

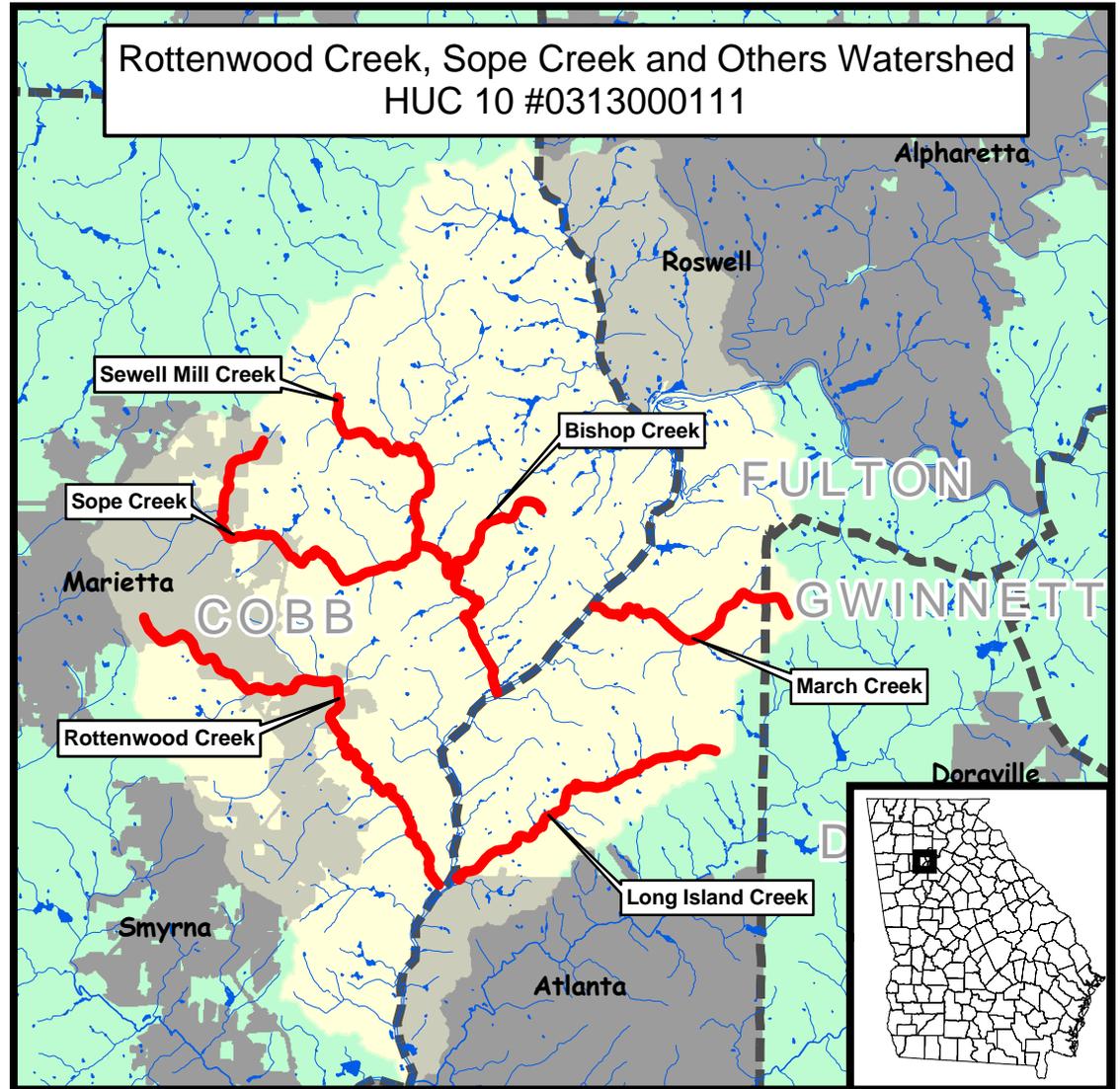
**STATE OF GEORGIA**  
**TIER 2 TMDL IMPLEMENTATION PLAN REVISION #1**  
 Rottenwood Creek, Sope Creek and Others Watersheds  
 Chattahoochee River Basin

Fulton County, Cobb County, DeKalb Counties and  
 the cities of Smyrna, Marietta and Atlanta

**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 pollution, stakeholders and public involvement, and education/outreach activities. In addition, the plan describes regulatory and voluntary practices/control actions (*management measures*) to reduce pollutants, milestone schedules to show the development of the management measures (*measurable milestones*), and a monitoring plan to determine the efficiency of the management measures.



**Table 1. IMPAIRMENTS**

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT
Bishop Creek	Cobb County	Fecal Coliform Bacteria
Long Island Creek	Headwaters to Chattahoochee River	Fecal Coliform Bacteria
March Creek	Fulton County	Fecal Coliform Bacteria
Rottenwood Creek	Headwaters to Chattahoochee River	Fecal Coliform Bacteria
Sewell Mill Creek	Cobb County	Fecal Coliform Bacteria
Sope Creek	Headwaters to Chattahoochee River	Fecal Coliform Bacteria

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT
Chattahoochee River*	Morgan Falls Dam to Peachtree Creek	FCG(PCBs)
Chattahoochee River*	Morgan Falls Dam to Peachtree Creek	Fecal Coliform Bacteria
Foxwood Branch*	Tributary to Rottenwood Creek	Fecal Coliform Bacteria
Willeo Creek*	Cobb/Fulton Counties	Fecal Coliform Bacteria

\* Plan will be written by GA EPD

## II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10#: 0313000111. Include an updated overview of watershed characteristics. Identify new conditions and verify or correct information in the TMDL document using the most current data. Include the size and location of the watershed, political jurisdictions, and physical features which could influence water quality. Describe the source and date of the latest land cover/use for the watershed. Describe and quantify major land uses and activities which could influence water quality. See the instructions for more information on what to include.

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The Rottenwood Creek, Sope Creek and Others Watershed (HUC10 #0313000111) is located in the north central portion of metro Atlanta in Fulton, Cobb and DeKalb Counties. The land area for HUC 10 #0313000111 is 77,980 acres. There are three major highways that cross this HUC10; Interstate 75, Interstate 285, and Georgia 400. Based on available ARC 2001 land cover data this area appears to be primarily residential. Along the western border of HUC10 #0313000111 there are concentrations of commercial areas.

The stream segments identified on Georgia Environmental Protection Division's 303(d) list in HUC10 #0313000111 for which ARC has developed an implementation plan include: Bishop Creek (Cobb County), Long Island Creek (Headwaters to Chattahoochee River), March Creek (Fulton County), Rottenwood Creek (Headwaters to Chattahoochee River), Sewell Mill Creek (Cobb County), and Sope Creek (Headwaters to Chattahoochee River). The 303 (d) listed stream segment of Bishop Creek (Cobb County) is located entirely in the northeastern portion of Cobb County. The Long Island Creek (Headwaters to Chattahoochee River) segment is located entirely in Fulton County and flows into the Chattahoochee River. The March Creek (Fulton County) stream segment begin in DeKalb County then flows through Fulton County and into the Chattahoochee River. The Rottenwood Creek (Headwaters to Chattahoochee River) stream segment begins in the City of Marietta then flows southeast to the Chattahoochee River. The Sewell Mill Creek (Cobb County) stream segment begins in the northern portion of Cobb County and then flows south into Sope Creek. The Sope Creek (Headwaters to Chattahoochee River) stream segment begins in the City of Marietta then flows through unincorporated Cobb County and into the Chattahoochee River. The Bishop Creek, Long Island Creek, March Creek, Rottenwood Creek, Sewell Mill Creek, and Sope Creek stream segment watersheds all have smaller land areas than the entire HUC10 watershed that affect the actual TMDL stream segments. The local governments with interest in the Section 305(b) / Section 303(d) listed stream segments in HUC10 #0313000111 include: Fulton, Cobb and DeKalb Counties and the cities of Smyrna, Marietta and Atlanta.

We have included below six tables that describe the land cover for each of the six TMDL stream segment watersheds. The land cover data used to develop these tables is data developed by the Atlanta Regional Commission in 2001. This land cover data has not changed significantly since the TMDL was prepared. The acreage totals found in the below tables reflect the watershed boundaries ARC has updated. These updated TMDL stream segment watershed boundaries will be provided to GA EPD. These tables also define how ARC has aggregated the ARC Land cover codes into simplified groupings similar to those found in the TMDL. An additional table has been added to the last page of this document that defines the Aggregated ARC Land Cover Codes.

**ARC 2001 Land Cover for Bishop Creek TMDL Segment Watershed**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Medium-Density Residential	926.40	74.43%	112
Commercial	191.87	15.42%	12, 15, 121
Forest/Open Space	84.77	6.81%	40, 171, 172, 173
Transitional & Extractive Lands	25.04	2.01%	17, 74, 75, 76
Agricultural Lands	16.58	1.33%	21, 22, 23, 24
<b>Total Acres</b>	<b>1244.66</b>	<b>100.00%</b>	

**ARC 2001 Land Cover for Long Island Creek TMDL Segment Watershed**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Low-Density Residential	1735.31	41.51%	111
Medium-Density Residential	1534.41	36.71%	112
Commercial	368.49	8.82%	12, 15, 121
High-Density Residential	256.32	6.13%	113, 119, 117
Forest/Open Space	180.59	4.32%	40, 171, 172, 173
Transportation and Utilities	81.13	1.94%	14, 145
Transitional & Extractive Lands	12.87	0.31%	17, 74, 75, 76
Water/Wetland	10.93	0.26%	51, 53, 60
<b>Total Acres</b>	<b>4180.05</b>	<b>100.00%</b>	

**ARC 2001 Land Cover for March Creek TMDL Segment Watershed**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Medium-Density Residential	2234.38	60.25%	112
Commercial	540.51	14.57%	12, 15, 121
High-Density Residential	465.58	12.55%	113, 119, 117
Forest/Open Space	268.97	7.25%	40, 171, 172, 173
Transitional & Extractive Lands	102.07	2.75%	17, 74, 75, 76
Transportation and Utilities	79.29	2.14%	14, 145
Low-Density Residential	17.94	0.48%	111
<b>Total Acres</b>	<b>3708.74</b>	<b>100.00%</b>	

**ARC 2001 Land Cover for Rottenwood Creek TMDL Segment Watershed**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Commercial	5474.18	43.11%	12, 15, 121
Medium-Density Residential	2623.52	20.66%	112
High-Density Residential	1777.71	14.00%	113, 119, 117
Forest/Open Space	1507.84	11.87%	40, 171, 172, 173
Industrial/Institutional	586.14	4.62%	13
Transportation and Utilities	488.47	3.85%	14, 145
Transitional & Extractive Lands	215.19	1.69%	17, 74, 75, 76
Low-Density Residential	20.62	0.16%	111
Water/Wetland	3.52	0.03%	51, 53, 60
Agricultural Lands	1.21	0.01%	21, 22, 23, 24
<b>Total Acres</b>	<b>12698.41</b>	<b>100.00%</b>	

**ARC 2001 Land Cover for Sewell Mill Creek TMDL Segment Watershed**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Medium-Density Residential	7963.58	86.60%	112
Commercial	452.75	4.92%	12, 15, 121
Forest/Open Space	430.33	4.68%	40, 171, 172, 173
Low-Density Residential	176.41	1.92%	111
Transitional & Extractive Lands	69.15	0.75%	17, 74, 75, 76
Agricultural Lands	39.97	0.43%	21, 22, 23, 24
Water/Wetland	33.13	0.36%	51, 53, 60
High-Density Residential	30.18	0.33%	113, 119, 117
<b>Total Acres</b>	<b>9195.50</b>	<b>100.00%</b>	

**ARC 2001 Land Cover for Sope Creek TMDL Segment Watershed**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Medium-Density Residential	15924.75	70.74%	112
Commercial	2917.06	12.96%	12, 15, 121
Forest/Open Space	1871.38	8.31%	40, 171, 172, 173
High-Density Residential	647.68	2.88%	113, 119, 117
Transitional & Extractive Lands	340.47	1.51%	17, 74, 75, 76
Low-Density Residential	307.63	1.37%	111
Agricultural Lands	233.04	1.04%	21, 22, 23, 24
Transportation and Utilities	210.01	0.93%	14, 145
Water/Wetland	58.94	0.26%	51, 53, 60
<b>Total Acres</b>	<b>22510.96</b>	<b>100.00%</b>	

All six stream segments are listed for not meeting water quality standards for fecal coliform. Fecal Coliform bacteria are bacteria found in the intestinal tract of humans and animals. Its presence in streams, rivers, and lakes is an indicator of possible harmful pathogens. The GA Environmental Protection Division has developed the implementation plans for the other four stream segments listed on the cover of this document. For information on these implementation plans please contact Mary Gazaway at (404) 675-1745.

