER 2 TMDL Implementation Plan (Revision # 01)
Segment Name: Pettit Creek Date: Sept. 30, 2009
River Basin: Coosa River Basin
Local Watershed Governments:
Bartow County Government
City of Cartersville



I. INTRODUCTION

Total Maximum Daily Load (TMDL) Implementation Plans are platforms for evaluating and tracking water quality protection and restoration. These plans have been designed to accommodate continual updates and revisions as new conditions and information warrant. In addition, field verification of watershed characteristics and listing data has been built into the preparation of the plans. The overall goal of the plans is to define a set of actions that will help achieve water quality standards in the state of Georgia.

This implementation plan addresses the general characteristics of the watershed, the sources of non-point pollution, stakeholders and public involvement, and education/outreach activities. In addition, the plan describes regulatory and voluntary practices/control actions (Best Management Practices, or BMPs) to reduce non-point sources of pollutants, milestone schedules to show development of the BMPs (*measurable milestones*), and a monitoring plan to determine BMP effectiveness.

Table 1. IMPAIRED SEGMENTS IN THE HUC 10 WATERSHED

IMPAIRED SEGMENT	IMPAIRED SEGMENT LOCATION	EXTENT (mi/ac)	CRITERIA VIOLATED	EVALUATION
Pettit Creek	Satterfield Branch to Nancy Creek (Bartow County)	3	Fecal Coliform Bacteria	NS

II. GENERAL INFORMATION ABOUT THE HUC 10 WATERSHED AND THE INDIVIDUAL IMPAIRED SEGMENT

This section reviews HUC 10 watershed characteristics followed by pertinent information on the drainage delineation of the individual stream segment. New conditions or changes to information contained in the TMDL study documents should be in **bold** and underlined.

Pettit Creek begins in Bartow County as the headwaters flow from an area west of Little Pine Log Mountain and north of the town of White. The creek then flows southeast through Aubrey Lake and into Cartersville city limits. Pettit Creek then flows to the east of Quarry Mountain just prior to entering the Etowah River.

Land Use: The land use of the Pettit Creek watershed is primarily forested at 50.2% with 12,459 acres. The second highest is agriculture at 19.3% with 4,769 acres. The third highest use of land is Other Grasses at 13.6% with 3,386 acres. The next highest is Low Intensity Residential with 10% at 2,484 acres. High Intensity Industrial is next at 3.7% with 911 acres. High Intensity Commercial accounts for 1.9% at 467 acres. Open Water accounts for 1.1% with 278 acres. Bare Rock and Woody Wetlands each account for less than one percentage point.

Pettit Creek is in the Ridge and Valley physiographic region in Georgia. The ridges in this area are typically composed of chert and capped sandstone, while the valleys are usually limestone or shale. The thicker, more fertile soils typically form in the valleys from erosion of soil at higher elevations and the weathering of parent material. The weathering of sandstone and chert on ridges help form the acidic soils which maintain the forested areas of this region.

The current TMDL of the Pettit Creek stream segment indicates that the potential sources of fecal coliform contamination are from non-point sources. The possible non-point sources contributing to the fecal contamination are wildlife, agricultural, and urban development.

The importance of wildlife as a source of fecal coliform bacteria in streams varies considerably, depending on the animal species present in the watersheds. Based on information provided by the Wildlife Resources Division (WRD) of GA DNR, the animals that spend a large portion of their time in or around aquatic habitats are the most important wildlife sources of fecal coliform. Waterfowl, most notably ducks and geese, are considered to potentially be the greatest contributors of fecal coliform. Other potentially important animals regularly found around aquatic environments include raccoons, beavers, muskrats, and to a lesser extent, river otters and minks. Recently, rapidly expanding feral swine populations have become a significant presence in the floodplain areas of all the major rivers in Georgia. Population estimates of these animal species in Georgia are currently not available.

White-tailed deer populations are significant throughout the Coosa River Basin. Fecal coliform bacteria contributions from deer to water bodies are generally considered less significant than that of waterfowl, raccoons, and beavers. This is because a greater portion of their time is spent in terrestrial habitats. This also holds true for other terrestrial mammals such as squirrels and rabbits, and for terrestrial birds (GA WRD, 2002). However, feces deposited on the land surface can result in the introduction of fecal coliform to streams during runoff events. It should be noted that between storm events, considerable decomposition of the fecal matter might occur, resulting in a decrease in the associated fecal coliform numbers.

Agricultural livestock are a potential source of fecal coliform to streams in the Coosa River Basin. The animals grazing on pastureland deposit their feces onto land surfaces, where it can be transported during storm events to nearby streams. Animal access to pastureland varies monthly, resulting in varying fecal coliform loading rates throughout the year. Beef cattle spend all of their time in pastures, while dairy cattle and hogs are periodically confined. In addition, agricultural livestock will often have direct access to streams that pass through their pastures, and can thus impact water quality in a more direct manner (USDA, 2002). The following table shows the estimated number of beef cattle, dairy cattle, goats, horse, swine, sheep, and chickens by category reported by county. The following tables provide the estimated amount of farm animals in Bartow for livestock and chicken.

Livestock Population in Bartow County

Beef Cows, Total Head	Beef Stockers	Dairy Cows	Horses Raised	Horses, Boarding/Breeding/ Training	Sheep, # of ewes	Goats, total nannies	Pork, Farrow to Finish	Pork, Feeder Pigs, Total Head
14,500	8,000	0	700	4,000	200	1,800	100	150

Sources: georgiastats.uga.edu (2008)

There is a significant presence of poultry operations in Bartow County, which can be a source of the fecal coliform pollution. The chart below lays out an approximate number of chickens in each county from all poultry operations, broken down by type of chicken. The numbers are an approximate number based on the exact number of houses in the county multiplied by the average capacity of the typical chicken house in the county.

Bartow County Poultry Population, by type (Thousands)

Breeder Pullet Unit	Broiler Chickens	Hatching Layers	Table Layers	Totals
144	5,850	220	0	6,214

Sources: georgiastats.uga.edu (2008)

Fecal coliform from urban areas are attributable to multiple sources, including: domestic animals, leaks and overflows from sanitary sewer systems, illicit discharges, leaking septic systems, runoff from improper disposal of waste materials, and leachate from both operational and closed landfills. Fecal coliform bacteria enter streams by direct washoff from the land surface, or the runoff may be diverted to a storm water collection system and discharged through a discrete outlet structure.

A portion of the fecal coliform contributions in the Coosa River Basin may be attributed to failure of septic systems and illicit discharges of raw sewage. The table below presents the number of septic systems that have been installed from 2004-2009, as well as the number of septic systems that have been repaired in this time period. Often, this is a reflection of population increases outpacing the expansion of sewage collection systems during this period. Hence, a large number of septic systems are installed to contain and treat the sanitary waste.

Septic History (2004-2009)

County	New Septic Systems (2004-2009)	Septic Systems Repaired (2004-2009)
Bartow	2,692	1,323

Northwest Georgia Public Health (District 1-1)

Leachate from landfills may contain fecal coliform bacteria that may at some point discharge into surface waters. Sanitary (or municipal) landfills are the most likely to serve as a source of fecal coliform bacteria. These types of landfills 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 most have been closed. Those that remain active and have not been lined operate as construction/demolition landfills. Currently active sanitary landfills are lined and have leachate collection systems. All landfills, excluding inert landfills, are now required to install environmental monitoring systems for groundwater and methane sampling. There are 109 known landfills in the Coosa River Basin. Of these, 19 are active landfills, 3 are in the process of being closed and 87 are inactive or closed. There are 2 landfills in this HUC 10 watershed.

