STATE OF GEORGIA
TIER 2 TMDL Implementation Plan (Revision # 01)
Segment Name: Snake Creek Date: 9/30/2009
River Basin: Coosa River Basin
Local Watershed Governments:
Gordon, Floyd, Walker, and Whitfield Counties;
Cities of Calhoun, Resaca, Plainville.

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.

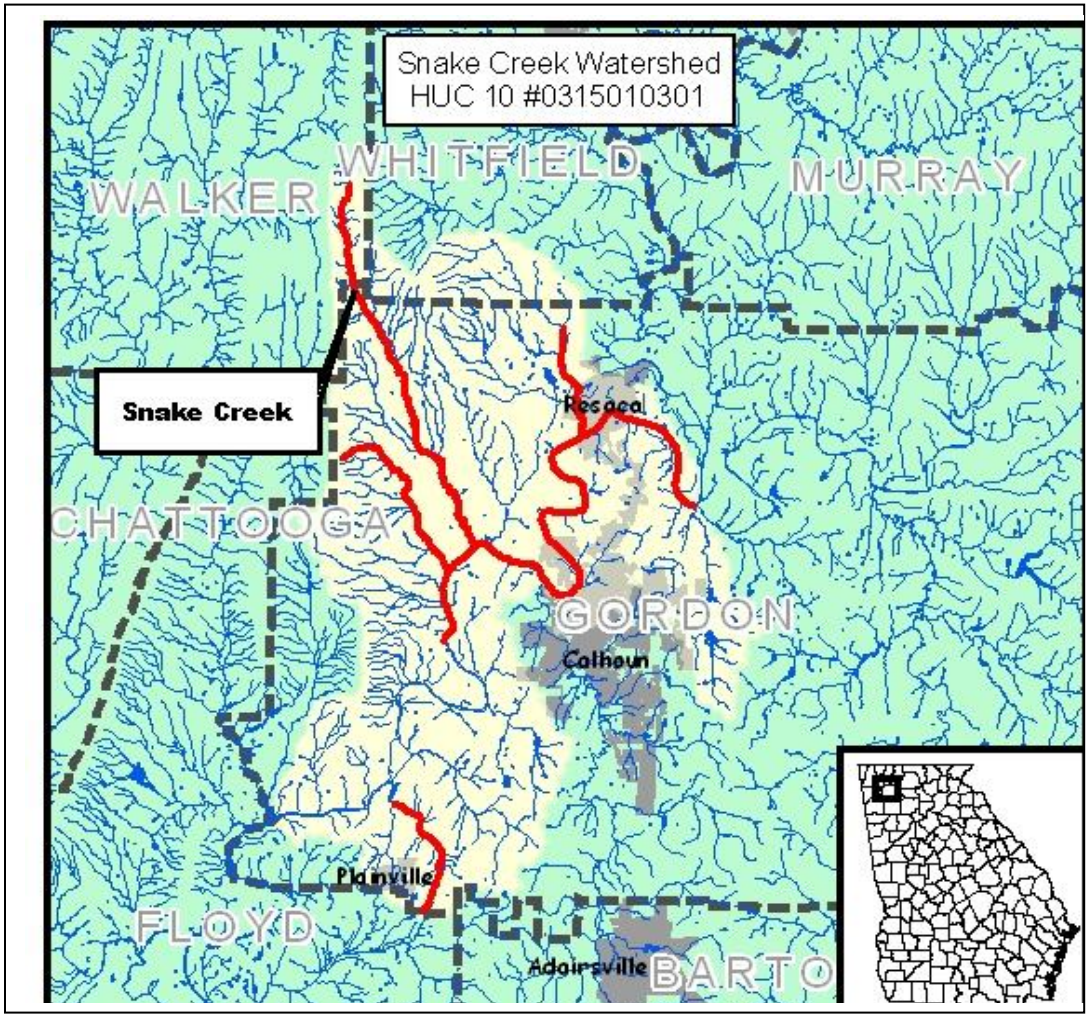


Table 1. IMPAIRED SEGMENTS IN THE HUC 10 WATERSHED

IMPAIRED SEGMENT	IMPAIRED SEGMENT LOCATION	EXTENT (mi/ac)	CRITERIA VIOLATED	EVALUATION
Oostanaula River	Conasauga/Coosawattee to Oothkalooga Creek	11	Fecal Coliform	Not Supporting
Camp Creek	Dry Creek to Oostanaula River	3	Fecal Coliform	Not Supporting
Snake Creek	Headwaters to Oostanaula River	11	Fecal Coliform	Not Supporting

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.

General Information on the HUC #10

The 0315010301 HUC 10 watershed drains an area of approximately 75,459 acres or 118 square miles. It stretches from its northwest corner in Walker and Whitfield Counties to the western and southern borders of Gordon County. Its borders mostly skirt southern and central Calhoun while almost encompassing all of Resaca and in total about the whole western half of Gordon County. It also takes in very small parts of northern and east-central Floyd County. It is mostly forested area, with most of the developed land being cultivated land or otherwise agricultural in nature. The watershed's land use is generally in line with the land use for the whole county, which is detailed below:

Forestry and Agricultural Land Use in Gordon County

Forestland: % of Total/ Acres	Land in Farms: % of Total Land/ Acres	Harvested Cropland: % of Total Land/Acres
53.4% / 121, 600	34.8%/ 79,128	10 %/ 22,794

Source: georgiastats.uga.edu (2007)

The physiographic type of this area is defined as the Ridge and Valley 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.

Potential Sources

The potential non-point sources of fecal coliform in the watershed are of both the point and non-point source variety. 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 off as a result of storm events.

Point Sources in the Watershed

Title IV of the Clean Water Act establishes the National Pollutant Discharge Elimination System (NPDES) permit program. Basically, there are two categories of NPDES permits: 1) municipal and industrial wastewater treatment facilities, and 2) regulated stormwater discharges. There are no such stormwater discharges in the Snake Creek sub-watershed.

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 plants 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.