For each waterbody on the 303(d) list, the U.S. Clean Water Act requires a TMDL be developed for each pollutant. A TMDL is a calculation of the maximum amount of a pollutant, from both point and non-point sources that a waterbody can receive and still meet water quality standards. The U.S. EPA developed a TMDL for these stream segments in February 2003 that shows a reduction in fecal coliform levels is needed. The required reductions in Fecal Coliform loads are as follows: 48% for Bishop Creek (Cobb County), 52% for Long Island Creek (Headwaters to Chattahoochee River), 60% for March Creek (Fulton County), 68% for Rottenwood Creek (Headwaters to Chattahoochee River), 30% for Sewell Mill Creek (Cobb County), and 83% for Sope Creek (Headwaters to Chattahoochee River)..

Staff from the Fulton County Department of Public Works and the Cobb County Water System helped to identify the potential sources of fecal coliform in these segment watersheds. The following potential fecal coliform sources were identified for the stream segments in HUC10 #0313000111: urban runoff, animal waste, sanitary sewer overflows & leaks, illicit connections, land disturbing activities, and leaking/failing septic systems.

This implementation plan was developed with the help of representatives from the DeKalb County Public Works, Fulton County Public Works, Cobb County Water System, the Metropolitan North Georgia Water Planning District and the cities of Atlanta, Smyrna and Marietta. The Atlanta Regional Commission coordinated the public meetings and the input received from local stakeholders and technical advisory staff. Comments and requested revisions to the draft plan have been considered in developing this final draft implementation plan.

The GA EPD will be conducting TMDL monitoring in the Chattahoochee River Basin in 2005. This data will be used to list and possibly delist stream segments. Cobb County conducts fecal coliform monitoring on Bishop, Rottenwood, Sewell Mill, and Sope Creeks. Fulton County has a monitoring component in their Watershed Protection Plan which identifies sample sites on March Creek and Long Island Creek.

A portion of the affected governments' management measures are based on their NPDES Phase I Municipal Separate Storm Sewer System (MS4) Permit requirements. These programs include: stormwater ordinances, public education & outreach programs, public participation/involvement programs, illicit discharge detection and elimination programs, construction site runoff control, post-construction runoff control and pollution prevention/good housekeeping.

The affected governments all have public education / outreach programs in place to educate the general public about water quality concerns. These programs include a range of activities such as educational brochures/bill inserts and activities for schools age

students. DeKalb County, Fulton County, Cobb County and the Cities of Atlanta, Marietta and Smyrna all participate in the Clean Water Campaign ([www.cleanwatercampaign.com](http://www.cleanwatercampaign.com)). The City of Atlanta provides water related educational information on two websites [www.cleanwateratlanta.org](http://www.cleanwateratlanta.org) and [www.atlantapublicworks.org](http://www.atlantapublicworks.org). DeKalb County also maintains a website with water related issues (<https://dklbweb.dekalbga.org/watersewer>). An active Adopt-A-Stream program operates in Fulton, Cobb, and DeKalb Counties and the City of Atlanta. Storm Drain stenciling programs are also common throughout the watershed area.

The purpose of this implementation plan is to reduce or eliminate the sources of fecal coliform bacteria contributing to these stream segments in order to meet the fecal coliform water quality standard. The water quality attainment date will be ten years from the time the implementation plan is approved.

**Bishop Creek**

**COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Bishop Creek	Cobb County	2 miles / 1,244 acres	Fishing	NS

Bishop Creek is an urban stream flowing from and through an older residential community of Cobb emptying into Sope Creek. The impaired TMDL segment of Bishop Creek has sewer infrastructure at regular enough intervals to ensure overlapping visual inspection fields at given manhole or crossing points. Stream Monitoring maintains a Water Quality monitoring site just south of Bishop Creek, after the creek enters Sope creek.

**III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs**

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

**Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs**

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) and 200 per 100 ml (geometric mean May-Oct)	Urban Runoff (UR)	48%

#### IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
- Field surveys
- Review of land cover data
- Evaluation of sources

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The impaired TMDL segment of Bishop Creek has sewer infrastructure at regular enough intervals to ensure overlapping visual inspection fields at given manhole or crossing points, and they are inspected by Cobb County's Inflow and Infiltration every 18-24 months. Cobb County Stream Monitoring collects samples downstream of Bishop Creek's discharge into Sope creek at several points on Sope Creek every quarter.

Cobb County has programs in place for investigating potential sources of pollution. These programs are described below.

1. General urban runoff is monitored through: Cobb Water's Stream Monitoring program and sampling is done for all pertinent biological and chemical data including fecal coliform at 143 sites at all major streams every quarter. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance against unwarranted waste. The National Resources Conservation Service maintains incentives for the restoration of fencing to protect stream buffers, thereby enhancing urban runoff water quality.
2. Monitoring for sanitary sewer leaks is by the aforementioned Cobb Water Stream Monitoring program, Cobb Water System's Water Quality Section and by Cobb Water's Inflow and Infiltration department at sewer crossings and manholes. Cobb's Water Protection group also maintains a restaurant grease trap program, prohibiting all county restaurants from discharging grease to septic tanks, and requiring all county restaurants to pump their traps quarterly so as to keep sewer line grease at a minimal and less of a factor in blocking lines and causing sanitary sewer overflows. Cobb Water's Engineering also maintains a manhole raising program in low lying areas in order to place sewer caps above the latest FEMA flood plain levels, curtailing overflow contamination. Cobb Water's System Maintenance also maintains a foam root control program for sewer lines.
3. Monitoring for illicit connections and illegal dumping is by Cobb Water's Stream Monitoring program and Cobb Water's Water Quality Section as they test for all parameters throughout the watershed. The Cobb County Illicit Discharge ordinance prohibits illicit/illegal discharges to the storm drainage system with monitoring by all sections of the Water System.
4. Animal waste from farm animals, birds and pets impacting streams is regulated through Cobb Community Development's restrictive buffer ordinance, and the USDA's National Resources Conservation Service maintains incentives for buffer restoration and fencing, as the USDA also sponsors a program in cooperation with Cobb Stormwater to remove beavers from areas where their dams raise water levels to sanitary sewer manholes. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance addressing unwarranted (animal) waste handling. Also, Cobb Water, Keep Cobb Beautiful and Cobb Parks and Recreation are partnering to establish a pet waste management program in County parks.
5. Land disturbing activities are addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMP's and buffer ordinance as well as by NRCS buffer incentives.

In addition to the Cobb County programs listed above, the Atlanta Regional Commission has taken steps to involve local stakeholders in identifying possible pollution sources. A meeting was held in March 2004 with local city and county staff to review the TMDL segment and discuss potential sources of pollution. In May 2004 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2003 aerial imagery were developed for the public meetings as a tool to help locate sources. The stakeholders were asked for their input on any potential sources of pollution in the area. In addition to reviewing aerial imagery ARC staff will review the most recent landuse data available (year 2001) for the area and will be updating the watershed description found in the TMDLs. This process involved first verifying that the correct watershed was used in the development of the TMDL. ARC staff has updated watershed delineations and will provide the updated watershed boundaries to GA EPD.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed affected, the stream miles affected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

**Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT**

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal coliform	Urban Runoff	Entire segment affected	large	
Fecal coliform	Leaking Sewer/Septic Lines	Sporadically throughout the segment	small	sewer lines monitored
Fecal coliform	Illicit Discharges	Limited	negligible	ordinances effective
Fecal coliform	Animal Waste	Entire segment affected	moderate	pets, birds, wildlife, farm animals
Fecal coliform	Land disturbance(vegetative buffer clearing, erosion control)	Limited	negligible	regulated by County

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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As a first step an initial meeting was held with local government agencies to determine possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The local government agencies in the advisory group for this segment are listed in Table 4.

The most important part of developing these implementation plans is locating stakeholders in this area. ARC staff searched for stakeholders listed on existing mailing lists (Home Owner Associations, Adopt-A-Stream, Watershed Alliance groups, etc.) to invite to the public meetings. The staff also gathered tax assessment information on landowners who owned more than 50 acres in the county. These stakeholders were considered large landowners and included public, private, and commercial types of property. Businesses listed on EPA's Enforcement & Compliance History Online (ECHO) website ([www.epa.gov/echo](http://www.epa.gov/echo)) that were located in the area were also invited to the public meetings. A list of elected officials, chambers of commerce, parks & recreation departments, NRCS, GA Soil & Water Conservation Commission, and National Park Service representatives were also invited to the public meetings. ARC staff also included schools, libraries, and large apartment complexes in the public meeting mailing list.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams)). The website provided a variety of information and access opportunities for the TMDL Implementation Plan process. The website identified the local government participants, provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information was available on this website. An online sign-up and feed-back form was included on the website so that people could sign up to be a stakeholder. These stakeholder names and other stakeholders can be found in Appendix A. In an effort to provide further detailed information on the TMDL stream segments and their watersheds, an interactive GIS map was developed as a part of the website. This interactive mapping technology allows individuals to zoom in to the area they are interested in and print out maps. The website also included access to a 10-minute video and slide presentation that explains the implementation plan development process and provides online feedback thus creating a virtual stakeholder public meeting and involvement process. This video resource was made available from May 3, 2004 to August 3, 2004. During this three month period a total of 129 visitors accessed the virtual public meeting. It was confirmed that public libraries in the area have high speed internet access and that the virtual public meeting could be viewed on computers at any public library in the metro Atlanta area.

The next step in this process involved holding 4 initial public meetings in May 2004 to educate stakeholders about this process and solicit input. A total of 43 persons attended the public meetings.

Methods used to inform the general public about the implementation plan development process and the public meetings include: having major environmental groups send out meeting notices in their electronic newsletters, distributing press releases, purchasing newspaper advertising space, sending out numerous e-mails announcing the initial meetings and finally mailing out 3500 meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, large landowners, elected officials, Chambers of Commerce, Parks & Recreation Departments, NRCS, and the National Park Service.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed. This draft document was made available to all stakeholders for discussion and input at the 4 public meetings held in June 2004. A total of 37 persons attended the public meetings.