Landfills within Bartow County				
Name	**County**	**Permit No.**	**Type**	**Status**
Adairsville	Bartow		NA	Inactive
Bartow Co. – SR 294 Emerson PH 1	Bartow	008-008D(SL)	Construction and Demolition Landfill	Operating
Bartow Co. – SR 294 Emerson PH 2&3	Bartow	008-016D(SL)	Municipal Solid Waste Landfill	Operating
Bartow Co. – SR 140 Adairsville	Bartow	008-012D(SL)	Sanitary Landfill	Closed
Cartersville	Bartow		NA	Inactive
Chemical products Corp – Old Mill Rd	Bartow	008-007D(LI)	Industrial Landfill	Operating
Tidwell Plumbing Inc.	Bartow	008-017P(INC)		Closed

GAEPD study document Total Maximum Daily Load Evaluation for Twenty-Nine Stream Segments in the Coosa River Basin for Fecal Coliform (Jan. 2009)

Wastewater Treatment Plants & other NPDES Permit Holders

In general, industrial and municipal wastewater treatment facilities (abbreviated WWTP or WPCP) have NPDES permits with effluent limits. These permit limits are either based on federal and state effluent guidelines (technology-based limits) or on water quality standards (water quality-based limits). These WWTP/WPCP's should be treated as potential sources, though their potential contribution is limited by the tight regulations that

include stringent monitoring and management requirements. These regulations are based off of technology-based guidelines that the EPA has developed, which establish a minimum standard of pollution control for municipal and industrial discharges without regard for the quality of the receiving waters. These are based on Best Practical Control Technology Currently Available (BPT), Best Conventional Control Technology (BCT), and Best Available Technology Economically Achievable (BAT). The level of control required by each facility depends on the type of discharge and the pollutant.

Facility	Permit #	Factory Type	Flow (MGD)	Receiving Stream
Bartow County – Southeast WPCP	GA0037664	Municipal	0.100	Etowah River
Riverside Products Company	GA0047333	Industrial	0.000	Etowah River
Georgia Power Company – Plant Bowen	GA0001449	Industrial	0.000	Etowah River
Best Western Crown Inn	GA0023540	PID	0.006	Pettit Creek Tributary
USA COE - Old Construction Site	GA0047074	FED	0.003	Lake Allatoona
Chemical Products Corporation	GA0001295	Industrial	0.000	Etowah River
New Riverside Ochre Company	GA0029823	Industrial	0.000	Etowah River
Chemical Products Corporation	GA0000281	Industrial	0.000	Etowah River
Chemical Products Corporation	GA0001295	Industrial	0.000	Etowah River
Chemical Products Corporation	GA0000281	Industrial	0.000	Etowah River
Cartersville WPCP	GA0024091	Municipal	12.100	Etowah River

Data provided by EPD

Relevant Watershed Planning and Management Activities

Erosion and Sedimentation

The City of Cartersville and Bartow County are Local Issuing Authorities for E & S permitting of land-disturbing activities which are required to submit an NOI under the NPDES General Permit for Construction Activity.

House Bill 285 requires state certification in E & S Control for anyone involved in the following activities: land development, design, review, permitting, construction, monitoring, inspection, or any land-disturbing activity in Georgia (Georgia Soil and Water Conservation Commission). This

certification is done through training by the Georgia Soil and Water Conservation Commission in consultation with Georgia Environmental Protection Division and the Stakeholder Advisory Board. The GSWCC also has updated requirements for E&SC plans to be submitted with each project. Certification requirements apply to all such persons in Bartow Counties. Certification is offered through the Rolling Hills Regional Conservation and Development Council (RC & D).

The Bartow County Zoning Ordinances require a stream buffer of a minimum of fifty feet on each side. Access is allowed to the stream for livestock watering but must be constructed with Best Management Practices (BMPs) to minimize pollution and sedimentation to the stream.

Stormwater Management

For large, medium, and small urban areas, the storm water outlets are regulated under MS4 permits. Phase I MS4 permits are issued for large urban areas with populations greater than 100,000. Phase II permits are issued for urbanized areas with a population of at least 50,000 and a density of 1,000 residents per acre. Bartow County has a Phase II MS4 permit; however the Pettit Creek watershed is not in an MS4 area. For smaller urban areas, the storm water discharge outlets currently remain unregulated. In addition to urban animal sources of fecal coliform, there may be illicit connections to the storm sewer system. As part of the MS4 permitting program, municipalities are required to conduct dry-weather monitoring to identify and then eliminate these illicit discharges. Fecal coliform bacteria may also enter streams from leaky sewer pipes, or during storm events when combined sewer overflows discharge.

Bartow County has an NPDES-permitted Small Municipal Separate Storm Sewer System (MS4) and is subject to the Phase II MS4 Stormwater Rules. These extended Phase II permitting rules include six parameters that deal with water quality including 1. Public Education and Outreach; 2. Public Participation and Involvement; 3. Illicit Discharge Detection and Elimination; 4. Construction Site Runoff Control; 5. Post-Construction Runoff Control; 6. Pollution Prevention and Good Housekeeping.

Industrial Storm Water Discharge NPDES Permit is required for all manufacturers that discharge stormwater.

Environmental Planning Criteria

The purpose of the environmental planning criteria is to offer standards that are used to protect an area's natural resource. Bartow County has adopted and enforces the applicable environmental criteria. The environmental criteria adopted in Bartow County are Water Supply Watersheds, Protection of Groundwater Recharge Areas, Wetlands Protection, and River Corridor Protection.

Developments of Regional Impact

- The Northwest Georgia Regional Commission advises that compliance on the site to protect water quality is a necessity. Best Management Practices (BMPs) on this site should exceed the minimum requirements and attempt to consider all possible problems in order to adequately protect water quality in streams and drainage-ways/State waters.

- The Northwest Georgia Regional Commission recommends that the project design professionals meet with the Georgia Soil and Water Conservation Commission to review plans and assist in providing adequate erosion and sedimentation control measures, and storm water runoff quantity and quality control measures (Georgia Soil and Water Conservation Commission, Region 1 Office, 700 East 2nd Avenue, Suite J, Rome, Georgia 30161-3359, Telephone: 706-295-6131.

Georgia Forestry Commission Best Management Practices

The Forestry Commission has implemented best management practices on its lands to reduce sedimentation and erosion from silviculture practices. The Georgia Forestry Commission also provides education, technical and financial assistance through cost-share programs to private landowners especially in the Forestland Enhancement Program, a part of the 2002 Farm Bill. Ongoing Georgia Forestry Commission activities include the following programs.