NPDES WWTPs – HUC 10 # 0315010301

Facility Name	Receiving Waterway	Type of Facility	Discharge Flow (MGD)	Permit Number
Calhoun WPCP	Oostanaula River	Municipal/LAS	16	GA0030333
W.L. Swain Elementary School	Robbins Creek	Gen PID	.01	GA0032221
Cumberland Academy	Oostanaula River	PID	.016	GA0035947

* None of these discharge into the Snake Creek sub-watershed, as they are all downstream. Source: EPD Data

Nonpoint Sources

Wildlife Sources

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. This is because they are typically found on the water surface, often in large numbers, and deposit their feces directly into the water. 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).

Agricultural Sources

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 tables provide the estimated amount of farm animals in Gordon County: both livestock and poultry numbers.

Livestock population for Gordon 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
12,800	4,200	0	760	200	80	1,800	0	0

Source: georgiastats.uga.edu (2008)

The majority of poultry farms in Georgia are dry manure operations where the manure is land applied. This can be a nonpoint source for fecal coliform bacteria. Chicken litter (manure) that is not properly stored or covered from the elements could also lead to fecal runoff. Chicken litter is also commonly spread on fields as a natural fertilizer, which expands the area of potential chicken waste contamination beyond just chicken farms. There are many chicken farms in Gordon County that may be one of the sources of the fecal coliform pollution. The below chart gives an approximate number of chickens in Gordon county from all chicken operations, broken down by types of chickens. 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.

Gordon County Chicken Population, by type (thousands)

Breeder Pullet Unit	Broiler Chickens	Hatching Layers	Table Layers	Total
408	11,180	686.4	100.5	12,374.9

Source: georgiastats.uga.edu (2008)

Agriculture in Northwest Georgia has been experiencing a long-term declining trend along with the increase of development. This is borne out by both conversations with USDA personnel at stakeholder meetings, other stakeholder input, and by the county farm numbers, which show an across the board decrease in the amount of farmland and harvested acreage. Plus, livestock is more often than not slowly decreasing year to year or just staying the same. Poultry levels have plateaued off region-wide. Still, agriculture remains a potential nonpoint source of fecal coliform pollution, but the scope of agriculture in the watershed and any decrease in the size should be considered in the establishment of potential causes of the pollution.

Urban Sources

The Snake Creek watershed is mostly forested and agricultural, which is representative of Gordon counties land use as a whole. Gordon County is less populated, less dense, and more rurally populated than some of its neighboring counties. Though the watershed almost completely falls within Gordon County, urban development is still a potential source for fecal coliform contamination. Even small low- or high-density developments can have an adverse impact upon water quality if there is a systemic problem.

Urban/Rural Demographics of Gordon County

County Pop., 2000 Census	Density/mi^2, 2007	Population Projection for 2010[1]	Density/mi^2 Projection in 2010	% of pop. in rural land, 2000	% of pop. in urban area, 2000
44,104	146.7	56,506	155.5	65.8	34.2

Sources: All georgiastats.uga.edu (2007) except for 1: North Georgia RDC

Fecal coliform originating in urban areas are attributable to multiple sources including: domestic animals, leaks and overflows from sanitary sewer systems, illicit discharges of sewage from older or illegal hookups of sewer lines into stormwater systems, leaking septic systems (whether from urban or rural households), runoff from improper disposal of waste materials, and leachate from both operational and closed landfills. Urban runoff can contain high concentrations of fecal coliform from domestic animals and urban wildlife. 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 into the waterways may be attributed to failure of septic systems and illicit discharges of raw sewage. Most of the residences of the Snake Creek sub-watershed are on septic tanks instead of sewer lines (Georgia DCA, http://www.georgiaplanning.com/planners/SDmaps).

There has been continued urban development in Gordon Counties, as there has been all along the I-75 N corridor. Some of these new households fall outside of the sewer service areas. These new installments are not really viewed as potential sources as almost all new installations are done correctly due to the current rigorous oversight of the Department of Public Health's Environmental Health Specialists, as is the inspection of repairs. The older septic tanks are more likely candidates to fail due to age, increased probability of lack of regular maintenance such as pump-outs, and their installation under a less stringent regulatory system. Those installed pre-1984 didn't have to have professionally certified contractors. Also, pre-1997 the compliance and enforcement mechanisms dealing with violating homeowners and installers were weak. In 1997, Act 280/Senate Bill 165 increased the oversight of this area with strengthened enforcement and inspection powers. The Department of Public Health phased in the implementation of these measures over time in order to correctly train and retrain all involved in the industry and regulatory agency. Failing septic tanks' potential contribution to contamination of surface water is difficult to gauge, as it depends on the type and extent of failure, the dynamics of the geology and the groundwater table at the particular site, and there is also a remote but still significant possibility that there is a failure underground without any tell-tell signs like bubbling up sewage – what's called a sub-surface failure. Between 2004 and 2009 (partial year), there were 2,047 installations of septic tanks and 978 repairs in Gordon County (Northwest Georgia EH). These numbers give a sense of how many new systems are in Gordon County. But they don't tell the total number of septic tanks, and which ones are prone to failure in the Snake Creek area as this is contingent upon many variables such as lot size, size and type of septic tank, intensity of usage, and age along with other factors. Also, these numbers are countywide, not on a watershed basis. Septic tank failures usually are either self-reported or brought to the attention of environmental health staff by concerned neighbors, so individual failures aren't typically a chronic problem.

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. Many of the older, inactive landfills were never permitted. There are four landfills in the HUC 10, though all four are situated where they could not be a source of pollution to Snake Creek since they are on the south side of the Oostanaula River.

In rural areas of North Georgia, it is not uncommon for refuse to be illegally dumped, occasionally directly into the waterways. This illicit activity also includes the dumping of game animal carcasses directly into waterways. This can be a potential human-caused source of pollution.

Management Activities in HUC 10 Watershed

- Erosion & Sedimentation Controls: Gordon County issues its own permits through its building inspector who is also in charge of compliance. Walker County issues its own E&SC permits through its planning commission which is also in charge of compliance.
- The Northwest Georgia Comprehensive Water Management Plan was prepared in October 2004 by the consulting firms MACTEC Engineering and Consulting, Inc. and Brown and Caldwell for the Northwest Georgia Regional Water Resources Partnership (NWGRWRP) and the U.S Army Corps of Engineers (COE). A Preliminary Water Supply Study was issued in January, 2008 by the same consulting firms for the NWGRWRP in order to identify existing water supplies, the projected long-term water supply needs for Northwest Georgia, and the potential new water supply sources to meet those needs. There is an ongoing study – the Northwest Georgia Water Quality Improvement Study and Implementation Plan- conducted by these same firms for the NWGRWRP and the U.S. Army COE. This Study and Plan has four sites located in the City of Calhoun, but none on the northern side of the Oostanaula where Snake Creek flows.
- Watershed Association: The New Echota River Alliance (NERA) is a charter organization of the Coosa River Basin Initiative which focuses its efforts on the major rivers and tributaries within Gordon County.