The primary ongoing outreach activities to advise and engage stakeholders are channeled through the Clean Water Campaign and responses to complaints of violations by Water Quality Section. Workshops, public events, and the distribution of literature are activities utilized by several stakeholders. Cobb County Government agencies, Cobb County Board of Health and other stakeholders all take an active roll in addressing issues in the watershed. A formal stakeholder committee involving these organizations and others is currently in the process of being assembled. The following list of Committee members is a proposed list by Cobb County Water System.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

**Table 4. COMMITTEE MEMBERS**

<b>NAME/ORG</b>	<b>ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP</b>	<b>PHONE</b>	<b>E-MAIL</b>
Bill Higgins/Cobb County Water System	680 South Cobb Drive	Marietta	GA	30060	(770)419-6435	William.Higgins@cobbcounty.org
Tom Campbell/ Cobb County Board of Health	3830 South Cobb Drive Suite 102	Smyrna	GA	30080	(770)435-7815	
Rob Hosack/ Cobb County Community Development	191 Lawrence St.	Marietta	GA	30090	(770)528-2125	
Valerie Pickard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	GA	30060	770 792 0594	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
Jennifer McCoy/Cobb County Adopt-A-Stream	662 South Cobb Drive	Marietta	GA	30060	(770)528-1480	Jennifer.McCoy@cobbcounty.org
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for 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.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

**Table 5. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, NPDES fecal sites	Cobb	current	1976	very
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	moderate
Pet Waste Management Program	Cobb Water, Cobb Parks and Recreation, Keep Cobb Beautiful	Measures to control pet waste from being washed into creeks at County Park locations	Cobb	proposed	Pending	moderate
Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	very
County Ordinances	Cobb Community Development	Ordinances to protect stream bank buffers, control erosion, stop illicit discharges	Cobb	current	1977-illicit discharge, 1999-stream buffer, 1990-erosion control	moderate
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	moderate
Clean Water Campaign	Atlanta Regional Commission, Cobb Water System, Environmental Protection Division	Campaign to improve water quality in streams and rivers	ARC, Cobb	current	2001	moderate
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	moderate
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	moderate
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	moderate
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	moderate

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grease trap maintenance section	Cobb Water Protection	prohibits running grease to septic tanks and requires restaurants to pump traps regularly in order to prevent grease buildup in lines causing overflows	Cobb	current	1988	very
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	moderate
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	very
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	moderate
CMOM Program	EPD, Cobb Water System (System Maintenance)	CMOM Program -- (Capacity, Management, Operation, and Maintenance): Program that provides incentives to Cobb County to reduce sanitary sewer spills, maintain infrastructure, prioritize problem areas, and provide a Capital Improvement Plan that ensures funding for sewage system improvements.	Cobb Water System	current	2003	very
Preventative Maintenance	Cobb Water System: System Maintenance	Measures taken to prevent spills such as tracking patterns of spills and lining, cleaning, video analysis, re-routing of sewer lines.	Cobb Water System	current	since inception of sewer infrastructure	very
Emergency Response Policy	Cobb Water System: System Maintenance	Employees are on call and respond to sewer spills within one hour of reporting for remediation.	Cobb Water System	current	1960's	very

District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	As a part of this watershed management plan MS4 Phase I and Phase II communities will be required to adopt the following ordinances: Post Development Storm Water Management for New Development and Redevelopment, Illicit Discharge and Illegal Connection, and Stream Buffer Protection. As well as establishing municipal Good Housekeeping Practices.	Local Funds	Ongoing	2004 & 2005	Very
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local wastewater systems will implement a policy on private wastewater systems, develop interim decentralized system plans with concept of merging into larger systems, a grease management program, and numerous sewer system programs (mapping, maintenance programs, Rehab identification and construction program and capacity certification program).	Local Funds	Ongoing	2005	Very

## VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

**Table 6. MONITORING PLAN**

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
FC	Georgia EPD, Water Protection Branch or local government	Recommended	2004	2005	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
Fecal Coliform/Water Quality parameters	Cobb Water System	Current	2001	2009	Determine water quality, determine source of pollutants
Sewage Leaks/Overflows	Cobb Water System (I & I)	Current	1988	On-going	Inspect and repair infrastructure and stop any leaks discovered

**VIII. PLANNED OUTREACH FOR IMPLEMENTATION**

List and describe outreach activities which will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

<b>RESPONSIBILITY</b>	<b>DESCRIPTION</b>	<b>AUDIENCE</b>	<b>DATE</b>
Cobb Water System, Cobb Parks and Recreation, Keep Cobb Beautiful	Pet waste management at County Park Locations	General Public	tentative
Cobb Water System, Cobb Marietta Water Authority, Atlanta Regional Commission, Cobb Water Quality Section	Clean Water Campaign	General Public, Targeted Industries	current
Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local Governments will participate in a regional public education program such as the Clean Water Campaign, or establish its own program. The program must address water quality issues and the promotion of water conservation.	General Public	2004

**IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH**

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- Accomplishment of management practices or activities - outreach activities
- Installation of BMPs

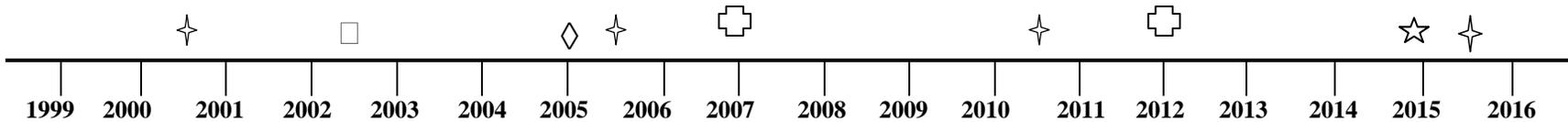
to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

**Table 8. MILESTONES**

MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	2002	2002	collect fecal NPDES permit mandated samples at 8 sites
Stream walks at stream sewer crossings and manholes	Cobb Water: Engineering Inflow and Infiltration, Stream Monitoring	1988	1988	walk all segments for overflow at manholes and creek crossings
buffer ordinance	Community Development	1990	1990, 1999	regulates, maintains 50-200 feet buffers
education	ARC, Cobb County, Austell	1994	1994	ads and literature concerning water quality, fecals
nuisance ordinance, septic regulate	Cobb Board of Health	1988	1988	regulate and enforce septic tanks, removal of improper waste
Wetland and Buffer Preservation, beaver removal	USDA/Cobb County National Resource Conservation Service, U.S. Army Corp of Engineers, USDA/Stormwater	1996, 1998	1996, 1998	incentives for buffer restoration, fencing off and wetland protection
grease trap program	Cobb Water Protection	1988	1991	every restaurant inspected, prohibit discharge into septic
manhole raising program	Cobb Water Engineering	1999	1999	sewer caps raised above current/latest floodplain
CMOM Program	Cobb Water System: System Maintenance	2003	2003	Comprehensive program that provides incentives and gives the guidelines of how the County's collection system will operate.
Pet Waste Management Program	Cobb AAS, Keep Cobb Beautiful, Parks and Recreation	2003	2004	every restaurant inspected, prohibited discharge into septic tanks
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the District-wide Watershed Management Plan
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the Long-Term Wastewater Management Plan

### PROJECTED ATTAINMENT DATE

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



- Scheduled EPD basin Group Monitoring ✦
- TMDL Completed □
- TMDL Implementation Plan Accepted ◇
- Evaluation of implementation plan/water quality improvement ⊕
- Project Attainment ☆

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Date Submitted to EPD:	August 30, 2004	Revision:	#1

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 or Section 604(b) of the Federal Water Pollution Control Act, as amended.

APPENDIX A  
STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for 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/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Bill Higgins/Cobb County Water System	680 South Cobb Drive	Marietta	GA	30060	(770)419-6435	William.Higgins@cobbcounty.org
Tom Campbell/ Cobb County Board of Health	3830 South Cobb Drive Suite 102	Smyrna	GA	30080	(770)435-7815	
Rob Hosack/ Cobb County Community Development	191 Lawrence St.	Marietta	GA	30090	(770)528-2125	
Rick Brownlow/Metro North Georgia Resources Planning District	40 Courtland St.	Atlanta	GA	30303		
Valerie Pickard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	GA	30060	770 792 0594	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
Jennifer McCoy/Cobb County Adopt-A-Stream	662 South Cobb Drive	Marietta	GA	30060	(770)528-1480	Jennifer.McCoy@cobbcounty.org
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org
Michael Jones	1441 Buckner Road	Mableton	GA	30126	770-739-5191	mikejones@h-hinsurance.com
Kevin Johns / Parsons	5320 Mill Run Drive	Marietta	GA	30068	770-992-7470	kevin.johns@parsons.com
Andrea Pinabell / Stormwater Management Inc.	430 Lindbergh Drive #F3	Atlanta	GA	30305	404-846-5785	andreap@stormwaterinc.com
Ben R. Jordan / The Coca-Cola Company	P.O. Box 1734	Atlanta	GA	30301		bjordan@na.ko.com
Bruce W. Thurlby / Archaea Solutions, Inc.	100 Lloyd Avenue, Suite D	Tyrone	GA	30290	770-487-5303	bruce.thurlby@archaeasolutions.com
Bryan Barrett / USDA	355 East Hancock Ave	Athens	GA	30601	706-546-2039	bryan.barrett@ga.usda.gov
Buddy Belflower / USDA/NRCS	734 Crescent Dr	Gainesville	GA	30501	770-536-6981	buddy.belflower@ga.usda.gov
Chad Knudsen / Ecological Solutions					770-998-7848	chadknudsen@ecologicalsolutions.net
Chrissy Marlowe / GA DCA	225 West Broad St.	Athens	GA	30601	706-425-3077	cmarlowe@dca.state.ga.us
Chuck Budinger / Corporate Env. Risk Management	2116 Monroe Drive, Suite 110	Atlanta	GA	30324	678-999-0173	cbudinger@cerm.com

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David Smith	740 Hunterhill Court	Roswell	GA	30075	770-641-3096	davidsmith@ecologicalsolutions.net
David Smith / Ecological Solutions	630 Colonial Park Drive, Suite 200	Roswell	GA	30075	770-998-7848	davidsmith@ecologicalsolutions.net
Duncan Cottrell / Adopt-A-Stream Coordinator / Upper Etowah River Alliance					770-735-2778	duncancottrell@yahoo.com
Geneva Nelson / Foundation for Global Community	899 Chippendale Lane	Norcross	GA	30093	770-564-2730	genevaan@yahoo.com
Jason Barringer	2446 Fallview Terrace	East Point	GA	30344		forrain2@hotmail.com
Kevin Johnson / The Trust for Public land	1447 Peachtree Street Suite 601	Atlanta	GA	30309	404.873.7306	kevin.johnson@tpl.org
Kimberly Ajoy / Jordan Jones and Goulding	6801 Governors Lake Parkway	Norcross	GA	30071	6783330232	kajy@jjg.com
Linda MacGregor / McKenzie MacGregor Incorporated	3455 Lawrenceville Suwanee Road, Suite A	Suwanee	GA	30024	678-546-9450	lmacgregor@mckmacg.com
Max Walker	941 Pine Roc Drive	Stone Mountain	GA	30083	770/469/4786	MAXWALKER@mindspring.com
Rose Mary Seymour / UGA - Griffin Campus	1109 Experiment St	Griffin	GA	30223	770 229-3214	rseymour@griffin.uga.edu

**APPENDIX B**  
**UPDATES TO THIS PLAN**

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

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**Long Island Creek**

**COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Long Island Creek	Headwaters to Chattahoochee River (Fulton Co.)	5 miles	Fishing	NS

**III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs**

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

**Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs**

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) and 200 per 100 ml (geometric mean May-Oct)	Urban Runoff (UR)	52%

#### IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
  - Field surveys
  - Review of land cover data
  - Evaluation of sources
- 

A meeting was held in March 2004 with local city and county staff to review the TMDL segment and discuss potential sources of pollution. In May 2004 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2003 aerial imagery were developed for the public meetings as a tool to help locate sources. The stakeholders were asked for their input on any potential sources of pollution in the area. In addition to reviewing aerial imagery ARC staff will review the most recent landuse data available (year 2001) for the area and will be updating the watershed description found in the TMDLs. This process involved first verifying that the correct watershed was used in the development of the TMDL. ARC staff has updated watershed delineations and will provide the updated watershed boundaries to GA EPD.