- Federal Clean Water Act Section 404: GFC received referrals from EPA for compliance determinations in situations involving forestry. It requires normal ongoing agricultural and silvicultural practice to adhere to BMPs and 15 baseline provisions for road construction and maintenance in and across waters of the US including lakes, rivers, perennial and intermittent streams, wetlands, sloughs in order to qualify for the exemption from the permitting process.
- Georgia's Best Management Practices: A GFC program to inform landowners, foresters, timber buyers, loggers site preparation and reforestation contractors and others involved with silvicultural operations about commonsense, economical effective practices to minimize nonpoint source and thermal pollution. GFC encourages and monitors compliance and conducts a complaint resolution program.
- Georgia Forestry Commission Monthly BMP Assurance Examination: In an effort to document "reasonable assurance" that water quality will be proactively protected during regular ongoing silvicultural operations; the GCF will offer a monthly BMP assurance examination of active sites. All active of ongoing sites will be identified either through monthly air patrol flights, courthouse records, riding the roads, notification or by landowners. Sites located within watersheds of specific biota (sediment) impaired streams will be given a higher priority to identify and conduct examinations.
    - The BMP Assurance Examination can be given at random; however, the majority of these exams are given because of complaints sent to the GFC. When complaints are received the forester usually makes 4 or 5 visits to the property until it is retired properly. Typically, there is a large improvement in scores from the initial exam to the final exam. In Bartow County there was one BMP Assurance Examination given from June 15, 2008 – June 15, 2009. During this time the overall exam score for north Georgia was 95.96%.
- Memo to the Field: Application of BMPs to mechanical silvicultural site preparation activities for the establishment of pine plantations in the Southeast (Silviculture). Although overseen by the EPA/ US Army Corps of Engineers, cases are normally referred to GFC to make the initial determination. It identifies certain bottomland hardwood wetlands that should be subject to permitting if converting to pine plantations.

Department of Natural Resources Best Management Practices

The Department of Natural Resources, Wildlife Management Division provides outreach to landowners on prevention of soil erosion and sedimentation from land-disturbing activities contributing to habitat destruction, advises landowners of best management practices and habitat development for increased wildlife on their property, and encourages landowners to implement conservation practices on their lands through the NRCS.

2002 Farm Bill, US Department of Agriculture Natural Resources Conservation Service and Farm Service Agency

The Farm Security and Rural Investment Act of 2002 (Farm Bill 2002) funded conservation practices for farmers and ranchers with a focus on environmental issues by making existing programs simpler as well as funding new programs. The 2002 Farm Bill enhances the long-term quality of our environment and conservation of our natural resources. This bill provides several opportunities for receiving grants to improve water quality. These include the following programs administered by the US Department of Agriculture, Natural Resources Conservation Service and Farm Service Agency. Farmers in this area have applied for the EQIP Program in particular. EQIP is widely used for the area's poultry and cattle operations. Through this program or through the permitting process for AFO status operations, certain farmers are required to develop Soil and Erosion Control Plans for their farms. Farms are checked yearly to see that they have implemented those measures so that they remain in compliance for funding. EQIP programs are in use in this watershed including prescribed grazing, fencing, nutrient management, and animal waste storage structures.

- Environmental Quality Incentives Program (EQIP) is a voluntary program that provides technical and cost share assistance for protection of ground and surface water, erosion control, air quality, wildlife habitat, and plant health. It is a 50% cost share with possible additional incentive payments.

- The Conservation Reserve Program (CRP) provides technical assistance, rental payments and cost share funding to address specific natural resource concerns including: protection if ground and surface waters, soil erosion and wildlife habitat. Eligible practices include tree planting, grassed waterways, wildlife habitat buffers, and shallow water area for wildlife and filter strips. An annual rental payment is given for land taken out of production and 50% cost share for practice installation.

- Continuous Conservation Reserve Program (CCRP) is a voluntary program that helps agricultural producers safeguard environmentally sensitive land. Participants plant long-term, resource-conserving covers to improve the quality of water, control soil erosion, and enhance wildlife habitat. Rental payment is provided for the participant as well as up to 90% cost share.

These practices are available in the Pettit Creek watershed; however, there are no agricultural BMP's currently in place according to a representative of the NRCS.

Metropolitan North Georgia Water Planning District Model Ordinances

Bartow County is a member of the Metropolitan North Georgia Water Planning District, which was created by the Georgia General Assembly to establish policy, create plans and promote intergovernmental coordination of all water issues in the area from a regional perspective. The county is included in the Metropolitan Water Planning District's Watershed Management Plan, which includes six protection strategy areas:

- Point Source Management
- Storm Water Management
- Total Maximum Daily Loads (TMDLs)
- Watershed Improvement
- Intergovernmental Coordination
- Long-term Monitoring

The MNGWPD Watershed Management Plan required each member to adopt these six model ordinances:

- Ordinance for Post-Development Stormwater Management for New Development and Redevelopment
- Floodplain Management/Flood Damage Prevention Ordinance (in review)
- Conservation Subdivision/Open Space Development Ordinance
- Illicit Discharge and Illegal Connection Ordinance
- Litter Control Ordinance
- Stream Buffer Ordinance

Bartow has adopted all of the Model Storm Water Management Ordinances that address Post Development Storm Water Management for New Development and Redevelopment, Floodplain Management/Flood Damage Prevention, Conservation Subdivision/ Open Space Development, Illicit Discharge and Illegal Connection, Litter Control, and Stream Buffer Protection.

Etowah Habitat Conservation Plan

The Etowah Habitat Conservation Plan reflects the work done by municipalities, water authorities, developers, industry, the University of Georgia, Kennesaw State University, Georgia DNR, the US Fish and Wildlife Service, and others in the Etowah River watershed to protect threatened and endangered species of darter by developing a regional conservation plan. The plan, including model ordinances and policies, allows included jurisdictions to be in compliance with the Federal Endangered Species Act and to obtain an Incidental Take Permit from the US Fish and Wildlife Service for development activities in the watershed, excluding agriculture and forestry. Ordinances and policies for implementation include the following:

- Stormwater Ordinance and Better Site Design
- Runoff Limits Program
- Erosion and Sedimentation Control Standard Operating Procedures
- Mass Grading Ordinance
- Stream Buffer Ordinance
- Road Crossing Guidelines

- Utility Crossing Guidelines
- Conservation Subdivision Ordinance
- Water Supply Planning

Existing municipal ordinances covering these areas can be updated. Revisions to the Metropolitan North Georgia Water Planning District Model Ordinances were recommended by the Etowah HCP subcommittees, as were revisions to the Bartow County Watershed Assessment and Protection Plan.

Specific areas of concern to the Etowah River identified by the Etowah Regional Aquatic Habitat Conservation Plan, and the corresponding actions taken by the county to address them, include:

- Poor riparian buffers
- Point sources
- Construction
- Channel erosion
- Historic sediment
- Impervious surfaces and storm water runoff
- Livestock
- Invasive Species
- Water Reservoirs

III. CAUSES AND SOURCES OF SEGMENT IMPAIRMENT(S) LISTED IN TMDLs

Table 2. provides information contained in the current TMDL for the impaired water body. By definition, "wasteload allocations" (WLA) for municipal and industrial wastewater discharges and (WLAsw) for storm water outfalls are established in permitted areas, while "load allocations" (LA) are established for non-point sources of pollution. **Wasteload allocations are assigned by Georgia EPD during the NPDES permitting process and are not part of the TMDL implementation planning process, which deals solely with non-point sources of pollutants.**

Table 2. WASTE LOAD AND LOAD ALLOCATIONS AND TMDLS FOR THE IMPAIRED SEGMENT

STREAM SEGMENT NAME	LOCATION	CRITERIA VIOLATED	WLA	WLAsw	LA	TMDL
Pettit Creek	Satterfield Branch to Nancy Creek	Fecal Coliform	0	0	1.84E+13	2.04E+13

Table 3. contains information presented in the TMDL study that this implementation plan addresses.