Information on the Snake Creek Segment (HUC#12: 031501030104)

Snake Creek's headwaters (and the segment's beginning) are in Walker County at the Snake Creek Gap on Horn Mountain, approximately 3 miles east by southeast from the community of Villanow. It flows south by southwest for about 4 miles along GA Hwy. 136 passing thru the Chattahoochee National Forest (West Side, Conasauga Ranger District) and crossing into Gordon County. From there, it flows southwest parallel to GA Hwy. 136 Connector, a highway it crosses twice before flowing just west of the community of Sugar Valley. There, it flows southward towards the Oostanaula River. For much of its 11 mile flow it is flanked to the west by the Johns Mountain Wildlife Management Area. It is classified as a secondary trout stream, which by Georgia law must have a 50 foot riparian buffer against most residential and commercial construction, except when a variance of up to 25 feet is required. The sub-watershed drainage area contains about 9,900 acres – with over 70% of it being forest land and over 20% of it being used for as agricultural land. The below table splits out the land use for the HUC 10 waterways surveyed.

Though the below land use data shows as the second to highest land use to be overall agriculture, a statement that the visual field survey/land use verification confirmed, it shows the highest agricultural use of the area to be row crops. This pattern of land use of the predominance of row crops was not observed. Though there is a large amount of row crop usage, it did not appear to be at this high of a level.

Land use for HUC 10# 0315010301 by category: Acres (Percent)

Stream/ Segment	Open Water	Low Intensity Residential	High Intensity Residential	High Intensity Commercial, Industry, Transportation	Bare Rock, Sand, Clay	Quarries, Strip Mines, Gravel Pits	Forest	Row Crops	Pasture, Hay	Other Grasses (Urban, recreational e.g. parks, lawns)	Woody Wetlands	Emergent Herbaceous Wetlands	Totals
Oostanaula River	3,872 (.5)	14,791 (1.9)	5,192 (.6)	2,880 (.4)	1,464 (.2)	503 (.1)	529,539 (66.2)	21,227 (2.7)	126,283 (19.7)	56,105 (7)	5,710 (.7)	75 (.01)	767,641 (100)
Camp Creek	79 (.8)	209 (2.2)	27.6 (.3)	5.1 (.1)	5.6 (.1)	0 (0)	6,436.6 (67.3)	1,920.8 (20.1)	185 (1.9)	633 (6.6)	65.6 (.7)	1.3 (.01)	9,568 (100)
Snake Creek	4.5 (.04)	66.6 (.6)	20.2 (.2)	14.7 (.1)	1.8 (.02)	42.5 (.4)	7,247 (73.2)	1,656.8 (16.7)	433.7 (4.4)	387.6 (3.9)	30.7 (.3)	1.1 (.01)	9,901.8 (100)

Source: GAEPD publication. *Total Maximum Daily Load Evaluation for Twenty-Nine Stream Segments in the Coosa River Basin for Fecal Coliform. (2009)*

Georgia Forestry Commission BMPs

- All forestry operations are required to comply with the GFC's handbook, "Georgia's Best Management Practices for Forestry" and the BMPs contained within. 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. There were no BMP assurance exams for forestry operations in Gordon County, as there were no complaints to generate such a required inspection and examination. The GFC District 1 (Rome) is responsible for forestry operations in Gordon County.

Major Agricultural Conservation Program in Sub-Watershed

- Continuous Conservation Reserve Program (CCRP): An USDA Farm Service Agency (FSA) program with Natural Resources Conservation Service (NRCS) technical assistance, it is used to help farmers offset the cost of safeguarding environmentally sensitive land, particularly protecting watersheds and wildlife habitats with riparian buffers and other Best Management Practices (BMPs). The farmer is financially with up to a 90% funding using a patch work of funding that exceeds the normal maximum 50% cost share. So usually, the agricultural producer has to only front 10% out-of-pocket expense. Plus, the contracted party gets a rental payment based on a number of factors including soil quality, as this is a type of conservation easement. The contract includes technical expertise along with financial assistance. The contract lasts for ten to fifteen years. During that time, the farmer is responsible for the maintenance of the conservation measures and the NRCS periodically inspects them to ensure their effectiveness. Typically in the Northwest Georgia area, these measures are mostly cattle exclusion from creeks and riparian buffer establishment using fences, as was implemented along Snake Creek.

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 stormwater 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
Snake Creek	Headwaters to Oostanaula River (Walker, Gordon Counties)	Fecal Coliform			1.06E+12	1.17E+12

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	1,000 per 100 ml (geometric mean Nov-April) 200 per 100ml (geometric mean May-Oct)	Agricultural Runoff	21 %
		Urban Runoff	
		Wildlife	
		Failing Septic Systems	

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.

The geographic extent and the potential contribution of each potential non-point source was determined with input from stakeholders, land use data, a field survey, satellite photography from Google maps, and the precedent of the TMDL study document.

Agricultural runoff is a key potential source, particularly with agriculture as a significant land use in this sub-watershed. While it is nearly impossible to gauge the presence of agricultural BMPs' presence or lack thereof due to private property and records restrictions, one can still make a general statement about the likely contribution. There have been no Best Management Practices (BMPs) installed by the Natural Resources Conservation (NRCS) on Snake Creek in the recent past, but they have assisted with helping the Farm Service Agency install some riparian buffers. There are nine chicken houses in the sub-watershed, with four of them being just adjacent to the creek's mouth at the Oostanaula River. This is not to definitively say these poultry & livestock operations are causing most of the problem, but to note their presence and their potential to contribute to elevated fecal coliform levels.