ARC has conducted a visual field survey on this stream segment due to limited recent stream walk information. The visual field survey is attached. As a part of this visual field survey we reviewed existing point source data provided by GA EPD as well as reviewing 2003 aerial imagery. Using guidance documents provided by the State, a field assessment was conducted which included a windshield survey of the area adjacent to the stream and a foot survey where access was allowed. The summary of findings for this visual field survey is as follows. There are no permitted point source discharges in the Long Island Creek watershed. The field survey and background investigation identified non-point sources such as urban runoff, septic system failures, and animal waste and sewer line failures. These are the most likely potential sources of pollution in and around the TMDL segment. Proposed management practices to address fecal coliform have been provided by local governments and are outlined in the 2004 Long Island Creek TMDL segment Implementation Plan in tables 5, 6 and 7. Urban runoff is considered a moderate source of fecal coliform bacteria affecting this entire TMDL segment. Leaking or failing septic tank systems and animal waste from wildlife or horse farms and domestic pets is also considered a moderate source of fecal coliform bacteria affecting sporadic areas of this entire TMDL segment. Sanitary sewer overflows and illicit connections of sanitary sewers are considered small sources affecting sporadic and limited areas of the Long Island Creek TMDL segment.

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To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed effected, the stream miles effected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

**Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT**

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal Coliform	Urban Runoff	Entire Reach	Moderate	Nonpoint source / stormwater runoff
Fecal Coliform	Septic tank systems	Sporadically throughout the segment	Moderate	Leaking / runoff from failing septic tank systems, including faulty drain fields
Fecal Coliform	Animal wastes	Sporadically throughout the segment	Moderate	Nonpoint source - pets and wildlife
Fecal Coliform	SSOs	Sporadically throughout the segment	Small	Overflows from sanitary sewer system due to blockages from grease, roots, vandalism / pipe failures
Fecal Coliform	Illicit connections	Limited	Small	Improper connections of sanitary sewer flows to the storm drain system

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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As a first step an initial meeting was held with local government agencies to determine possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The local government agencies in the advisory group for this segment are listed in Table 4.

The most important part of developing these implementation plans is locating stakeholders in this area. ARC staff searched for stakeholders listed on existing mailing lists (Home Owner Associations, Adopt-A-Stream, Watershed Alliance groups, etc.) to invite to the public meetings. The staff also gathered tax assessment information on landowners who owned more than 50 acres in the county. These stakeholders were considered large landowners and included public, private, and commercial types of property. Businesses listed on EPA's Enforcement & Compliance History Online (ECHO) website ([www.epa.gov/echo](http://www.epa.gov/echo)) that were located in the area were also invited to the public meetings. A list of elected officials, chambers of commerce, parks & recreation departments, NRCS, GA Soil & Water Conservation Commission, and National Park Service representatives were also invited to the public meetings. ARC staff also included schools, libraries, and large apartment complexes in the public meeting mailing list.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams)). The website provided a variety of information and access opportunities for the TMDL Implementation Plan process. The website identified the local government participants, provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information was available on this website. An online sign-up and feed-back form was included on the website so that people could sign up to be a stakeholder. These stakeholder names and other stakeholders can be found in Appendix A. In an effort to provide further detailed information on the TMDL stream segments and their watersheds, an interactive GIS map was developed as a part of the website. This interactive mapping technology allows individuals to zoom in to the area they are interested in and print out maps. The website also included access to a 10-minute video and slide presentation that explains the implementation plan development process and provides online feedback thus creating a virtual stakeholder public meeting and involvement process. This video resource was made available from May 3, 2004 to August 3, 2004. During this three month period a total of 129 visitors accessed the virtual public meeting. It was confirmed that public libraries in the area have high speed internet access and that the virtual public meeting could be viewed on computers at any public library in the metro Atlanta area.

The next step in this process involved holding 4 initial public meetings in May 2004 to educate stakeholders about this process and solicit input. A total of 43 persons attended the public meetings.

Methods used to inform the general public about the implementation plan development process and the public meetings include: having major environmental groups send out meeting notices in their electronic newsletters, distributing press releases, purchasing newspaper advertising space, sending out numerous e-mails announcing the initial meetings and finally mailing out 3500 meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, large landowners, elected officials, Chambers of Commerce, Parks & Recreation Departments, NRCS, and the National Park Service.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed. This draft document was made available to all stakeholders for discussion and input at the 4 public meetings held in June 2004. A total of 37 persons attended the public meetings.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

**Table 4. COMMITTEE MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
GA EPD, Water Protection Branch	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1751	
GA Adopt-A-Stream	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1636	
Georgia Soil and Water Conservation Commission	1500 Klondike Road Suite A109	Conyers	GA	30094	770-761-3020	<a href="mailto:kshahlaee@gaswcc.org">kshahlaee@gaswcc.org</a>
NRCS (Marietta, GA Office)	678 South Cobb Drive, Suite 150	Marietta	GA	30060	770-792-0647	
City of Atlanta Office of the Mayor	55 Trinity Avenue Suite 2400	Atlanta	GA	30303	404-330-6100	<a href="mailto:sfranklin@atlantaga.gov">sfranklin@atlantaga.gov</a>
City of Atlanta Department of Watershed Management	55 Trinity Avenue Suite 5400	Atlanta	GA	30303	404-330-6081	<a href="mailto:rhunter@atlantaga.gov">rhunter@atlantaga.gov</a>
City of Atlanta Department of Planning, Atlanta Planning & Advisory Board	55 Trinity Avenue, Suite 1450	Atlanta	GA	30303		
Fulton County Public Works (Nick Ammons)	141 Pryor St., S.W., Suite 6001	Atlanta	GA	30303	404-730-7589	
Fulton County Environmental Health Department (Pearl Gordon)	99 Jessie Hill Jr., Dr., Room 101	Atlanta	GA	30303	404-730-1308	
Fulton County Cooperative Extension Service	141 Pryor St., Suite 1031	Atlanta	GA	30303	404-730-7000	
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for 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.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

**Table 5. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
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NPDES Phase I Permit GAS000100	City of Atlanta	MS4 Permit: The State of GA has issued the City of Atlanta with a permit to operate the City's Municipal Separate Storm Sewer System (MS4). Major aspects of the permit include public education, illicit discharge detection and elimination, source identification activities, water sampling and reporting.		Enforced	6/15/1994	
City of Atlanta Stormwater Management Ordinance	City of Atlanta	Ordinance to address stormwater management and nonpoint source pollution		Enforced	1993	
Illicit Discharge Ordinance	City of Atlanta	Ordinance to address illicit discharge and illegal dumping into the MS4 system.		Enforced	1996	
Erosion and Sedimentation Control Ordinance	City of Atlanta	Ordinance to address erosion and sedimentation occurring at constructions site that limits sediment from entering the sewer system.		Enforced	1996	
Riparian Buffer Protection Ordinance	City of Atlanta	Ordinance that protects 75 feet from the top of bank on a perennial and intermittent stream.		Enforced	1999	
Floodplain Protection Ordinance	City of Atlanta	Ordinance that protects floodplains in the City from being developed.		Enforced	1985	
Sanitary Sewer Evaluation System	City of Atlanta	Inspection program evaluates the condition of every manhole and pipe (smoke test, tv, and radar). Assessing easements for problems		In progress	1998	
CMOM Program	City of Atlanta	The required CMOM (Capacity Management, Operations & Maintenance) program includes the following: Collection and Transmission Systems Contingency and Emergency Response Plan; Short-Term Operation Plan; Maintenance Management System Plan; Pump Station Evaluations; Grease Management Program; Sewer Mapping Program; Safety Program; Training Program; Capacity Certification Program; and Long-Term Operation Plan.		In progress	1999	
Grease Trap Inspection Program	City of Atlanta	Inspection of grease traps		In progress	1999	
BMP Program	City of Atlanta	Through development ordinance ensures that BMPs are properly selected and maintained for non point source pollution prevention.		Enforced	1995	
CMOM Program	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	In Development	2005	Very

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Emergency Sanitary Sewer Evaluation Study (ESSES)	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Completed in 2001	Completed in 2001	Moderate
Interim Collection System Master Plan	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Completed in 2002	Completed in 2002	Moderate
Survey of Sanitary Sewer	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Begin in 2003	2003	Moderate
Sanitary Sewer Modeling	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Planned for 2005	2005	Very
Flow Monitoring	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	1988	Very
Improvements in Wastewater Treatment	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	1912	Very
Database and Tracking of Un-sewered Areas	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	2005	Moderate
Permitting of Septic Systems	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County General Fund	Ongoing	1952	Moderate
Educational Efforts (Pet Waste)	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County General Fund	Ongoing	1998	Weak
Providing sewer service to Developed Areas by 2030	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	1990	Moderate
Improving Waste Receptacles	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County General Fund	Ongoing	2003	Weak
Reduction in agricultural land use through conversion to developed property	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Private Development	Ongoing	1808	Moderate
Reduction in habitat through development	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Private Development	Ongoing	1808	Moderate

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IAW O.C.G.A. 290-5-26	Fulton County Environmental Health Department	Rules and regulations for installation and repair of on-site sewage management systems.	Fulton County General Fund	Enforced	June 30, 1980	Moderate
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	As a part of this watershed management plan MS4 Phase I and Phase II communities will be required to adopt the following ordinances: Post Development Storm Water Management for New Development and Redevelopment, Illicit Discharge and Illegal Connection, and Stream Buffer Protection. As well as establishing municipal Good Housekeeping Practices.	Local Funds	Ongoing	2004 & 2005	Very
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local wastewater systems will implement a policy on private wastewater systems, develop interim decentralized system plans with concept of merging into larger systems, a grease management program, and numerous sewer system programs (mapping, maintenance programs, Rehab identification and construction program and capacity certification program).	Local Funds	Ongoing	2005	Very

## VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

**Table 6. MONITORING PLAN**

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
FC	Georgia EPD, Water Protection Branch or local government	Recommended	2004	2005	TMDL Evaluation and Monitoring for 305(b) and 303(d) lists for Georgia
Fecal Coliform	Fulton County	Current	2001		Refer to Fulton County Watershed Protection Plan (June 2002)

## VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities, which will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
City of Atlanta	Stenciling program	General Public	Ongoing
City of Atlanta	Utility bill inserts	General Public	Ongoing
City of Atlanta	Great American Cleanup	General Public	Ongoing
City of Atlanta	Clean Water Campaign	General Public	Ongoing
City of Atlanta	Community watershed workshops	General Public	Ongoing
City of Atlanta	Stream clean ups	General Public	Ongoing (1998)
City of Atlanta	Adopt-A-Stream	General Public	Ongoing
City of Atlanta	Citizens participation program	General Public	Ongoing
City of Atlanta	Project WET	General Public	Ongoing
City of Atlanta	Website: <a href="http://www.cleanwateratlanta.org">www.cleanwateratlanta.org</a>	General Public	Ongoing
City of Atlanta	Website: <a href="http://www.atlantapublicworks.org">www.atlantapublicworks.org</a>	General Public	Ongoing
City of Atlanta	Programming on City Channel 26	General Public	Ongoing
City of Atlanta	Neighborhood Planning Unit presentations	General Public	Ongoing
Fulton County	Stenciling program	General Public	Ongoing
Fulton County	Utility bill inserts	General Public	Ongoing
Fulton County	Clean Water Campaign	General Public	Ongoing
Fulton County	Community watershed workshops	General Public	Ongoing
Fulton County	Stream clean ups	General Public	Ongoing

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Fulton County	Adopt-A-Stream	General Public	Ongoing
Fulton County	Citizens participation program	General Public	Ongoing
Fulton County	Develop & submit print ads/public service announcements/press releases.	General Public	Ongoing
Fulton County	Develop & distribute educational packets to new septic tank permit applicants.	General Public	Ongoing
Fulton County	Conduct workshops at community meetings, reaching homeowners.	General Public	Ongoing
Fulton County	Conduct classroom demonstrations, reaching students.	General Public	Ongoing
Fulton County	Conduct dye testing on septic tanks.	General Public	Ongoing
Fulton County	Perform Fecal Coliform analysis in conjunction with above dye tests and analyze results.	General Public	Ongoing
Fulton County	Copies of <i>The Septic System Owner's Manual</i> by Lloyd Kahn, Blair Allen, & Julie Jones will be placed in every Fulton County Library and will be available for checkout by the general public.	General Public	Ongoing
Fulton County	Grease Abatement Education	Restaurant Operators	Ongoing
Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local Governments will participate in a regional public education program such as the Clean Water Campaign, or establish its own program. The program must address water quality issues and the promotion of water conservation.	General Public	2004

**IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH**

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- Accomplishment of management practices or activities    - outreach activities
- Installation of BMPs

to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

**Table 8. MILESTONES**

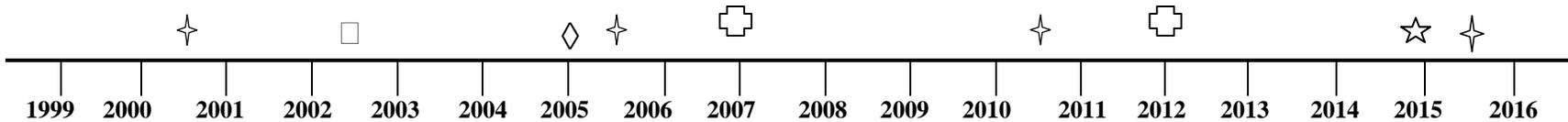
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
NPDES Phase I Permit GAS000100	City of Atlanta	6/95	Ongoing	Refer to Annual Report to GA EPD
City of Atlanta Stormwater Management Ordinance	City of Atlanta	1993	Ongoing	Plan review and field inspections (Inspections are performed on all construction activities within the City of Atlanta through the issuance of a building permit)
Illicit Discharge Ordinance	City of Atlanta	1996	Ongoing	Illicit discharge investigations (inspection forms are included in annual NPDES report)
Erosion and Sedimentation Control Ordinance	City of Atlanta	1996	Ongoing	Erosion and sedimentation investigations (inspection forms and violations are filed and recorded electronically within the Department of Watershed Management)
Riparian Buffer Protection Ordinance	City of Atlanta	1999	Ongoing	Riparian buffer investigations and variances (Variance applications are filed and keep on record by the Department of Planning and Watershed Management)
Floodplain Protection Ordinance	City of Atlanta	1985	Ongoing	Floodplain determinates and permits
Sanitary Sewer Evaluation System	City of Atlanta	1998	2010	Inspections (Investigations are recorded by city and field reports; they are recorded by the Department of Watershed Management under guise of the consent decree)
CMOM Program	City of Atlanta	1999	Ongoing	Inspections and maintenance
Grease Trap Inspection Program	City of Atlanta	1999	Ongoing	Inspections and permits (Inspection forms and corrective action requests are filed and recorded by the Department of Watershed Management)
BMP Program	City of Atlanta	1995	Ongoing	Plan review and field inspection
CMOM Program	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Emergency Sanitary Sewer Evaluation Study (ESSES)	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Interim Collection System Master Plan	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Survey of Sanitary Sewer	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Sanitary Sewer Modeling	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Flow Monitoring	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Improvements in Wastewater Treatment	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Database and Tracking of Un-sewered Areas	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Permitting of Septic Systems	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Educational Efforts (Pet Waste)	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)

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Providing sewer service to Developed Areas by 2030	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Improving Waste Receptacles	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Reduction in agricultural land use through conversion to developed property	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Reduction in habitat through development	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the District-wide Watershed Management Plan
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the Long-Term Wastewater Management Plan

### PROJECTED ATTAINMENT DATE

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



- Scheduled EPD basin Group Monitoring ✦
- TMDL Completed □
- TMDL Implementation Plan Accepted ◇
- Evaluation of implementation plan/water quality improvement ⊕
- Project Attainment ☆

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Date Submitted to EPD:	August 30, 2004	Revision:	#1

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 or Section 604(b) of the Federal Water Pollution Control Act, as amended.

APPENDIX A  
STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for 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/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Pam Caird					770-751-9716	pjcaird@aol.com
Robyn Stalson					770-454-6526	rstalson@bellsouth.net
Kevin Johns / Parsons	5320 Mill Run Drive	Marietta	GA	30068	770-992-7470	kevin.johns@parsons.com
Ben G. Stratham / Sandy Spring Fulton Clean & Beautiful					770-475-9214	stratham@mindspring.com
Madelene Reamy / Keep SSNF Beautiful	2394 Harrington Drive	Decatur	GA	30033	404-318-1720	mreamy@mindspring.com
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org
Anne Marie Hoffman	1037 Colquitt Avenue, #12	Atlanta	GA		404-588-9980	
Glen Behrend	1771 Defoor Avenue, Unit F	Atlanta	GA	30318	404-603-9960	gbehrend@att.net
Graham Anthony	9575 Marsh Cove Court	Atlanta	GA	30350	770-643-8286	gha2@mac.com
JP Bertulfo	3504 Sexton Woods Dr	ATLANTA	GA	30341	206-309-0864	JBERTULF@HSC.USF.EDU
Ken Johnson	457 Overbrook Drive, NW	Atlanta	GA	30318	404-351-4652	
Nancy Rinzler	225 Northland Ridge Trail	Atlanta	GA	30342	404 255 8081	nancyrinzler@earthlink.net
Andrea Pinabell / Stormwater Management Inc.	430 Lindbergh Drive #F3	Atlanta	GA	30305	404-846-5785	andreap@stormwaterinc.com
Ben R. Jordan / The Coca-Cola Company	P.O. Box 1734	Atlanta	GA	30301		bjordan@na.ko.com
Bruce W. Thurlby / Archaea Solutions, Inc.	100 Lloyd Avenue, Suite D	Tyrone	GA	30290	770-487-5303	bruce.thurlby@archaseasolutions.com
Bryan Barrett / USDA	355 East Hancock Ave	Athens	GA	30601	706-546-2039	bryan.barrett@ga.usda.gov
Buddy Belflower / USDA/NRCS	734 Crescent Dr	Gainesville	GA	30501	770-536-6981	buddy.belflower@ga.usda.gov
Chad Knudsen / Ecological Solutions					770-998-7848	chadknudsen@ecologicalsolutions.net
Chrissy Marlowe / GA DCA	225 West Broad St.	Athens	GA	30601	706-425-3077	cmarlowe@dca.state.ga.us
Chuck Budinger / Corporate Env. Risk Management	2116 Monroe Drive, Suite 110	Atlanta	GA	30324	678-999-0173	cbudinger@cerm.com
David Smith	740 Hunterhill Court	Roswell	GA	30075	770-641-3096	davidsmith@ecologicalsolutions.net
David Smith / Ecological Solutions	630 Colonial Park Drive, Suite 200	Roswell	GA	30075	770-998-7848	davidsmith@ecologicalsolutions.net

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Duncan Cottrell / Adopt-A-Stream Coordinator / Upper Etowah River Alliance					770-735-2778	duncancottrell@yahoo.com
Geneva Nelson / Foundation for Global Community	899 Chippendale Lane	Norcross	GA	30093	770-564-2730	genevaan@yahoo.com
Jason Barringer	2446 Fallview Terrace	East Point	GA	30344		forrain2@hotmail.com
Kevin Johnson / The Trust for Public land	1447 Peachtree Street Suite 601	Atlanta	GA	30309	404.873.7306	kevin.johnson@tpl.org
Kimberly Ajy / Jordan Jones and Goulding	6801 Governors Lake Parkway	Norcross	GA	30071	6783330232	kajy@jig.com
Linda MacGregor / McKenzie MacGregor Incorporated	3455 Lawrenceville Suwanee Road, Suite A	Suwanee	GA	30024	678-546-9450	lmacgregor@mckmacg.com
Max Walker	941 Pine Roc Drive	Stone Mountain	GA	30083	770/469/4786	MAXWALKER@mindspring.com
Rose Mary Seymour / UGA - Griffin Campus	1109 Experiment St	Griffin	GA	30223	770 229-3214	rseymour@griffin.uga.edu
Dr. Edward Mills	5685 Lake Placid Drive	Atlanta	GA	30342	(404) 252-2125	

**APPENDIX B**  
**UPDATES TO THIS PLAN**

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

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**APPENDIX C**  
**VISUAL FIELD SURVEY**  
**For**  
**Long Island Creek TMDL Segment**  
**(Headwaters to Chattahoochee River)**  
**In the**  
**Chattahoochee River Basin**  
**July 2004**

**Visual Field Survey**

**For**

**Long Island Creek TMDL Segment  
(Headwaters to Chattahoochee River)**

**In the**

**Chattahoochee River Basin**

**July 2004**

Prepared by the Atlanta Regional Commission with the support of the Environmental Protection Division of the Georgia Department of Natural Resources

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

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## 1.0 INTRODUCTION

### 1.1 Location

Long Island Creek is located in the northern portion of the Atlanta Metropolitan region in unincorporated Sandy Springs. As shown in Figure 1, the Long Island Creek TMDL segment watershed is located entirely within Fulton County, flowing southwest toward its confluence with the Chattahoochee River. The TMDL segment begins approximately 1/3 mile northeast of where it crosses under I-285. Downstream of I-285, the creek flows through densely populated apartment complexes and a commercial area on Roswell Road. Downstream of the Roswell Road crossing, Long Island Creek then flows through residential areas and under multiple residential roads before reaching its confluence with the Chattahoochee.

### 1.2 Watershed Description

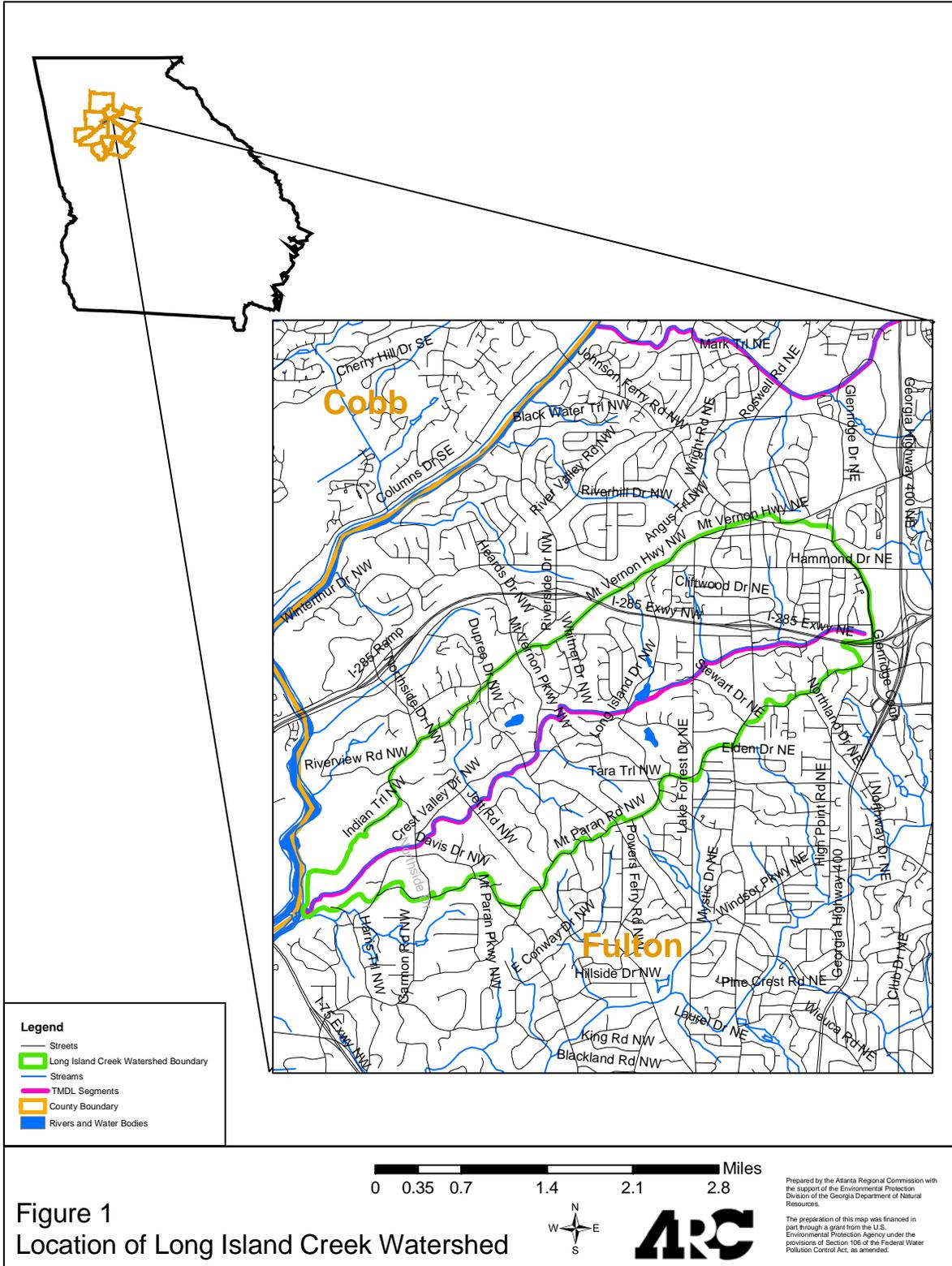
The Long Island Creek TMDL segment watershed is comprised of 4180 acres of land within Fulton County and is located within HUC 10 – 0313000111 and HUC 12 – 031300011105. Mapping of the watershed shows that 42% of the land cover within the watershed is low density residential. The percentages for land covers are presented below in Table 1. Table 2 outlines how ARC’s land cover categories have been aggregated into the categories used for this project. A map showing land use in the watershed is included as Figure 2.