Table 3. POTENTIAL NON-POINT SOURCES OF IMPAIRMENT INDICATED IN THE TMDLs

CRITERIA VIOLATED : FC	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED % REDUCTION (FROM THE TMDL)
Fecal Coliform Bacteria	**1,000 per 100 ml (geometric mean November- April)** 200 per 100 ml (geometric mean May-October)	Wildlife Agricultural Livestock • Animal grazing • Animal access to streams Urban Development • Leaking sanitary sewer lines • Leaking septic systems • Land Application Systems • Landfills • Urban Runoff • Domestic Animals	81

IV. IDENTIFICATION AND RANKING OF POTENTIAL NON-POINT SOURCES OF IMPAIRMENT

This section identifies and describes **in order of importance**, as determined through this TMDL implementation planning process, the extent and relative contributions from historic as well as current potential non-point sources of pollutants to the water quality impairment.

Identification and ranking of potential sources or causes of impairment were performed through a visual survey of the watershed and involvement of a stakeholder group. The visual survey was conducted on March 30, 2009. Images of the stream and land use were recorded, as well as, possible sources of fecal coliform bacteria. During the visual survey the land use of the Pettit Creek watershed was confirmed.

During the visual survey it was determined that the primary source of fecal coliform bacteria in Pettit Creek is urban development. This is an urban stream with much of the watershed being industrial and residential. A good portion of this creek is on sewer, which could be contributing to the fecal coliform. Wildlife is also an issue in this watershed with over half of this area being forested. Also, there is the Pettit Preserve which is a 60 acre environmental preserve, which would have a decent population of wildlife. Some agriculture was noticed in the area; however it was mostly pastureland with no cows.

When discussing this stream at the stakeholder meeting it was stated that the majority of this stream was on sewer. It was also mentioned that during recent years pastureland has rapidly been converted to developments. There is some agriculture in the area, but not a large amount. Wildlife is also in the area and could be a large contributor of fecal coliform.

Table 4. offers a simple format to rank **in order of importance**, as determined through this TMDL implementation planning process, the extent and relative contribution to the water quality impairment from all the potential non-point sources of pollution identified in Section IV. A "rating scale" of 0.5 to 5 has been developed to rank the sources. The rating chart provides guidance for rating the estimated extent (Rating A) and portion of the contribution (Rating B) from each potential non-point source and cause:

Rating A: Rating Chart to Estimate Geographic Extent of the Source or Cause in the Contributing Watershed	**Rating B:** Rating Chart to Estimate Portion of Contribution from the Source to the Pollutant Load Causing the Impairment	**Rating**
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	0.5
Scattered or low (approximately 5-20%)	Scattered or low (approximately 5-20%)	1
Medium (approximately 20-50%)	Medium (approximately 20-50%)	3
Widespread or high (approximately 50% or more)	Widespread or high (approximately 50% or more)	5
Unknown	Unknown	UNK

Table 4. EVALUATION OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT

APPLICABLE TO CRITERION 1: Fecal Coliform

IMPAIRMENT SOURCES	ESTIMATED EXTENT OF CONTRIBUTION		ESTIMATED PORTION OF CONTRIBUTION		IMPACT RATING (A X B)
	Comments	Rating (A)	Comments	Rating (B)	
Urban Development • Leaking sanitary sewer lines • Urban Runoff • Leaking septic systems	High	5	High	5	25
Wildlife	Medium	3	Medium	3	9
Agriculture	Medium	3	Medium	3	3

V. CURRENT AND ACTIVE MANAGEMENT MEASURES AND ACTIVITIES

Table 5A. identifies significant current and active Best Management Practices (BMPs) that have been installed to address potential non-point sources of impairment listed in Section IV, Table 4., and provides ratings of each management measure's estimated Load Reduction Potential (LRP) when applied to a specifically identified non-point source. The rating chart provides guidance for rating the BMP Load Reduction Potential applied to a specifically identified non-point source:

BMP Load Reduction Potential Rating Chart (Percent Removal of Pollutant by the BMP)	**Rating**
None or negligible (approximately 0-5%)	.5
Low to medium (approximately 5-25%)	1
Medium to High (approximately 25-75%)	3
High (approximately 75% or more)	5
Unknown	UNK

Table 5A. CURRENT AND ACTIVE MANAGEMENT MEASURES AND ACTIVITIES

GENERAL AND SPECIFIC MEASURES APPLICABLE TO CRITERION 1: Fecal Coliform

BMPs (1)	RESPONSIBILITY (2)	DESCRIPTION OF MEASURES (3)	FUNDING & RESOURCES (4)	IMPAIRMENT SOURCES (5)	DATE (6)	BMP LRP RATING (7)
Georgia Erosion and Sedimentation Control Act, Construction Permit, 2003 Amendment	City of Cartersville - Bartow County, Georgia DNR/ EPD, Georgia Soil and Water Conservation Commission	City of Cartersville, Bartow County certified as Local Issuing Authority for land-disturbing activities. Requires Erosion and Sedimentation Control Plan incorporating best management practices plus "Qualified Personnel" Training and Certification Program adopted from Georgia Soil and Water Conservation Commission. Certification of on-site "Qualified Personnel" to ensure proper design, construction, and maintenance of standard E & S control measures and storm water management practices	City of Cartersville-Bartow County	Urban Development	2003	5

Erosion and Sedimentation Control Training and Certification, Amended 2007	Georgia Soil and Water Conservation Commission, GA EPD, Rolling Hills RC&D, Bartow County	House Bill 285 requires state certification in Erosion and Sedimentation Control for anyone involved in the following activities: land development, design, review, permitting, construction, monitoring, inspection, or any land-disturbing activity in Georgia (Georgia Soil and Water Conservation Commission, 2005). The GSWCC also has updated requirements for E&SC plans to be submitted with each project. Three levels of certification are offered through the Rolling Hills Regional Conservation and Development Council (RC & D) and Chattahoochee Technical College. Bartow has held class also, level 1A.	Georgia Soil and Water Conservation Commission, GA EPD, Bartow County	Urban Development	2007	5
Georgia's Best Management Practices	Georgia Forestry Commission (matters involving enforcement are generally referred to GA EPD)	GFC program to inform landowners, foresters, timber buyers, loggers site preparation and reforestation contractors and others involved with silvicultural operations about commonsense, economical effective practices to minimize nonpoint source and thermal pollution. GFC encourages and monitors compliance and conducts a complaint resolution program.	On private land the responsibility/cost for installing and maintaining BMPs would be on the landowner, or the timber harvester when a company is logging on someone's land.	Silviculture Runoff	Ongoing	5
Georgia Forestry Commission Monthly BMP Assurance Examination	Georgia Forestry Commission (matters involving	In an effort to document "reasonable assurance" that water quality will be proactively protected during regular ongoing silvicultural operations, the GCF	Federal and State	Silviculture Runoff	Ongoing	5

	enforcement are generally referred to GA EPD	will offer a monthly BMP assurance examination of active sites. All active of ongoing sites will be identified either through monthly air patrol flights, courthouse records, riding the roads, notification or by landowners. Sites located within watersheds of specific biota (sediment) impaired streams will be given a higher priority to identify and conduct examinations.				
Georgia Growth Planning Act, Part 5	City of Cartersville/Bartow County Government	Coordinated Planning Program, managed by Georgia DCA, assigns local governments Environmental Planning Criteria (set by Georgia DNR) to include in local long-term comprehensive plans: • Water Supply Watersheds • Groundwater • Wetlands • Protected Rivers • Protected Mountains Program also requires local governments to identify Developments of Regional Impact (DRI) and develop plans to protect and manage Regional Impact Resources (RIR).	City of Cartersville/Bartow County Governments Impact Fees	Urban Development Agriculture Wildlife	1989	Effectiveness varies with the specific BMPs applied.
Phase II NPDES Storm Water Permit for Small MS4	Georgia DNR & EPD, Bartow County	Requires local jurisdictions to develop a comprehensive Storm Water Management Program (SWMP) to include 1. Public Education and Outreach; 2. Public Participation and Involvement; 3. Illicit Discharge Detection and Elimination; 4. Construction Site	Bartow County	Urban Development	2007	5