There is very little developed land beyond farms, and a portion of that land is residential – all of which is on septic systems. It is likely that out of all the residences, some of them have septic tanks prone to failure. The status of septic systems is hard to determine because they are on private property, underground, and because they typically don't exhibit signs of the potential to fail until they fail unless they are regularly maintained. When they do fail they are commonly recognized and fixed by trained installers under the oversight of the Environmental Health Department. There is also the possibility, however remote, that failing septic systems are not even apparent to the human eye because they lack the common signs of bubbling up sewage or unusually green grass – a sub-surface failure. This typically is more of a groundwater contamination issue rather than a surface water one, but as the two hydrological systems are sometimes linked, so too can they share potential sources of contamination. These possible scenarios, plus the fact that the majority of soils in the area are considered poor quality for septic systems, make failing septic systems a potential contributor of the contamination in the watershed.

There is also a rock quarry very close to the creek, though that is more of an issue with potential sedimentation than fecal coliform. Urban runoff is also unlikely to be much of a cause, as this area is mostly rural. The creek does run through the community of Sugar Valley, where there is the possibility of some runoff.

With such are large portion of the creek's drainage area being either forested or agricultural, wildlife are a strong potential source. Deer aren't that much of the culprit, as the headwaters of Snake Creek is in a narrow valley that would not hold many deer. Also, deer do not spend as much time in creeks. This is according to the National Forest Service Biologist Ruth Stokes and Ranger Michelle Jones. But waterfowl and other warm-blooded water dwelling creatures like beavers can significantly contribute to the level of fecal coliform in some cases.

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)	
Agricultural Runoff		3		3	9
Urban Runoff	Little Urban Area	.5		.5	.25
Wildlife		3	Valley is too steep for much deer	1	3
Failing Septic Systems	Area on septic tanks	3	Cannot be determined	3	9

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:

Current Management Measures for Gordon

- Issues its own Erosion & Sedimentation Control (E&SC) permits through its building inspector who also is in charge of compliance.
- There are no riparian buffers zones beyond the Georgia standard of 25 feet.
- Has groundwater recharge area, wetlands, and river corridor protection ordinances in addition to a water supply watershed protection plan in its Unified Land Development Code (Chapter 3: Protection of Natural Resources and Features; also respectively found in Article VI,; Article VII; Article IV; and Article V – all enacted 9-15-1998 and part of Chapter 14). These are in voluntary accordance with the Part V. Environmental Planning Criteria jointly issued by the Georgia EPD and the Department of Community Affairs.
- There is no formal Greenspace designation, but the (ULDC) does contain a provision for a "Conservation Subdivision – (CS) zoning district" (Tom Burgess). So far, no one has applied for a zoning change to this designation, and no money has been allocated to purchase greenspace set-asides.

Current Management Measures for Walker

- Most Walker County measures would not affect the creek or only marginally affected since only a small part is within Walker County and most or the entire small segment is within the Chattahoochee National Forest in a narrow valley. Plus, the creeks watershed is not connected with any other watershed in Walker County.
- Issues its own E&SC permits through its planning commission which is also in charge of compliance.
- Ordinances mandating the protection of groundwater recharge areas, wetlands, and the water supply watershed are in effect (Walker County Codes Chapter 26, Article II: enacted 9-3-1991; also in Chapter 34, Article VI, Sections 433-435: enacted 7-20-1994).
- MS4 Status: Walker County is a NPDES Phase II MS4 (Municipal Separate Storm Sewer System) permit holder. This classification is based upon their population size being at least 50,000 and the population density at least 1,000 ppl/mi^2. 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. Only parts one and two of this would really pertain to Snake Creek, as it isn't located near a city's stormwater system.
- Walker County has adopted the Georgia Stormwater Manual and they have stormwater ordinances on the books.

Watershed Group

- The New Echota River Alliance is an environmental advocacy and outreach nonprofit organization that focuses on the part of the Coosa River Basin that falls within Gordon County. It is a charter organization of the Coosa River Basin Initiative with whom it forms the Upper Coosa Riverkeeper. It conducts river cleanups, environmental outreach, and coordinates water quality sampling.

Georgia Forestry Commission BMPs

- All forestry operations are required to comply with the GFC's handbook, "Georgia's Best Management Practices for Forestry" and the BMPs contained within. The BMP Assurance Examination can be given at random to ensure that these measures are being implemented. 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. There were no BMP assurance exams for forestry operations in Gordon County or Walker County, as there were no complaints to generate such a required inspection and examination. Both Walker and Gordon County fall within the GFC District 1 (Rome).

Agricultural Conservation Projects

- Continuous Conservation Reserve Program (CCRP): A FSA program with NRCS technical assistance, it is used to help farmers offset the cost of safeguarding environmentally sensitive land, particularly protecting watersheds and wildlife habitats with riparian buffers and other Best Management Practices (BMPs). Typically in the Northwest Georgia area, these measures are mostly cattle exclusion from creeks and riparian forest buffer establishment using fences, as was implemented along Snake Creek. According to Georgia Statistics, there is 112.6 acres in conservation reserve in Gordon County as of 2009.

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)
Cattle Exclusion from creek w/ Fences (NRCS # 472)	USDA FSA & NRCS	Barriers installed to limit animal, human and wildlife entry into specified areas and water sources; they can limit the amount of fecal matter from these sources that directly get into the water.	CCRP – USDA Farm Bill	Agricultural Runoff: Wildlife and livestock feces		Neutral according to the NRCS; up to 5 according to the GA Ag BMP guidelines
Riparian Forest Buffers (NRCS # 391; CRP # CP-22)	USDA – FSA & NRCS	Part of the same projects that use the above stream fencing, this is the establishment of primarily trees and/or shrubs adjacent to water bodies to protect water quality, provide wildlife habitats and to stabilize stream banks and channels. These buffers are at least 35 feet wide from the top of the bank.	CCRP – USDA Farm Bill	Agricultural Runoff: Wildlife and livestock feces		1-5[2]

Sources - 1: Best Management Practices for Georgia Agriculture. The Georgia Soil and Water Conservation Commission;
2: NRCS National Conservation Practices Standards (NHCP): Conservation Practice Information Sheets.