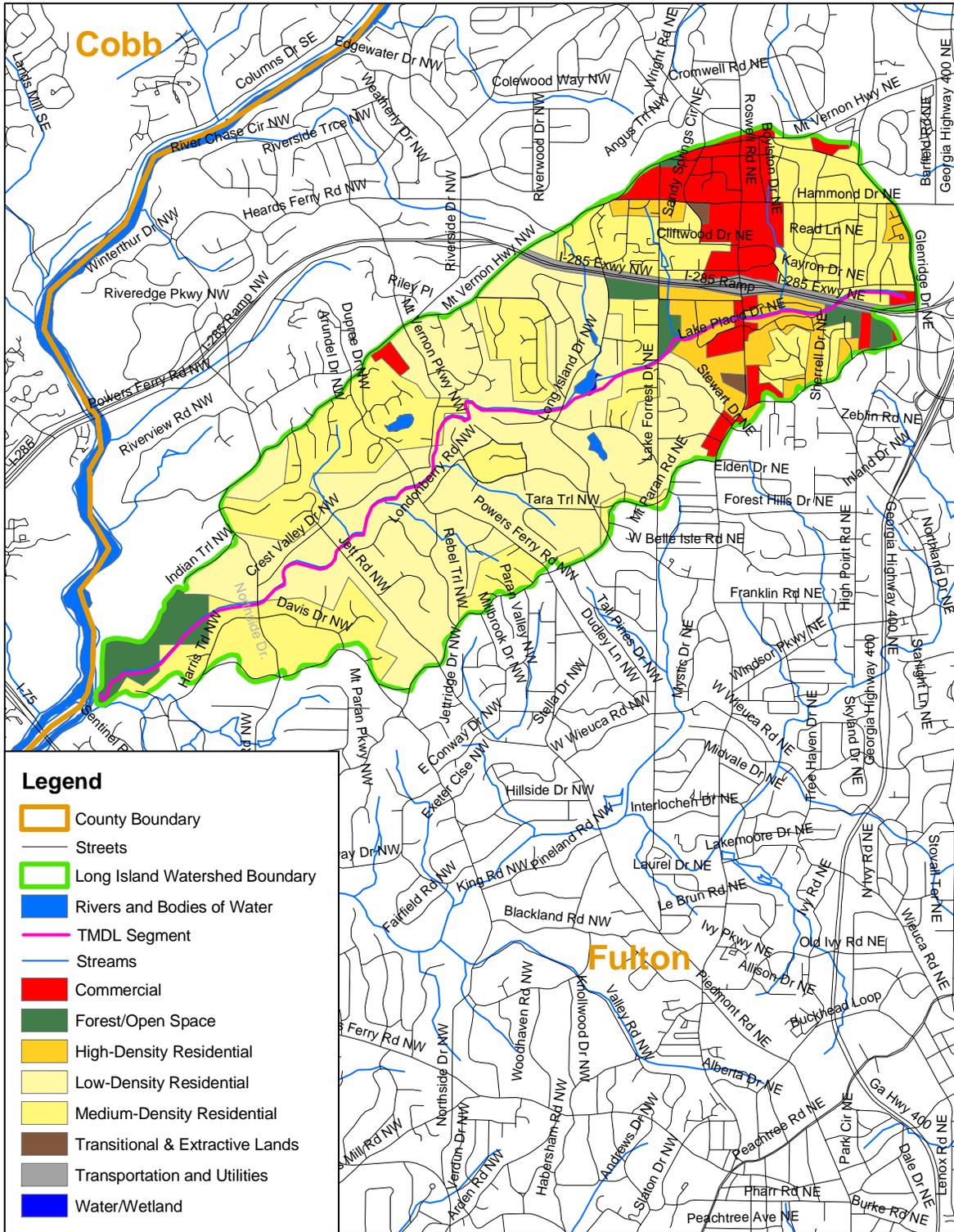
**Table 1. Watershed Land Cover**

Land Cover Classification	Area (Acres)	% of Total Area	Aggregated ARC Land Cover Codes
Low-Density Residential	1735.31	41.51%	111
Medium-Density Residential	1534.41	36.71%	112
Commercial	368.49	8.82%	12, 15, 121
High-Density Residential	256.32	6.13%	113, 119, 117
Forest/Open Space	180.59	4.32%	40, 171, 172, 173
Transportation and Utilities	81.13	1.94%	14, 145
Transitional & Extractive Lands	12.87	0.31%	17, 74, 75, 76
Water/Wetland	10.93	0.26%	51, 53, 60
<b>Total Acres</b>	<b>4180.05</b>	<b>100.00%</b>	

**Table 2. TMDL Watershed Land Cover Matrix (Aggregated ARC Land Cover Categories)**

<b>Aggregated Category</b>	<b>Description of Original ARC Categories</b>	<b>ARC Land Cover Code</b>
<b><i>Commercial</i></b>	Commercial and Services	12
	Industrial and Commercial Complexes	15
	Intensive Institutional	121
<b><i>Industrial/Institutional</i></b>	Industrial	13
<b><i>Transportation &amp; Utilities</i></b>	Transportation, Communication & Utilities	14
	Limited Access Highways	145
<b><i>Agricultural Lands</i></b>	Agriculture-Cropland and Pasture	21
	Agriculture-Orchards, Vineyards and Nurseries	22
	Agriculture-Confined Feeding Operations	23
	Agriculture-Other	24
<b><i>Forest / Open Space</i></b>	Forest	40
	Golf Courses	171
	Cemeteries	172
	Parks	173
<b><i>Water / Wetlands</i></b>	Rivers	51
	Reservoirs, Lakes, and Ponds	53
	Wetlands	60
<b><i>Transitional &amp; Extractive Lands</i></b>	Other Urban	17
	Bare Exposed Rocks	74
	Quarries, Gravel Pits, and Strip Mined	75
	Transitional Areas	76
<b><i>Low-Density Residential</i></b>	Low Density Single Family Residential	111
<b><i>Medium-Density Residential</i></b>	Medium Density Single Family Residential	112
<b><i>High-Density Residential</i></b>	High Density Residential	113
	Multifamily Residential	117
	Mobile Home Parks	119





**Figure 2**  
**ARC 2001 Land Cover for**  
**Long Island Creek Watershed**

0 0.2 0.4 0.8 1.2 1.6 Miles



Prepared by the Atlanta Regional Commission with the support of the Environmental Protection Division of the Georgia Department of Natural Resources.

The preparation of this map 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.

## **2.0 METHODOLOGY**

Prior to beginning the field study, data from the 2001 ARC Source Water Assessment Project were studied to determine the locations of any known point sources and potential individual sources of pollution in relation to the area of interest. Known potential individual sources of pollution located in the Long Island Creek watershed are shown in Figure 3. Additionally, aerial photos were compiled and used to further evaluate land use along the stream prior to the beginning of field observations.

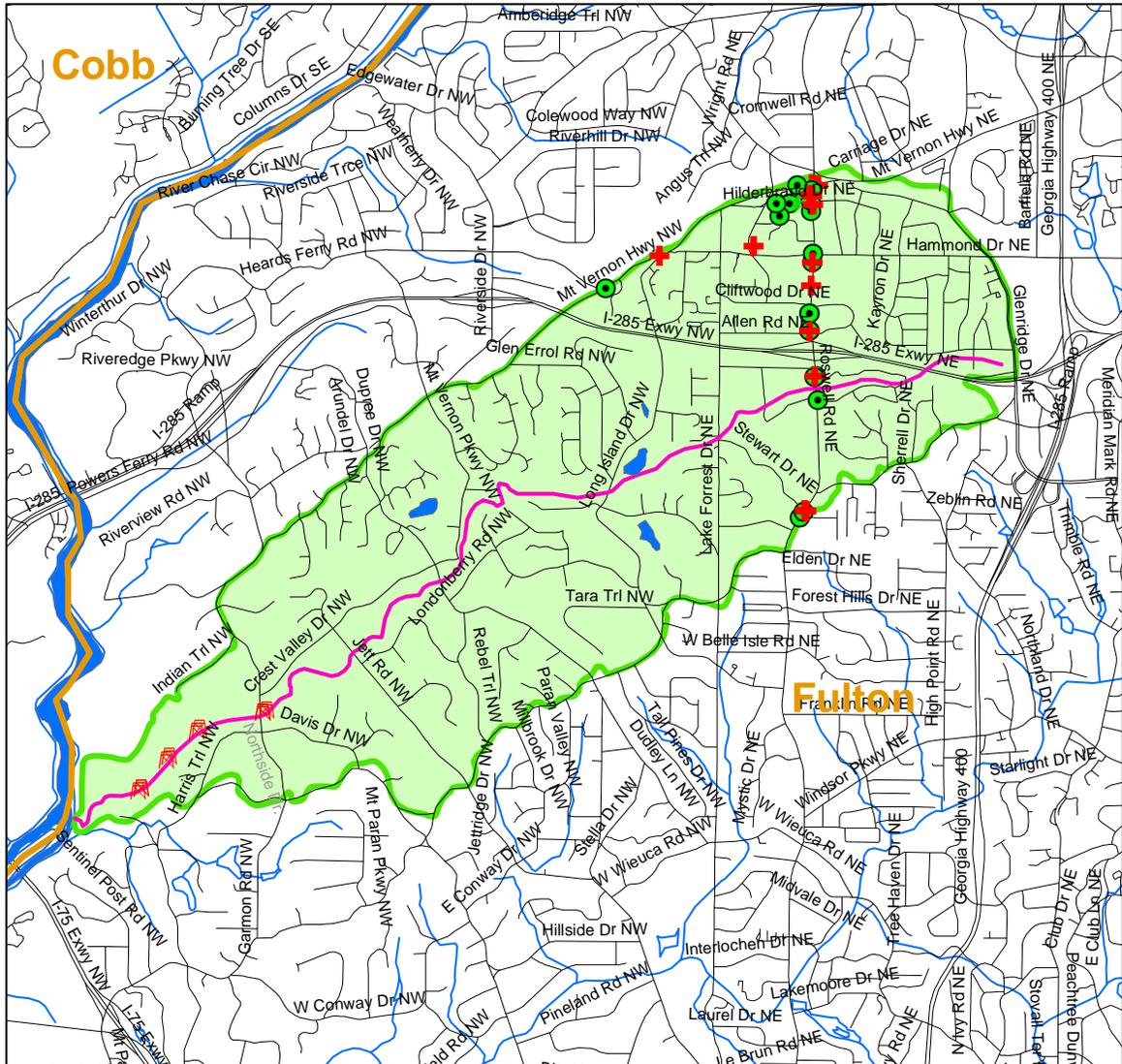
Using guidance documents provided by the state, a field assessment of the watershed was conducted. The initial step was a windshield survey of the watershed area adjacent to the Long Island Creek TMDL stream segment. Following completion of the windshield survey, a foot survey of the stream segment was performed where access permitted. The purpose of the stream segment walk was to identify and observe possible sources of pollution. Observations were documented and captured in photographs of the stream channel and its surroundings.