		Storm Water Runoff Control; 5. Post-Construction Storm Water Management in New Development and Redevelopment; 6. Pollution Prevention and Good Housekeeping related to municipal operations, reporting, monitoring, and program implementation.				
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	General storm water discharge permit for manufacturing facilities; mining, oil & gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage sludge treatment. Requires implementation of Storm Water Pollution Prevention Plan. May require storm water monitoring program targeting discharges into/near 303(d) listed waters.	State	Urban Development	2007	5
Construction Storm Water Discharge NPDES Permit	Georgia DNR/EPD	General storm water discharge permit for stand-alone construction sites; infrastructure projects; and common developments. Requires implementation of Erosion, Sedimentation and Pollution Control Plan plus monitoring of discharge for compliance with Georgia's in-stream water quality standards.	State	Urban Development	2007	5
National Pollution Discharge Elimination System (NPDES) Permit	U.S. Environmental Protection Agency & GA	U.S, Environmental Protection Agency and GA Environmental Protection Division	Federal and State	Agriculture	UNK	5

Regulations for CAFOs over 1,000 animal units.	Environmental Protection Division					
Sanitary Sewer Maintenance Program	City of Cartersville-Bartow County	Sanitary Sewer system inventory and inspection (mapping, television inspections); infiltration and inflow identification and reduction (flow monitoring, smoke testing); sewer line rehabilitation (pipe bursting, relining, cleaning) and manhole rehabilitation.	City of Cartersville-Bartow County	Urban Development	Ongoing	UNK
Regulation of On-Site Sewage Management Systems, IAW O.C.G.A. 290-5-26	Georgia DHR, Bartow County Board of Health	Rules and regulations for installation and repair of on-site sewage management systems.	State, Bartow County Board of Health	Urban Development	Ongoing	Effectiveness will vary with the specific application and must be individually determined.
Etowah Habitat Conservation Plan Standard Operating Procedure (SOP) for Erosion and Sedimentation Control	US Fish and Wildlife Service, Bartow County	SOP includes six elements: 1. Two required preconstruction meetings- one, an early meeting with the site planner and relevant E&S professionals to identify problem areas before site plans are Finalized, and two, a subsequent meeting with the utilities, engineers, developer, E&S installation crew, and owner to review where and how E&S control measures will be installed; 2. Semi-monthly reporting requirements; 3. A bonding program; 4. A minimum inspection frequency requirement; 5. A brief E&S checklist for building inspectors; and 6. Designation of emergency on-call E&S personnel from each development. Requires updates to ordinances in	Bartow County	Urban Development	2004(SOP Erosion and Sedimentation Control 2006 (Grading Ordinance)	UNK

		participating jurisdictions.				
Etowah Habitat Conservation Plan Stormwater Ordinance with Better Site Design Guidelines and Addendum: Runoff Limits, Priority Area Protection and Maintenance of Stormwater Facilities	US Fish and Wildlife Service, Bartow County, City of Cartersville	Additions to Metropolitan North Georgia Water Planning District Model Storm Water Management Ordinance addressing impervious surface runoff including 1. Clarification of bond and fee requirements; 2. Strengthening maintenance and inspection requirements, 3. Encouraging the use of Better Site Design credits, with additional performance standards for high priority habitat areas including section five, Model Runoff Limits Ordinance. This establishes requirements for runoff infiltration system installation and maintenance. Development of Runoff Limits Manual in progress (2006) Engineering Specifications for Structural BMPs. Requires updates to ordinances in participating jurisdictions.	Bartow County, City of Cartersville	Urban Development	Compliant with or exceeds Metro N. GA District SW ord. 12/07/05	UNK
Etowah Habitat Conservation Plan Stream Buffer Ordinance	US Fish and Wildlife Service, Bartow County	For those jurisdictions in the Metropolitan North Georgia Water Planning District, Additions are made to the district's Model Stream Buffer Ordinance addressing granting of variances. Requires updates to ordinances in participating jurisdictions.	Bartow County	Urban Development Agriculture Wildlife	Compliant with or exceeds Metro N. GA District model ord. 12/07/05	UNK
Etowah Habitat Conservation Plan Conservation	US Fish and Wildlife Service,	For those jurisdictions in the Metropolitan North Georgia Water Planning District, changes made	Bartow County	Urban Development	Compliant with or	UNK

Subdivision Ordinance	Bartow County	to the district's Model Conservation Subdivision Ordinance include requirement of site map analysis for all developments with open space plans, instruments of permanent protection, and a four-step design process specified; and changes to primary conservation sites to be included in open space requirements including 100-year floodplain, 75-foot stream buffers, 25%-or-greater slopes, wetlands, endangered species habitats, and archeological sites. Requires updates to ordinances in participating jurisdictions. Places emphasis on protecting stream buffers and significant hydrological features.			exceeds Metro N. GA District model ord. 12/07/05	
Etowah Habitat Conservation Plan Conservation Road Crossing and Culvert Design Guidelines	US Fish and Wildlife Service, Bartow County	Road Crossings Technical Committee is in the process of developing design guidelines for road crossings of stream and stream culverts to alleviate habitat concerns that pipe culverts limit fish movement in stream	Bartow County	Urban Development	In committee	UNK
Etowah Habitat Conservation Plan Conservation Utility Line Crossing and Construction Recommendations	US Fish and Wildlife Service, Bartow County	Utility Crossings Technical Committee is in the process of developing design guidelines for utility stream crossings to reduce sedimentation and other habitat concerns resulting from erosion of land disturbed by utility activities	Bartow County	Urban Development	April,28 2006	UNK

Work Sheet for Table 5B. is designed to evaluate the capacity of existing or installed BMPs described in Table 5A. that have been implemented to reduce pollutant loadings from significant non-point sources identified in Table 4. Apply this work sheet as a local guide to evaluate BMPs in achieving water quality goals, establishing priorities for grant or loan programs, and identifying priorities for local watershed assessments and management plans.

Work Sheet for Table 5B. EVALUATION OF CURRENT AND ACTIVE MANAGEMENT MEASURES AND ACTIVITIES

APPLICABLE TO CRITERION 1: Fecal Coliform

IMPAIRMENT SOURCES (1) (From Table 4)	**IMPACT RATING (2)** (From Table 4)	**APPLICABLE BMPs (3)** (From Table 5A)	**EVALUATION SUMMARY (4)**	**ADDITIONAL INFORMATION / ACTIONS NEEDED (5)**
Urban Development	25	The Etowah Habitat Conservation Plan has several ordinances that help to limit urban runoff.	N/A	N/A
Wildlife	9	N/A	N/A	N/A
Agriculture	9	N/A	N/A	N/A

Table 5B. identifies new management measures that could improve or supplement current Load Reduction Potential (LRP) ratings or enhancements to existing BMPs that have been judged inadequate for achieving the load reductions. Evaluations in the Work Sheet for Table 5B. have determined that additional or enhanced management measures are necessary to more effectively reduce pollutant loads from the most likely non-point sources of impairment. The rating chart provides guidance for rating the Load Reduction Potential (LRP) of a BMP applied to a specifically identified non-point source:

New or Enhanced BMP Load Reduction Potential Rating Chart (Percent Removal of Pollutant by the BMP)	**Rating**
None or negligible (approximately 0-5%)	.5
Low to medium (approximately 5-25%)	1
Medium to High (approximately 25-75%)	3
High (approximately 75% or more)	5
Unknown	UNK

Table 5B. RECOMMENDED NEW MANAGEMENT MEASURES AND ACTIVITIES

APPLICABLE TO CRITERION 1: Fecal Coliform

NEW BMPs (1)	**RESPONSIBILITY (2)**	**DESCRIPTION (Identify whether new or enhanced) (3)**	**FUNDING & RESOURCES (4)**	**IMPAIRMENT SOURCES (5)**	**TARGET DATE (6)**	**NEW BMP LRP RATING (7)**
Stormwater BMP's	Industry, local government	NEW	Various	Urban Runoff	N/A	UNK
Agricultural BMP's	USDA, NRCS, farmers	NEW	Various	Livestock waste	N/A	UNK
Septic tank outreach	Local environmental health department	Use 319 funds to enhance septic tank maintenance outreach.	Various	Leaking septic systems	N/A	UNK
Wildlife	N/A	N/A	N/A	N/A	N/A	N/A

VI. MONITORING PLAN

This section describes parameters to be monitored, status, whether monitoring is required for watershed assessments or storm water permits, and the intended purpose. **Submittal of a Sampling Quality Assurance Plan (SQAP) for Georgia EPD approval is mandatory if monitoring data is to be qualified to support listing decisions.**

Water quality data used to evaluate the criteria violated are less than five years old? Yes [X] No [ ].

Table 6. MONITORING PLAN

APPLICABLE TO CRITERION 1: Fecal Coliform

PARAMETER (S) TO BE MONITORED (1)	RESPONSIBLE ENTITY (2)	STATUS (CURRENT, PROPOSED, OR RECOMMENDED) (3)	TIME FRAME (4)		PURPOSE (If for listing assessment, date of SQAP submission) (5)
			START	END	

VII. PLANNED OUTREACH FOR IMPLEMENTATION

Table 7. lists and describes local outreach activities that will be conducted to support this implementation plan or to help improve water quality in the segment watershed.

Table 7. PLANNED OUTREACH FOR IMPLEMENTATION

APPLICABLE TO CRITERION 1: Fecal Coliform

RESPONSIBILTY (1)	DESCRIPTION (2)	AUDIENCE (3)	START OR COMPLETION DATE (4)
CRBI	Presentations concerning non point pollution are given to elementary school students at local	Local Schools	Throughout Year

	schools.		
Bartow County Environmental Health Department	Provide packets of information containing do's and don'ts for septic system maintenance as well as a 9 minute DVD dealing with septic system maintenance.	Packets of information are issued for every permit issued as well as every repair permit issued. Information is also given to people concerned with this issue.	Ongoing
Keep Bartow Beautiful	"Project WET" is a program to help educate on water quality, water conservation, and stormwater issues.	Local Teachers	2009-2010
Keep Bartow Beautiful	"Project WILD" is a program to help educate on water quality, water conservation, and stormwater issues.	Local Teachers	2009-2010
Keep Bartow Beautiful	Education program involving an Enviroscape to explain non-point pollution	Local school children, 4H groups, etc.	Ongoing
Keep Bartow Beautiful	Stream cleanups held on October. Over 1,600lbs. of trash was collected from several streams in Bartow County last year.	Local Students	Yearly

VIII. MILESTONES AND BENCHMARKS OF PROGESS FOR BEST MANAGEMENT PRACTICES (BMPs) AND OUTREACH

Table 8. shows what milestones and benchmarks have been developed to validate the progress of local best management measures identified in Tables 5A., 5B., and other sections of this plan in reducing pollutant loads from identified non-point sources of impairment.

Table 8. MILESTONES OF PROGRESS

BMP (1)	MILESTONE / BENCHMARK (2)	RESPONSIBLE ORGANIZATION (3)	METHOD / TIMELINE (4)	BMP STATUS (5) INSTALLED TABLE 5A.	BMP STATUS (5) PROPOSED TABLE 5B.
Education and Outreach	Educate local school children about non-point pollution.	CRBI	UNK	x	
Septic tank outreach and education.	Provide information for new septic tank permits and repairs.	Bartow County Environmental Health Department	UNK	x	
Project WET	Educate teachers on water	Keep Bartow Beautiful	UNK	x	

	quality issues.			
Project WILD	Educate teachers on water quality issues.	Keep Bartow Beautiful	UNK	x
Non-point pollution education and outreach.	Presentations using Enviroscape to show non-point pollution.	Keep Bartow Beautiful	UNK	x
Stream cleanups	Remove litter from several streams in Bartow County	Keep Bartow Beautiful	UNK	x

IX. STAKEHOLDERS

This section describes outreach activities engaging local stakeholders in the TMDL implementation plan preparation process, including the number of attendees, meeting dates, and major findings and recommendations.

April 1, 2009 Initial TMDL Planning Meeting held at the Northwest Georgia Regional Commission The mailing list for the first meeting went to out to local government officials in cities and counties that had impaired streams in their watershed. For the initial meeting 62 people were emailed and 24 attended. Chris Falkner, Environmental Outreach Coordinator from the Environmental Protection Department gave a PowerPoint presentation that explained the TMDL process and how they are developed, as well as a list of the streams that are currently on the 303 (d) list. At the end of the meeting it was determined that the people in attendance compile a list of people that they would like to act as stakeholders for the impaired streams in their particular watershed.

May 2, 2009 Stakeholder Meeting concerning impaired streams in Bartow County (17 attendees) The meeting began with a PowerPoint presentation that described the TMDL process and the contractor's responsibilities under this contract, as well as the timeline for the TMDL process. Cindy Haygood of the Rolling Hills RC&D gave a presentation concerning current projects that the RC&D is involved with, particularly installing agricultural and non-agricultural BMP's, as well as, a program for septic tank pump out. Machelle Simmons of the NRCS discussed the EQUIP program. It was explained that the EQUIP program is a competitive program that is 75/25 cost share program that can help with things such as fencing cattle out of streams and alternative drinking systems. It was also mentioned that the NRCS would be willing to give anyone free technical assistance. Glynn Forester of the Farm Service Agency in Calhoun discussed the Continuous Conservation Reserve Program. This program can be up to 90% cost share and other partnering agencies like the RC & D and NRCS can provide other assistance. Possible sources of fecal contamination in Pettit Creek were then discussed. It was mentioned that the majority of this segment is on sewer and that septic tanks probably do not contribute much in the form of fecal contamination. It was also stated that there was a rapid conversion of pastureland to development, which

has gradually slowed in this area. There isn't a large amount of agriculture in the area, however it was mentioned that wildlife still probably contribute to the fecal contamination.

August 6, 2009 Bartow/Gordon Stakeholder Meeting held at the Jackson House in Adairsville (7 attendees) This meeting was open house format because all of the attendees had either been at a previous TMDL meeting or had a good understanding of the TMDL program. The attendees were asked about BMPs in the area and if there were any new implementations that they would like to see in the watersheds. One farmer stated the he along with many other farmers would be in favor of BMPs; however many had not heard about the assistance from the USDA. Potential sources of non-point pollution were discussed. It was mentioned that there are many places that have large populations of Canadian geese. The increased funds for year 2010 319 grant projects were discussed and it was mentioned that this funding could be used to purchase monitoring equipment and to start an Adopt-a-Stream group in Bartow or Gordon County or to address leaking septic tanks with either records inventory or a aerial infrared photography survey.