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)
Agricultural Runoff	9	Riparian Forest Buffers Cattle Exclusion from Creeks	N/A	If these BMPs are judged to be inadequate by local stakeholders, then modifications based on new monitoring and/or assessments should be made.
Urban Runoff	.25	N/A	N/A	N/A
Wildlife	3	N/A	N/A	N/A
Failing Septic Systems	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)
Agricultural BMPs	Farmers; USDA; local environmental groups	New and Enhanced	Various	Agricultural Runoff	TBD	UNK
Stormwater BMPs	Industry; city and county government	New	Various	Urban Runoff	TBD	UNK
Septic Tank BMPs: Educational and Structural Programs	County Environmental Health Office and concerned citizens.	Enhanced from existing Environmental Health outreach with their pamphlets. Possibly new with 319 (h) grant program.	Various	Failing Septic Tanks	TBD	UNK

VI. MONITORING PLAN

This section describes parameters to be monitored, status, whether monitoring is required for watershed assessments or stormwater 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 [ ].

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)
Walker County	The newsletter sent out with the tax bills will include a section on septic tank maintenance.	Walker County Property Owners	Start: 2010
Coosa River Basin Initiative	Train educators and their students in QA/QC Adopt-a-Stream monitoring protocols; conduct environmental education presentations in schools.	Gordon County School Teachers and Pupils.	UNK
New Echota River Alliance	General outreach concerning water issues in Gordon County	General Public	Ongoing.
UGA Cooperative Extension Service – Gordon County Agent Beth Watson	Participate with local school children in clean up of local rivers and parks during Rivers Alive, a state wide event held annually	Gordon County and City School Children	Ongoing
UGA Cooperative Extension Service – Gordon County Agent Beth Watson	Instruct kids about water quality issues with UGA supplied environmental education module, “Poisoned Pump.”	5th Graders in Gordon County and City Schools	Ongoing
UGA Cooperative Extension Service – Gordon County Agent Beth Watson	Instruct kids about water quality and conservation with UGA supplied environmental education module, “Drought and Georgia Curriculum.”	6th Graders in Gordon County and City Schools	Ongoing
Gordon and Walker Counties’ 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.	Gordon County homeowners on septic – primarily reaches new home owners and homeowners w/ recently failed systems.	Ongoing

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.
Riparian Forest Buffers					
Cattle Exclusion from Creeks					
General Outreach to Public		NERA		x	
Adopt-a-Stream Training		CRBI/NERA			x
Rivers Alive Clean-up		UGA Cooperative Extension Service/ 4-H		x	
5th and 6th Grade Environmental Education		UGA Cooperative Extension Service/ 4-H		x	
Septic Tank Education		Environmental Health Departments of Gordon and Walker Counties		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.

On April 1, 2009 an 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. No representatives from the Snake Creek watershed came (Gordon County Government officials). Chris Faulkner, Environmental Outreach Coordinator from the Georgia Environmental Protection Department gave a PowerPoint presentation that explained the TMDL process and how they are developed, as well as how the list of the 303 (d)/305 (b) impaired streams is developed. He then took multiple questions. At the end of the meeting it was determined that the people in attendance would compile a list of people that they would like to act as stakeholders for the impaired streams in their particular watershed. This was ultimately unproductive, as we got very few responses.

On May 28th, 2009 a Gordon County a public stakeholder meeting was held in Calhoun. A presentation was done by employees of the NGRC on what fecal coliform, a TMDL, and a TMDL Implementation Plan are. Also covered in the presentation was what is asked of the stakeholders of the waterways and the potential impacts of the TMDL plan upon different stakeholders and the potential sources of fecal coliform pollution.

Doug Cabe of the Limestone Valley RC & D gave a presentation on a 319(h) grant program his organization along with the Conasauga River Alliance that addressed fixing failing septic systems in the Conasauga River Basin.

Machelle Simmons of the NRCS described the many programs that the USDA offers to implement agricultural BMPs dealing with water pollution and habitat conservation.

The floor was opened up to questions and there was a discussion that involved almost every stakeholder present. Questions were asked concerning using more monitoring to narrow down the source of the pollutant; chicken litter used as fertilizer and its relationship to the fecal coliform contamination; the presence or decrease of agriculture in Gordon and the possible decrease of it as a source of pollution; peculiar smells coming from what Joe Cook of CRBI thought was the Calhoun wastewater LAS (Calhoun says they aren't the source of the smell); how old is an old septic tank (20+ yrs.); and how long this TMDL process has been going on and how long will it continue. Snake Creek did not come up specifically in discussion.

During the Tri-County (Whitfield, Catoosa, Walker) TMDL meeting held in Rock Springs on June 4th, 2009 there was some specific discussion of the Snake Creek segment that lies within Walker County (mostly Chattahoochee National Forest Land). There was talk of chicken houses being present in the watershed, but later examination of satellite photographs showed this was not the case – they were just north of the HUC 10 boundary.

The second public TMDL meeting for Bartow and Gordon Counties was held in Adairsville on August 6, 2009. 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 BMPs or outreach activities 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 haven't learned about them. Sources of non-point pollution were discussed. It was also noted that the real estate bust had a silver lining of reducing the runoff into waterways. Then a discussion began regarding that fecal coliform counts increase significantly during storm events, which is backed by recent sampling done on a Bartow County creek. 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 an aerial infrared photography survey. Also, the possibility of teaming up with the New Echota Rivers Alliance in Gordon County or the Coosa River Basin Initiative in Bartow County to do water monitoring through their Adopt-a-Stream programs. This was well received by many present. Cattle intrusion into waterways was described as widespread, especially on the Oostanaula River. Mohawk Industries described their main current focus as controlling stormwater, along with conducting environmental community service. The possibility of tributaries of these impaired streams contributing to the bacterial problem was addressed by the EPD representative. Snake Creek did not come up directly in conversation.