## **3.0 FIELD FINDINGS**

### **3.1 General Characteristics**

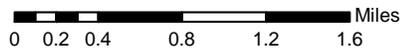
The field findings discussed here are the results of the visual survey performed largely on foot throughout the designated segment. The land cover in the area was verified in addition to careful observations of the current conditions in the stream and its surroundings. A map of included images taken during the visual field survey is shown as Figure 4.

The Long Island Creek TMDL segment can be roughly divided into four sections based on the field observations. The first section is the most upstream, starting near Pinebrook Road (Figure 5) in a single family residential area. In this area the stream segment is very narrow with heavily vegetated banks. The stream segment quickly transitions into a densely populated apartment (Figure 6) and commercial area along Roswell Road. This second section continues on to Lake Forrest Drive and is characterized by heavy litter, erosion, and minimal vegetative buffers along the stream banks.

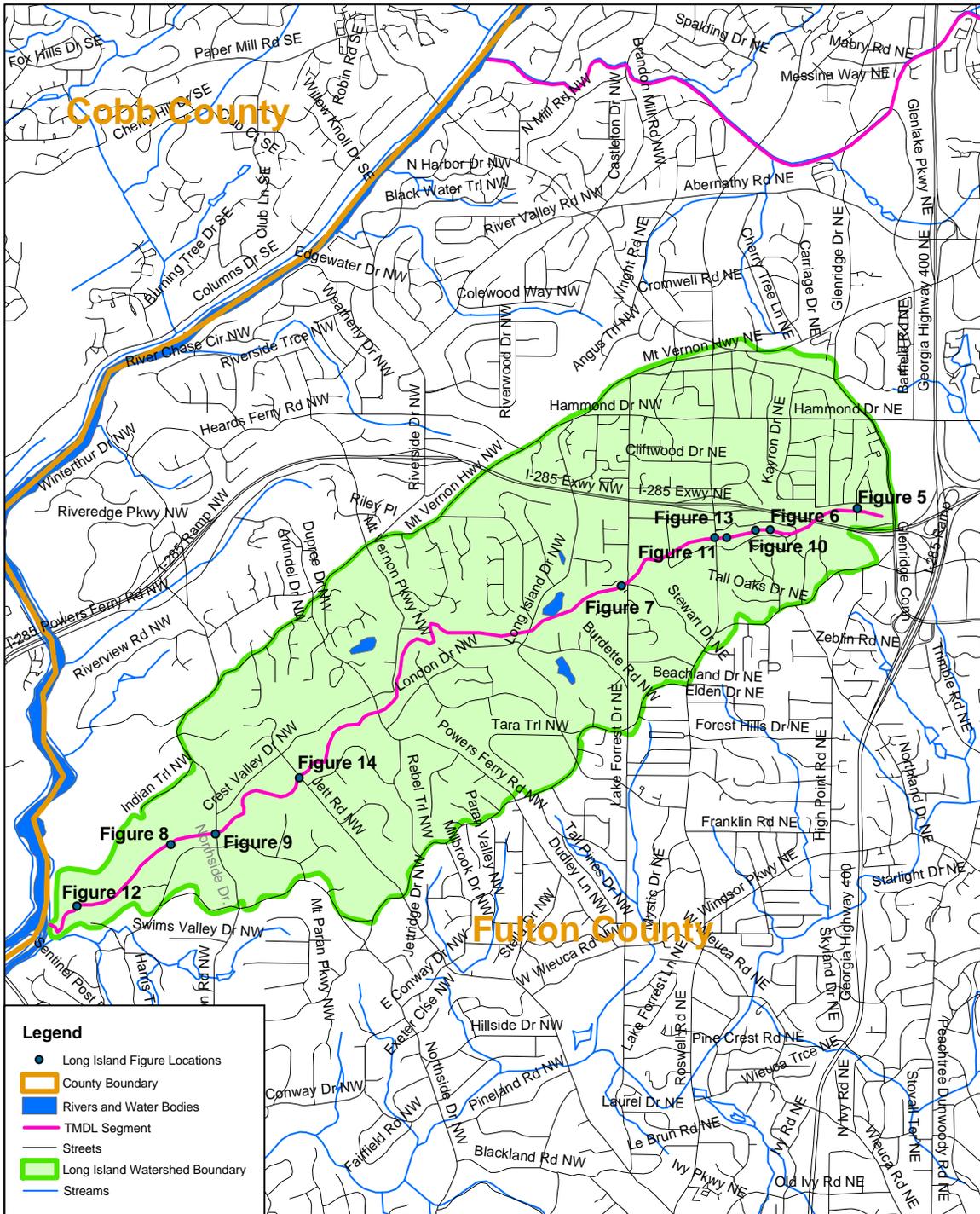


Legend			
AG - Agriculture	JUNK - Junk/Scrap/Salvage Yards	LS - Lift Stations	Counties
AIR - Airports	LAS - LAS Permit Holders	MAR - Marinas	Rivers and Water Bodies
ASP - Asphalt Plants	LF - Landfills	MINE - Mining	TMDL Segment
SUB - Electric Substations	LIBCPS - Large Industries Which Have Bulk Chemical and Petro. Storage	NPDES - NPDES Permit Holders	Streets
FUEL - Fuel Facilities	LIFCATS - Large Industries Which Have Federal Categorical Standards	Pipeline Crossing Stream	Long Island Watershed Boundary
GTS - Garbage Transfer Stations	LIUHC - Large Industries Which Utilize Hazardous Waste	REC - Recycling Centers	Streams
SOG, LOG, CEOG, OR HAZ - Hazardous Waste Facilities		WWTF - Wastewater Treatment Facilities	
		WP - Water Treatment Plants	

**Figure 3**  
**Long Island Creek**  
**Potential Individual Sources of Pollution**  
**Identified in ARC's 2001 Source Water**  
**Assessment Project**



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**Legend**

- Long Island Figure Locations
- ▭ County Boundary
- ▭ Rivers and Water Bodies
- ▭ TMDL Segment
- ▭ Streets
- ▭ Long Island Watershed Boundary
- ▭ Streams

**Figure 4**  
**Location of Images Taken**  
**During Visual Field Survey**

0 0.2 0.4 0.8 1.2 1.6 Miles

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The preparation of this map was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 108 of the Federal Water Pollution Control Act, as amended.

**ARC**



**Figure 5. Looking upstream at Pinebrook Road**



**Figure 6. Stream channel adjacent to apartments upstream of Roswell Road**

In the third section of the TMDL stream segment, surrounding land cover changes to single family residential around Lake Forrest Drive. From Lake Forrest Drive downstream to Northside Drive the stream segment and its surroundings are fairly homogenous. The primary change in the stream from the upstream sections is the presence of a more established buffer between the stream and bordering residences. However, there is still frequent litter of varying sizes (Figure 7), and significant erosion of the stream banks likely due to upstream activities. Upstream of Long Island Drive is a private lake adjacent to the stream where a tributary flows into Long Island Creek.



**Figure 7. Pipe and debris downstream of Lake Forrest Drive**

In the fourth section of the stream, from Northside Drive downstream to the Chattahoochee River, the stream characteristics differ substantially from those observed upstream. The surroundings are comprised of estate properties of low density and the stream exhibits a more natural appearance (Figure 8). Litter is not as common and the stream buffer is denser throughout the lower portion of the TMDL segment, which passes through the Chattahoochee River National Recreation Area. Strong evidence of the presence of wildlife in this portion of the Long Island Creek TMDL segment contrasts the more urban characteristics of upstream areas.



**Figure 8. Looking downstream from Northside Drive**

There are small intermittent sections of stream bank where riprap and gabion have been placed, which do not amount to significant bank stabilization. Below, Figure 9 shows an area of riprap as well as a sewer vent which emits strong wastewater odors.



**Figure 9. Pipes and sewer vent downstream of Northside Drive (looking upstream)**

Structures in or over the creek include twelve bridges, two culverts (Figure 11), one small dam (Figure 10), and two beaver dams. The small dam is located within the Stonebridge Apartment Complex on Lake Placid Drive, upstream of Roswell Rd.



**Figure 10. Small dam in apartment complex upstream of Roswell Road (looking downstream)**



**Figure 11. Downstream side of Roswell Road culvert (looking upstream)**

The beaver dams are located in the downstream portion of the Long Island Creek TMDL segment within the Chattahoochee National Recreation Area. The dams stretch across the stream but are not blocking the water flow from upstream (Figure 12). Evidence of recent beaver dam building activities was seen in the woods adjacent to the dams.



**Figure 12. Beaver dam upstream of confluence (looking downstream)**

The stream bed and banks are littered frequently with small pieces of trash such as cans and bottles, as well as occasional to frequent large pieces of trash such as tires, hubcaps, and vinyl siding. There was more litter in the upper sections of the stream segment than downstream portions. Potential sources affecting the overall health of Long Island Creek are discussed in the Point Source and Non-point Source sections.

### **3.2 Point Sources**

There are no permitted point source discharges in the Long Island Creek TMDL segment watershed.

### **3.3 Non-Point Sources**

The watershed appears entirely sewered. However, there may be isolated houses that are served by septic systems.

Wildlife was observed occasionally in the streambed as well as in areas adjacent to the stream in the upstream sections. However, moving downstream, evidence of wildlife became very frequent and was most common in the portion of the stream

flowing through the Chattahoochee National Recreation Area. There were abundant raccoon tracks, occasional deer tracks, and possible large cat tracks throughout the lower section of the stream. Small groups of fish were observed throughout the segment.

Canada Geese were seen in two portions of the segment; both in the Stonebridge apartment complex on Lake Placid Drive around a small pond (Figure 13) and upstream of the Long Island Drive near a private lake. In the Stonebridge apartment complex, there were numerous dog walk areas designated by signs and clean-up bins. However, there was a significant amount of domestic animal waste on the ground.



**Figure 13. Canada Geese adjacent to pond at apartments on Lake Placid Drive**

In addition to the water fowl and domestic pets, the field survey revealed four residences with horses or horse facilities. These were located in the middle and downstream portions of the Long Island Creek (Figure 14). Horses were observed in two locations at the time of the visual survey.



**Figure 14. Horse stable and field downstream of Jett Road**

### **3.4 Other Potential Individual Sources of Pollution**

Data obtained from the 2001 ARC Source Water Assessment Project show potential individual sources of pollution in the Long Island Creek TMDL segment watershed (Figure 3). No individual sources of pollution were observed directly adjacent to the stream segment. In Figure 3 the red crosses symbolize hazardous waste facilities. Examples of the types of businesses categorized as hazardous waste facilities include dry cleaners, vehicle maintenance facilities, and leather manufacturing facilities. This data was used as a part of the Source Water Assessment Project for Metro Atlanta and the data source was US EPA's Resource Conservation and Recovery Information System (RCRIS). A brief review of these data types shows little or no potential influence on fecal coliform levels in this TMDL stream segment.

## **4.0 RANKS ASSIGNED TO POLLUTION SOURCES**

Urban runoff is considered a moderate source of fecal coliform bacteria affecting this entire TMDL segment. Leaking or failing septic tank systems and animal waste from wildlife or horse farms and domestic pets is also considered a moderate source of fecal coliform bacteria affecting sporadic areas of this entire TMDL segment. Sanitary sewer overflows and illicit connections of sanitary sewers are considered small sources affecting sporadic and limited areas of the Long Island Creek TMDL segment.