Following is a list of advisory committee or watershed group members who participated in this TMDL implementation planning process.

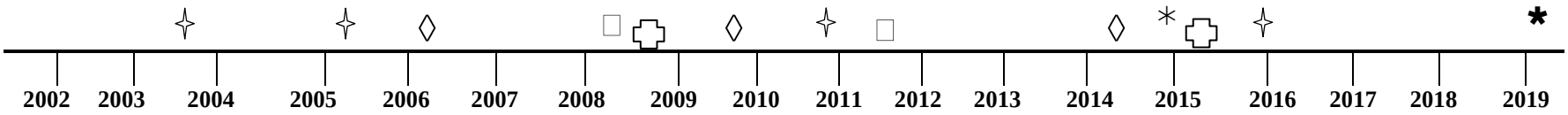
Table 9. STAKEHOLDER ADVISORY GROUP MEMBERS

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Larry Pratt/ City of Adairsville	116 Public Square	Adairsville	GA	30103	(770) 773-2605	lvp2853@bellsouth.net
Wade Wilson/City of Adairsville, Wilson Engineering	105 S. Main St.	Adairsville	GA	30103	(770) 773-1717	wade_wilson@comcast.net
Sheri Henshaw/Keep Bartow Beautiful	115 W. Cherokee Ave., Suite 1 Cartersville, Ga 30120	Cartersville	GA	30120	(770) 387-5167	henshaws@bartowga.org
Christina P. Williams/City of Cartersville Stormwater Program Manager	PO Box 1390	Cartersville	GA	30120	(770) 387-5602	cwilliams@cityofcartersville.org

Tim McCown/Chemical Products Corp.	PO Box 2470	Cartersville	GA		(770) 382-2144	tmccown@cpc-us.com
Evan King/Mayor-City of Adairsville	116 Public Square					
Davis Nelson/ Coosa Soil and Water Rolling Hills RC&D	20 Angus Trail	Cartersville	GA	30120	(404) 213-3840	angusfarms@roadrunner.com
Carol Griner/ Bartow County Technician NRCS	320 W. Cherokee Ave.	Cartersville	GA	30120	(770) 387-5189	grinerc@bartowga.org
Machelle Simmons/ USDA NRCS	717 South Wall St. Suite 1	Calhoun	GA	30701	(706) 629-2582 x 3	machelle.simmons@ga.usda.gov
Gene Camp/Bartow County Water System	P.O. Box 850	Cartersville	GA	30120	(770) 387-5170	campg@bartowga.org
Cindy Haygood/Rolling Hills RC & D	512 Main St	Cedartown	GA	30125	(770) 749-0444	cindy@rollinghillsrcd.org
Glenn Forrester/FSA	717 South Wall St. Suite 1	Calhoun	GA	30701	(706) 629-2582	glenn.forrester@ga.usda.gov
Clarence Brown/Bartow County Commissioner	135 West Cherokee Ave. Suite 124	Cartersville	GA	30120		brownc@bartowga.org
Catherine Fox/Fox Environmental	262 Forkner Dr.	Decatur	GA	30030	(404) 441-7568	cfox@foxenvironmental.net
Steve Bradley/Bartow County Administrator	135 West Cherokee Ave. Suite 241	Cartersville	GA	30120	(770) 387-5030	bradleys@bartowga.org
Kay Read/ Cartersville/Bartow Chamber of Commerce	PO Box 307	Cartersville	GA			
Chris Faulkner/Environmental Outreach Coordinator	4220 International Parkway, Suite 101	Atlanta	GA	30354	(404) 675-1654	Chris_Faulkner@dnr.state.ga.us
Erica Stewart/Mohawk Ind.					(706) 428-8133	erica_stewart@mohakind.com
Randy Waskul/Mohawk					(706) 428-8147	randy_waskul@mohawkind.com
Robert F. Peoples/Peoples & Quigley Inc.	6059 Bolyston Dr.	Sandy Springs	GA	30328	(404) 255-2650	rpeoples@pandqinc.com

PROJECTED IMPLEMENTATION TIMELINE

The projected date to attain and maintain water quality standards in this watershed is 10 years from receipt of this TMDL Implementation Plan by Georgia EPD.



- Projected EPD Basin Group Monitoring
- New TMDLs Completed
- Tier 2 TMDL Implementation Plan Received by EPD
- Evaluation of Implementation Plan / Water Quality Improvement
- Projected Implementation Timeline for Plans Prepared in 2006
- Projected Implementation Timeline for Plans Prepared in 2009

Preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 of the Federal Water Pollution Control Act, as amended.

Prepared By:	Ben Robinson & Jonathan Bridges				
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City:	Rome	ST:	GA	ZIP:	30162-1793
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Date Submitted to EPD:	09/30/09			Revision:01	

APPENDIX A.

OUTREACH ATTENDANCE

Following is a list of the local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations, including environmental groups and individuals, with a major interest in this watershed.

NAME/ORGANIZATION	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Larry Pratt/ City of Adairsville	116 Public Square	Adairsville	GA	30103	(770) 773-2605	lvp2853@bellsouth.net
Wade Wilson/City of Adairsville, Wilson Engineering	105 S. Main St.	Adairsville	GA	30103	(770) 773-1717	wade_wilson@comcast.net
Sheri Henshaw/Keep Bartow Beautiful	115 W. Cherokee Ave., Suite 1 Cartersville, Ga 30120	Cartersville	GA	30120	(770) 387-5167	henshaws@bartowga.org
Christina P. Williams/City of Cartersville Stormwater Program Manager	PO Box 1390	Cartersville	GA	30120	(770) 387-5602	cwilliams@cityofcartersville.org
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Evan King/Mayor-City of Adairsville	116 Public Square					
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Carol Griner/ Bartow County Technician NRCS	320 W. Cherokee Ave.	Cartersville	GA	30120	(770) 387-5189	grinerc@bartowga.org
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Gene Camp/Bartow County Water System	P.O. Box 850	Cartersville	GA	30120	(770) 387-5170	campg@bartowga.org
Cindy Haygood/Rolling Hills RC & D	512 Main St	Cedartown	GA	30125	(770) 749-0444	cindy@rollinghillsrcd.org
Glenn Forrester/FSA	717 South Wall St. Suite	Calhoun	GA	30701	(706) 629-	glenn.forrester@ga.usda.gov

	1				2582	
Clarence Brown/Bartow County Commissioner	135 West Cherokee Ave. Suite 124	Cartersville	GA	30120		brownc@bartowga.org
Catherine Fox/Fox Environmental	262 Forkner Dr.	Decatur	GA	30030	(404) 441-7568	cfox@foxenvironmental.net
Steve Bradley/Bartow County Administrator	135 West Cherokee Ave. Suite 241	Cartersville	GA	30120	(770) 387-5030	bradleys@bartowga.org
Kay Read/ Cartersville/Bartow Chamber of Commerce	PO Box 307	Cartersville	GA			
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Randy Waskul/Mohawk					(706) 428-8147	randy_waskul@mohawkind.com
Robert F. Peoples/Peoples & Quigley Inc.	6059 Bolyston Dr.	Sandy Springs	GA	30328	(404) 255-2650	rpeoples@pandqinc.com

APPENDIX B.

STATUS REPORTS / UPDATES TO THIS PLAN

If there are any revisions to an existing plan, this section will describe the date, section or table updated, and a summary of what was changed and why. A Status Report / Updates on Existing Local TMDL Implementation Plans and Watershed Remediation will be attached as a separate document.