Table 9. STAKEHOLDER ADVISORY GROUP MEMBERS

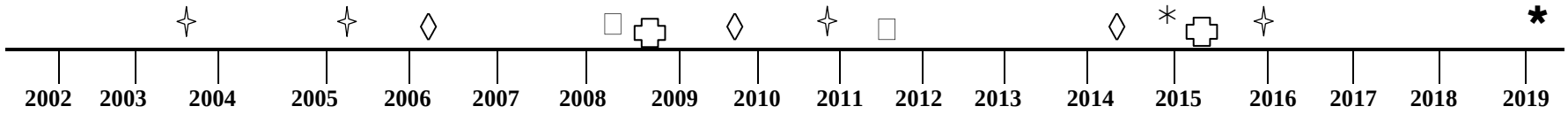
NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Larry Pratt/ City of Adairsville	116 Public Square	Adairsville	GA	30103	(770) 773-2605	lvp2853@bellsouth.net
Wade Wilson/City of Adairsville, Wilson Engineering	105 S. Main St.	Adairsville	GA	30103	(770) 773-1717	wade_wilson@comcast.net
Christy Blair/GCHD, Environmental Health- Gordon County	318 N. River St.	Calhoun	GA	30701	(706) 624-1440	chblair@dhr.state.ga.us
Mary Griffin	3086 Martha Berry Hwy.	Rome	GA	30165	(770) 720-3525	mgriffin@gfc.state.ga.us
Machelle Simmons/ USDA NRCS	717 South Wall St. Suite 1	Calhoun	GA	30701	(706) 629-2582 x 3	machelle.simmons@ga.usda.gov
Doug Cabe/ Limestone Valley RC & D	125 Redbud Rd. Suite 7	Calhoun	GA	30701	(706) 625-7044	doug.cabe@ga.usda.gov

Ted Collins/ Limestone Valley RC & D	8363 Fairmount Hwy.	Fairmount	GA	30319	(706) 629-8222	nogaapp@bellsouth.net
Aimee Abernathy/ City of Fairmount	2265 US Hwy. 411	Fairmount	GA	30319	(706) 337-5306	cityoffairmount@comcast.net
Michael Fowler/Gordon County	200 South Wall St.	Calhoun	GA	30701	(706) 629-0505	mfowler@gordoncounty.org
Jerry Crawford/City of Calhoun	700 West Line St.	Calhoun	GA	30701	(706) 602-6078	jcrawford@calnet-ga.net
Erica Stewart/ Mohawk Industries	405 Virgil Dr.	Dalton	GA	30720	(706) 428-8133	erica_stewart@mohawkind.com
Randy Waskul/Mohawk					(706) 428-8147	randy_waskul@mohawkind.com
Chuck Patterson/ Mannington Commercial Carpets	1844 US Hwy. 41 SE	Calhoun	GA	30701	(706) 602-6381	chuckp@mannington.com
Robert Darnell	813 Plainville Rd.	Adairsville	GA	30103	(770) 773-6181	
Sam Payne	P.O. Box 246	Calhoun	GA	30703	(678) 986-6366	paynefrm@bellsouth.net
Millard Payne					678) 986-6366/ (770) 608-9909	paynefrm@bellsouth.net
Arthur Bowman	121 Bowman Rd.	Calhoun	GA	30701	(706) 629-6118	
Joe Powell	225 Thelma Rd. SW	Calhoun	GA	30701	(706) 629-1840	
Joe Cook/Upper Coosa Riverkeeper	408 Broad Street	Rome	GA	30161	(706) 232-2724	jcook@coosa.org
Dan McBee/NERA	1721 Pine Chapel Rd.	Calhoun	GA	30701	(706) 263-4002	McBee.Dan3@gmail.com
Bill Melville/USEPA	61 Forsyth St.	Atlanta	GA	30303	(404) 562-9266	Melville.william@epa.gov
David Ashburn/Walker County	PO Box 445	LaFayette	GA	30728	(423) 421-6307	daviddashburn@aol.com
Norman Edwards/Walker Co. Extension	PO Box 827	LaFayette	GA	30728	(706) 638-2548	nedwards@uga.edu

Linda Harris/TVA	1101 Market St. PSC-1E	Chattanooga	TN	37402	(423) 876-4178	lbharris@tva.gov
Rebecca Bolden/Mohawk Ind.	405 Virgil Drive Dalton, GA	Ft. Oglethorpe	GA	30722	(706) 428-8080	Rebecca_bolden@mohawkind.com
Michele Jones/Chattahoochee National Forest	3941 Hwy 76	Chatsworth	GA	30705	(706) 695-6736 x 102	mbjones@fs.fed.us
Ruth Stokes/US Forest Service	3941 Hwy 76	Chatsworth	GA	30705	(706) 695-6736	rbstokes@fs.fed.us
Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/ Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water
Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/ Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County
Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County
Cindy Askew/NRCS	208 N. Duke St	LaFayette	GA	30728	(706) 638-2207 x 3	Cindy.askew@ga.usda.gov
Charlie Jones/NWGRC	1 Jackson Hill Dr.	Rome	GA	30161	(706) 295-6485	cjones@nwgrc.org

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

Prepared By:	Ben Robinson and Jonathan Bridges				
Agency:	Northwest Georgia Regional Commission				
Address:	P.O. Box 1798				
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E-mail:	brobinson@nwgrc.org; jbridges@nwgrc.org				
Date Submitted to EPD:	9-30-2009			Revision:01	

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.

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
Christy Blair/GCHD, Environmental Health-Gordon County	318 N. River St.	Calhoun	GA	30701	(706) 624-1440	chblair@dhr.state.ga.us
Mary Griffin	3086 Martha Berry Hwy.	Rome	GA	30165	(770) 720-3525	mgriffin@gfc.state.ga.us
Machelle Simmons/ USDA NRCS	717 South Wall St. Suite 1	Calhoun	GA	30701	(706) 629-2582 x 3	machelle.simmons@ga.usda.gov
Doug Cabe/ Limestone Valley RC & D	125 Redbud Rd. Suite 7	Calhoun	GA	30701	(706) 625-7044	doug.cabe@ga.usda.gov
Ted Collins/ Limestone Valley RC & D	8363 Fairmount Hwy.	Fairmount	GA	30319	(706) 629-8222	nogaapp@bellsouth.net
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Sam Payne	P.O. Box 246	Calhoun	GA	30703	(678) 986-6366	paynefrm@bellsouth.net
Millard Payne					678) 986-6366/(770) 608-9909	paynefrm@bellsouth.net
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Joe Powell	225 Thelma Rd. SW	Calhoun	GA	30701	(706) 629-1840	
Joe Cook/Upper Coosa Riverkeeper	408 Broad Street	Rome	GA	30161	(706) 232-2724	jcook@coosa.org
Dan McBee/NERA	1721 Pine Chapel Rd.	Calhoun	GA	30701	(706) 263-4002	McBee.Dan3@gmail.com
Bill Melville/USEPA	61 Forsyth St.	Atlanta	GA	30303	(404) 562-9266	Melville.william@epa.gov
David Ashburn/Walker County	PO Box 445	LaFayette	GA	30728	(423) 421-6307	daviddashburn@aol.com
Norman Edwards/Walker Co. Extension	PO Box 827	LaFayette	GA	30728	(706) 638-2548	nedwards@uga.edu
Linda Harris/TVA	1101 Market St. PSC-1E	Chattanooga	TN	37402	(423) 876-4178	lbharris@tva.gov
Rebecca Bolden/Mohawk Ind.	405 Virgil Drive Dalton, GA	Ft. Oglethorpe	GA	30722	(706) 428-8080	Rebecca_bolden@mohawkind.com
Michele Jones/Chattahoochee National Forest	3941 Hwy 76	Chatsworth	GA	30705	(706) 695-6736 x 102	mbjones@fs.fed.us
Ruth Stokes/US Forest Service	3941 Hwy 76	Chatsworth	GA	30705	(706) 695-6736	rbstokes@fs.fed.us
Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water	Brandon Whitley/Walker County Water

Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County	Kelia Kimbell/Walker County
Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County	Kathy Ward/Walker County
Cindy Askew/NRCS	208 N. Duke St	LaFayette	GA	30728	(706) 638-2207 x 3	Cindy.askew@ga.usda.gov
Charlie Jones/NGRC	1 Jackson Hill Dr.	Rome	GA	30161	(706) 295-6485	cjones@NGRC.org

APPENDIX B.

STATUS REPORTS / UPDATES TO THIS PLAN

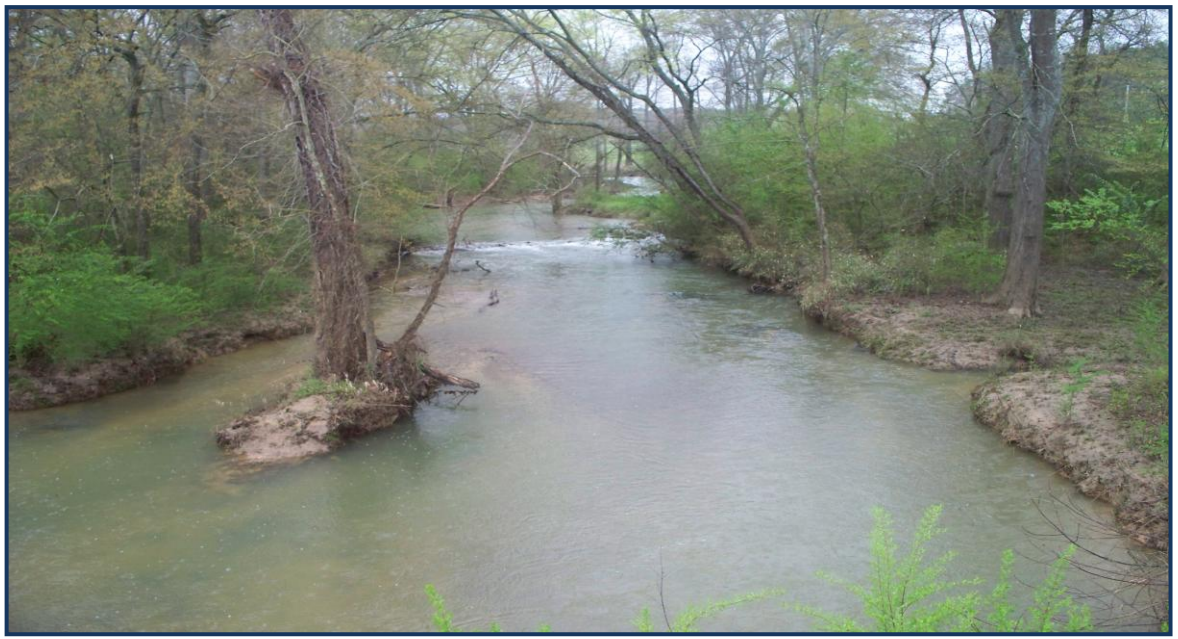
If there are any revisions to an existing plan, this section will describe the date, section or table updated, and a summary of what was changed and why. A Status Report / Updates on Existing Local TMDL Implementation Plans and Watershed Remediation will be attached as a separate document.

N/A: This is a new TMDL Implementation Plan.

APPENDIX C.

VISUAL FIELD SURVEYS, NOTES, PHOTOGRAPHS, AND MAPS.

A visual survey and land use verification was conducted by the NGRC on March 31, 2009. Weather conditions were misty, but clear pictures were able to be taken. The creek appears to be a fairly clear mountain creek that broadens as it continues its southward path. When it enters Walker County and the Chattahoochee National Forest and enters into Gordon County, it also departs the mountains and enters an agricultural valley. All of the residential development was of the rural, low-density type. There is only one industry near the creek – a small carpet plant in Sugar Valley. There is a small rock mining operation near the headwaters. The visited road crossings were: two in Walker County on GA Hwy. 136 (one at the Mountain Top Boy's Home). There were five more sites in Gordon County: GA Hwy. 136 Connector (just south of the 136/136C split), Walraven Rd, Harbor Road/ Baugh Mtn. Rd., Lake Martin/Pocket Road, and Dobson Rd.



Snake Creek has a rocky bottom for most of its 11 mile course. It broadens somewhat when it gets out of the narrow valley between Horn and Mill Creek Mountains to get into the flatlands.

Appendix D: Sources
(in order of appearance in plan)

www.georgiastats.uga.edu

SWAP Information: In-house project done by Coosa Valley RDC and North Georgia RDC in 2001-2003.

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.

"Watershed Management Population Projections and Employment Trends and Projections Fact Sheet." October 2004. North Georgia RDC

Georgia DCA, http://www.georgiaplanning.com/planners/SDmaps

Northwest Georgia Environmental Health/Public Health Onsite Sewage System Installation and Repair Permit History: 2004-2009. Received from Tim Allee, District EH Director, via email on 8/25/2009.

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

The Northwest Georgia Comprehensive Water Management Plan. October 2004.MACTEC Engineering and Consulting, Inc.and Brown and Caldwell for the Northwest Georgia Regional Water Resources Partnership (NWGRWRP) and the U.S Army Corps of Engineers (COE).

Preliminary Water Supply Study January, 2008. MACTEC Engineering and Consulting, Inc.and Brown and Caldwell for NWGRWRP.