N/A This is a new TMDL implementation plan.

APPENDIX C.

VISUAL FIELD SURVEYS, NOTES, PHOTOGRAPHS, AND MAPS.

Pettit Creek- Satterfield Branch to Nancy Creek
Bartow County
Surveyors: Ben Robinson & Jonathan Bridges 3/30/09
Weather: Heavy rain over previous days, sunny, high cloud cover

Site #1: GA Hwy. 283/ Outside Atco
Slow to moderate flow; murky due to rain. Around a 10 ft. buffer, bordered on the southern side by power line right-of-way, and on the northern side by old and somewhat refurbished industrial plant. There is a double sediment fence on the old industrial, downstream side of the creek. There is also a brick plant and other light industry around the area.

Site #2: Mission Rd.

Good, relatively clear flow in shallow areas. Mostly residential, with a few businesses. Adjacent to an in-process development that has a graded, exposed earth and which was cited by the City of Cartersville for violating the sediment control ordinance.

Site #3: Burnt Hickory Rd.
Agricultural/Industrial Area with a rock quarry overlooking the creek. Flow is slow to moderate, with some scum on top. There is a litter blockage downstream.

Sources

www.georgiastats.uga.edu

EPD data (NPDES, landfill, supplied by Chris Faulkner, Environmental Outreach Coordinator, EPD.

"Total Maximum Daily Load Evaluation for Twenty-Nine Stream Segments in the Coosa River Basin for Fecal Coliform." January, 2009. The Georgia Environmental Protection Division of the Department of Natural Resources. Atlanta, GA.

In person discussion with CRBI Program Coordinator David Promis, 7/16/2007.

http://maps.google.com

Statement on Developments of Regional Impact: David Howerin, Planning Director: Northwest Georgia Regional Commission.
"Georgia's Best Management Practices for Forestry." January 1999, Georgia Forestry Commission.

LRP rating- Best Management Practices for Georgia Agriculture: conservation practices to protect surface water Quality. March 2007. The Georgia Soil and Water Conservation Commission.

Erosion and Sedimentation Control Issuing Authorities, by County. Updated January 23, 2009. Georgia EPD: Watershed Protection Branch. Frank Carubba.

Bartow County NPDES permit http://www.bartowga.org/engineering/PDfs/Bartow%20NPDES%20PERMIT%202008-2012.pdf

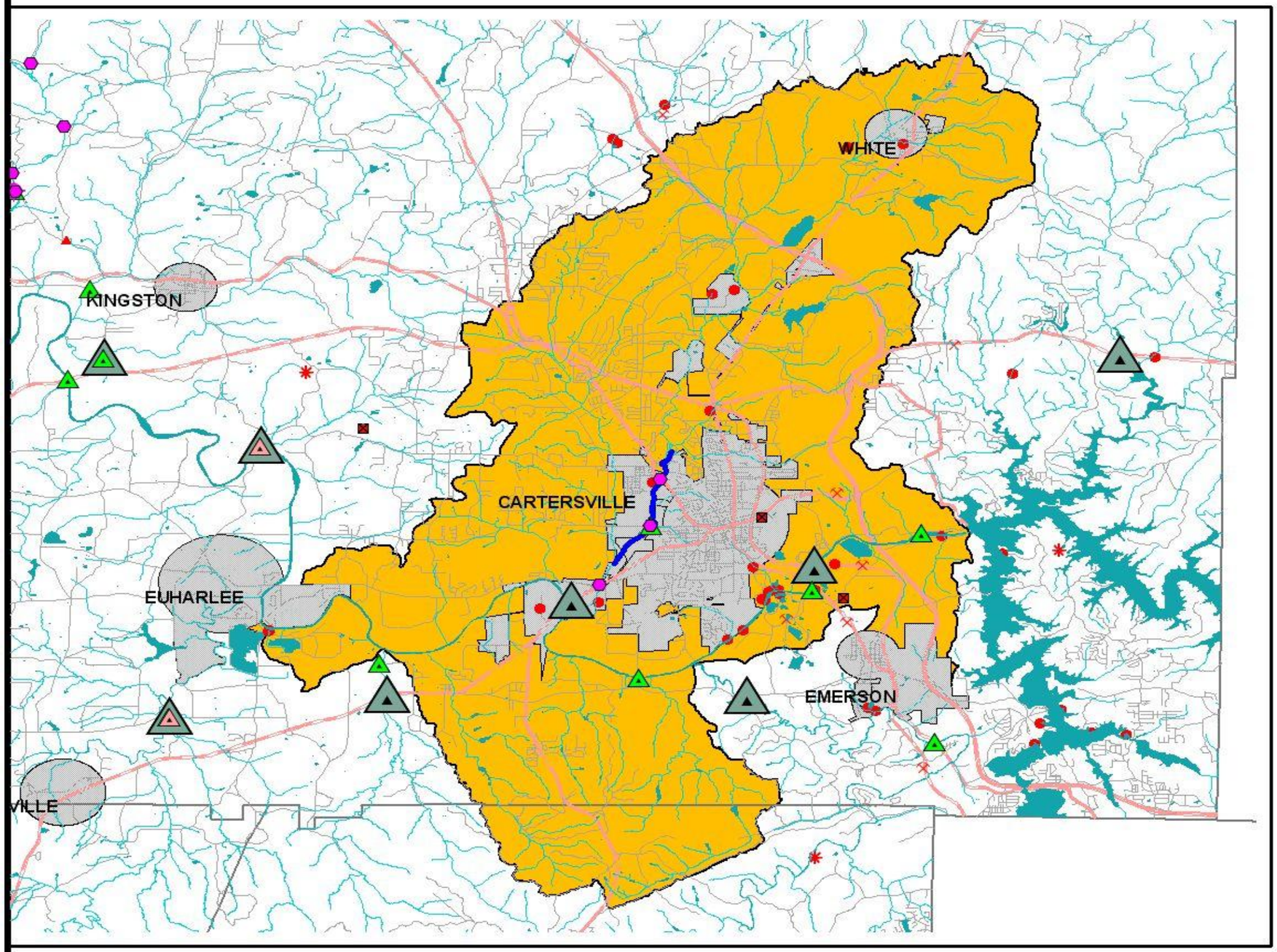
Joint County-City Comprehensive Plan 2007-2027 Community Agenda For Bartow County And the Cities of Adairsville, Emerson, Euharlee, Kingston, Taylorsville and White. February 2008

Community Assessment Volume 1: Issues and Opportunities Comprehensive Master Plan City of Cartersville. October 9 2006.

Code of Ordinances County of Bartow http://www.municode.com/Resources/ClientCode_List.asp?cn=Bartow%20County&sid=10&cid=5237

Draft Etowah Aquatic Habitat Conservation Plan December 14, 2007. Section 10 Appendices A-F

Water District Plan Implementation Review, Metropolitan North Georgia Water Planning District 2006
http://www.northgeorgiawater.com/files/2006PlanImplementaionReview.pdf



Tier 2 TMDL Implementation Plan
and
Extended Revisions

Pettit Ceek
Etowah Watershed
HUC10# 0315010413

Saterfield Branch to Nancy Creek

N

- **Water Quality Monitoring Stations 2009**
- **USGS Water Quality Monitoring Stations 2001**
- **USGS Water Quality Monitoring Stations 2005**
- **EPD Water Quality Monitoring Stations**
- **Field Survey Locations 2009**