Northwest Georgia Water Quality Improvement and Implementation Plan: Data Summary Report – Year 1 Events. April 24, 2009. MacTec Engineering and Consulting, Inc. and Brown and Caldwell. Prepared for the NWGRWRP and the U.S. Army COE. Project # 6110-08-0325.

http://www.newechotarivers.org/

The Georgia Code: "The Erosion and Sedimentation Act of 1975" Title 12. Conservation and natural resources
Chapter 7. Control of soil erosion and sedimentation. O.C.G.A. § 12-7-1 (2007)

"Georgia's Best Management Practices for Forestry." January 1999, Georgia Forestry Commission.

Email Correspondence with Tom Burgess, Director of Gordon County Department of Building, Planning, and Development: 7/21/2009

Email Correspondence with Kelia Kimbell, Stormwater Director, Walker County: 7/9/09.

Email Correspondence with Machelle Simmons, USDA NRCS Agent, Bartow & Gordon Counties: 7/13-7/14/2009. Email Correspondence with Glenn Forester, USDA FSA Agent, Whitfield, Gordon, and Bartow Counties: 7/15 -7/16 & 7/21/2009.

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

NRCS National Conservation Practices Standards (NHCP): Conservation Practice Information Sheets. Accessed at http://www.nrcs.usda.gov/technical/standards/nhcp.html

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

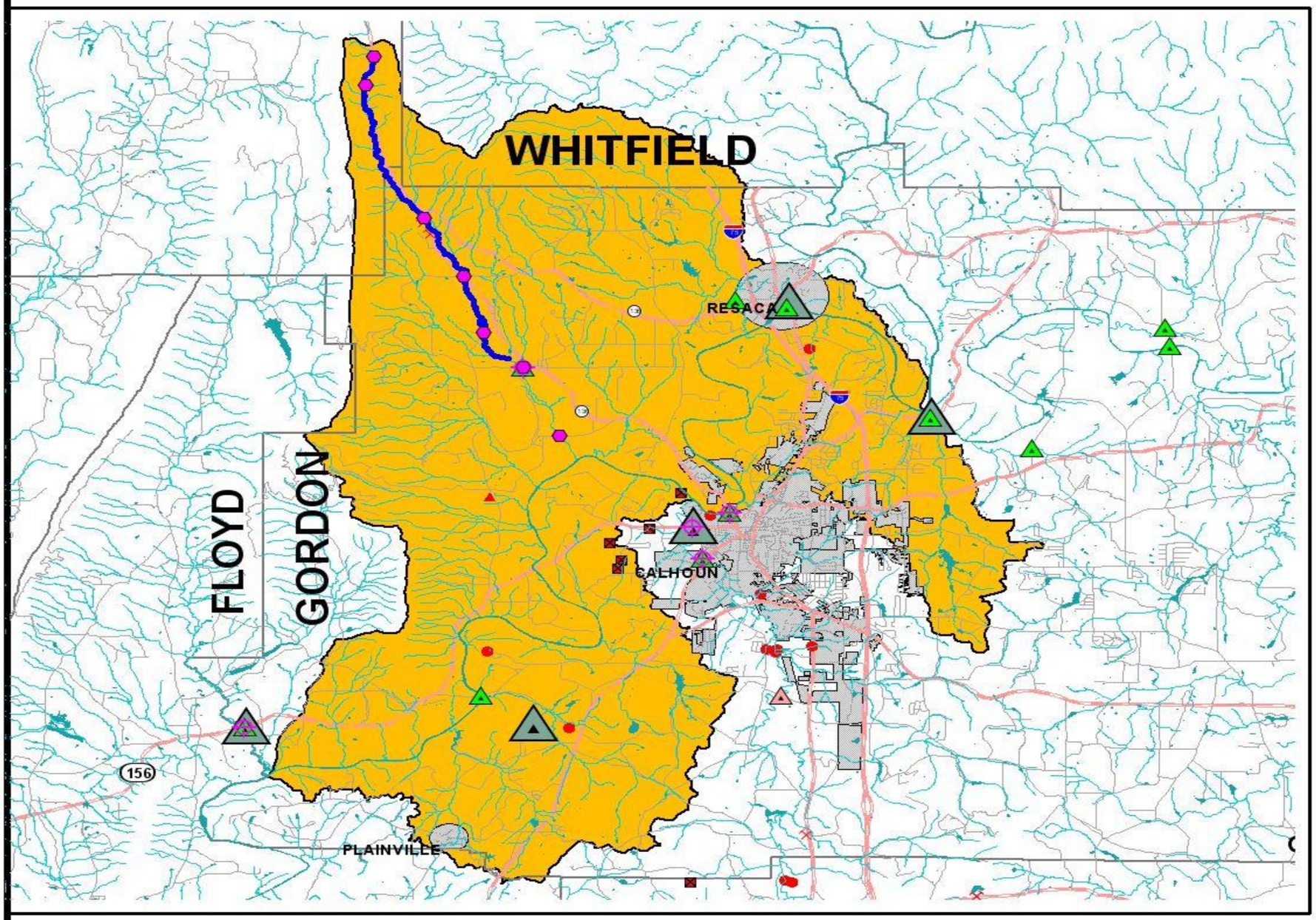
http://maps.google.com

Gordon County Comprehensive Plan 2007-2027: Community Assessment prepared for Gordon County, City of Fairmount, City of Plainville, City of Ranger, Town of Resaca. *MACTEC Engineering and Consulting, Inc., Project 6311-05-0067.* Accessed at www.georgiaplanning.com.

Joss, Jill and Julie Meadows. Joint City County Comprehensive Plan Update 2007-2027: Partial Update for Walker County and the Cities of Chickamauga, LaFayette, Lookout Mountain,and Rossville. September 2006. The Coosa Valley Regional Development Center. Accessed at www.georgiaplanning.com.

Statement on Developments of Regional Impact: David Howerin, Planning Director: Northwest Georgia Regional Commission.

Phone Conversation with Beth Watson, CEA for Gordon County. 7/16/2009.



Tier 2 TMDL Implementation Plan
and
Extended Revisions

Snake Creek
Oostanaula Watershed
HUC10# 0315010301

Headwaters to Oostanaula Creek

N

LEG EN D

- 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