## **5.0 SUMMARY OF FINDINGS**

There are no permitted point source discharges in the Long Island Creek watershed. The field survey and background investigation identified non-point sources such as urban runoff, septic system failures, and animal waste and sewer line failures. These are the most likely potential sources of pollution in and around the TMDL segment. Proposed management practices to address fecal coliform have been provided by local governments and are outlined in the 2004 Long Island Creek TMDL segment Implementation Plan in tables 5, 6 and 7.

## **6.0 STAKEHOLDER INVOLVEMENT**

Local government staff was informed of the date the fieldwork would occur. Results have been made available and discussed with local government staff.

**March Creek (a.k.a. Marsh Creek)**

**COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
March Creek (a.k.a. Marsh Creek)	Fulton County	4 miles	Fishing	NS

**III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs**

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

**Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs**

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) and 200 per 100 ml (geometric mean May-Oct)	Urban Runoff (UR)	60%

#### IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
  - Field surveys
  - Review of land cover data
  - Evaluation of sources
- 

A meeting was held in March 2004 with local city and county staff to review the TMDL segment and discuss potential sources of pollution. In May 2004 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2003 aerial imagery were developed for the public meetings as a tool to help locate sources. The stakeholders were asked for their input on any potential sources of pollution in the area. In addition to reviewing aerial imagery ARC staff will review the most recent landuse data available (year 2001) for the area and will be updating the watershed description found in the TMDLs. This process involved first verifying that the correct watershed was used in the development of the TMDL. ARC staff has updated watershed delineations and will provide the updated watershed boundaries to GA EPD.

ARC has conducted a visual field survey on this stream segment due to limited recent stream walk information. The visual field survey is attached. As a part of this visual field survey we reviewed existing point source data provided by GA EPD as well as reviewing 2003 aerial imagery. Using guidance documents provided by the State, a field assessment was conducted which included a windshield survey of the area adjacent to the stream and a foot survey where access was allowed. The summary of findings for this visual field survey is as follows. There are no permitted point source discharges in the March Creek watershed. The field survey and background investigation identified non-point sources such as urban runoff, septic system and sewer line failure, and animal waste. These are the most likely potential sources of pollution in and around the TMDL segment. Proposed management practices to address fecal coliform have been provided by local governments and are outlined in the 2004 March Creek TMDL segment Implementation Plan in tables 5, 6 and 7. Urban runoff is considered a moderate source of fecal coliform bacteria affecting the entire reach of this TMDL segment. Leaking or failing septic tank systems and sanitary sewer overflows are considered moderate sources affecting sporadic areas of the March Creek TMDL segment. Animal waste from pets and wildlife is also considered a moderate source of fecal coliform bacteria affecting sporadic areas of this entire TMDL segment.

In addition to the efforts stated above DeKalb County as a part of their Compliance and Infrastructure Program routinely performs inspections of aerial and buried sewer line crossings. DeKalb County also performs routine walks of sewer outfalls, 12 inches or greater, along creeks banks for I/I related problems.

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To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed affected, the stream miles affected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

**Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT**

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal Coliform	Urban Runoff	Entire Reach	Moderate	Nonpoint source / stormwater runoff
Fecal Coliform	Septic tank systems	Sporadically throughout the segment	Moderate	Leaking / runoff from failing septic tank systems, including faulty drain fields
Fecal Coliform	SSOs	Sporadically throughout the segment	Moderate	Overflows from sanitary sewer system due to blockages from grease, roots, vandalism / pipe failures
Fecal Coliform	Animal wastes	Sporadically throughout the segment	Moderate	Nonpoint source - pets and wildlife
Fecal Coliform	Illicit connections	Limited	Negligible	Improper connections of sanitary sewer flows to the storm drain system

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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As a first step an initial meeting was held with local government agencies to determine possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The local government agencies in the advisory group for this segment are listed in Table 4.

The most important part of developing these implementation plans is locating stakeholders in this area. ARC staff searched for stakeholders listed on existing mailing lists (Home Owner Associations, Adopt-A-Stream, Watershed Alliance groups, etc.) to invite to the public meetings. The staff also gathered tax assessment information on landowners who owned more than 50 acres in the county. These stakeholders were considered large landowners and included public, private, and commercial types of property. Businesses listed on EPA's Enforcement & Compliance History Online (ECHO) website ([www.epa.gov/echo](http://www.epa.gov/echo)) that were located in the area were also invited to the public meetings. A list of elected officials, chambers of commerce, parks & recreation departments, NRCS, GA Soil & Water Conservation Commission, and National Park Service representatives were also invited to the public meetings. ARC staff also included schools, libraries, and large apartment complexes in the public meeting mailing list.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams)). The website provided a variety of information and access opportunities for the TMDL Implementation Plan process. The website identified the local government participants, provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information was available on this website. An online sign-up and feed-back form was included on the website so that people could sign up to be a stakeholder. These stakeholder names and other stakeholders can be found in Appendix A. In an effort to provide further detailed information on the TMDL stream segments and their watersheds, an interactive GIS map was developed as a part of the website. This interactive mapping technology allows individuals to zoom in to the area they are interested in and print out maps. The website also included access to a 10-minute video and slide presentation that explains the implementation plan development process and provides online feedback thus creating a virtual stakeholder public meeting and involvement process. This video resource was made available from May 3, 2004 to August 3, 2004. During this three month period a total of 129 visitors accessed the virtual public meeting. It was confirmed that public libraries in the area have high speed internet access and that the virtual public meeting could be viewed on computers at any public library in the metro Atlanta area.

The next step in this process involved holding 4 initial public meetings in May 2004 to educate stakeholders about this process and solicit input. A total of 43 persons attended the public meetings.

Methods used to inform the general public about the implementation plan development process and the public meetings include: having major environmental groups send out meeting notices in their electronic newsletters, distributing press releases, purchasing newspaper advertising space, sending out numerous e-mails announcing the initial meetings and finally mailing out 3500 meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, large landowners, elected officials, Chambers of Commerce, Parks & Recreation Departments, NRCS, and the National Park Service.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed. This draft document was made available to all stakeholders for discussion and input at the 4 public meetings held in June 2004. A total of 37 persons attended the public meetings.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

**Table 4. COMMITTEE MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
GA EPD, Water Protection Branch	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1751	
GA Adopt-A-Stream	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1636	
Georgia Soil and Water Conservation Commission	1500 Klondike Road Suite A109	Conyers	GA	30094	770-761-3020	<a href="mailto:kshahlaee@gaswcc.org">kshahlaee@gaswcc.org</a>
NRCS (Lawrenceville, GA Office)	750 South Perry St., Suite 410	Lawrenceville	GA	30045	770-963-9288	
DeKalb County Public Works	1580 Roadhaven Drive	Stone Mountain	GA	30083		
DeKalb County Extension Service	4380 Memorial Drive	Decatur	GA	30032		
DeKalb County Health Department	PO Box 987	Decatur	GA	30031		
Fulton County Public Works (Nick Ammons)	141 Pryor St., S.W., Suite 6001	Atlanta	GA	30303	404-730-7589	
Fulton County Environmental Health Department (Pearl Gordon)	99 Jessie Hill Jr., Dr., Room 101	Atlanta	GA	30303	404-730-1308	
NRCS	678 South Cobb Drive, Suite 150	Marietta	GA	30060	770-792-0594	
Fulton County Cooperative Extension Service	141 Pryor St., Suite 1031	Atlanta	GA	30303	404-730-7000	
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for 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.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

**Table 5. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Phase I MS4 Municipal Stormwater Permit	DeKalb County	Under this permit, DeKalb County is required to have a comprehensive stormwater program, which includes public education and participation, illicit discharge detection and elimination, permitting and reporting, and program implementation.	DeKalb County Water / Wastewater Revenue	In-Progress	09/1997	Moderate
DeKalb County Storm Water Ordinance	DeKalb County Roads & Drainage	Ordinance to address storm water runoff, nonpoint source pollution controls.	Storm Water Revenue	In-progress	1998	Very
Sanitary Sewer Maintenance Program	DeKalb County Water & Sewer	Sanitary sewer system inventory and inspection (mapping, television inspections); infiltration & inflow identification and reduction (flow monitoring, smoke testing); sewer line rehabilitation (pipe bursting, relining, cleaning) and manhole rehabilitation.	DeKalb County Water / Wastewater Revenue	Ongoing	1996	Very
Restoration and Retrofit Programs	DeKalb County government	Utility line vegetation program using native prairie grasses to stabilize utility easements and enhance habitat, sheet flow filterability; and construction of hydrologic controls and stream restoration projects.	DeKalb County Water / Wastewater Revenue	Ongoing	2001	To Be Determined
IAW O.C.G.A. 290-5-26	DeKalb County Board of Health	Rules and regulations for installation and repair of on-site sewage management systems.	DeKalb County Board of Health	Enforced	June 30, 1980	Moderate
CMOM Program	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	In Development	2005	Very

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Emergency Sanitary Sewer Evaluation Study (ESSES)	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Completed in 2001	Completed in 2001	Moderate
Interim Collection System Master Plan	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Completed in 2002	Completed in 2002	Moderate
Survey of Sanitary Sewer	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Begin in 2003	2003	Moderate
Sanitary Sewer Modeling	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Planned for 2005	2005	Very
Flow Monitoring	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	1988	Very
Improvements in Wastewater Treatment	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	1912	Very
Database and Tracking of Un-sewered Areas	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	2005	Moderate
Permitting of Septic Systems	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County General Fund	Ongoing	1952	Moderate
Educational Efforts (Pet Waste)	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County General Fund	Ongoing	1998	Weak
Providing sewer service to Developed Areas by 2030	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County Water & Sewer Revenue Fund	Ongoing	1990	Moderate
Improving Waste Receptacles	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Fulton County General Fund	Ongoing	2003	Weak
Reduction in agricultural land use through conversion to developed property	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Private Development	Ongoing	1808	Moderate
Reduction in habitat through development	Fulton County	Refer to Fulton County Watershed Protection Plan (June 2002)	Private Development	Ongoing	1808	Moderate

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IAW O.C.G.A. 290-5-26	Fulton County Environmental Health Department	Rules and regulations for installation and repair of on-site sewage management systems.	Fulton County General Fund	Enforced	June 30, 1980	Moderate
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	As a part of this watershed management plan MS4 Phase I and Phase II communities will be required to adopt the following ordinances: Post Development Storm Water Management for New Development and Redevelopment, Illicit Discharge and Illegal Connection, and Stream Buffer Protection. As well as establishing municipal Good Housekeeping Practices.	Local Funds	Ongoing	2004 & 2005	Very
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local wastewater systems will implement a policy on private wastewater systems, develop interim decentralized system plans with concept of merging into larger systems, a grease management program, and numerous sewer system programs (mapping, maintenance programs, Rehab identification and construction program and capacity certification program).	Local Funds	Ongoing	2005	Very

## VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

**Table 6. MONITORING PLAN**

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
FC	Georgia EPD, Water Protection Branch or local government	Recommended	2004	2005	TMDL Evaluation and Monitoring for 305(b) and 303(d) lists for Georgia
Fecal Coliform	Fulton County	Current	2001		Refer to Fulton County Watershed Protection Plan (June 2002)

## VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities, which will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
DeKalb County Roads & Drainage Division	Storm drain stenciling program	General public (residential /commercial/industrial)	Ongoing (1999)
DeKalb County Roads & Drainage Division	Educational brochures	General public (residential/commercial/industrial)	Ongoing (1999)
DeKalb County / Atlanta Regional Commission	Clean Water Campaign	General public	Ongoing (2000)
DeKalb County Keep DeKalb Clean Office	Clean Up campaigns; Adopt-A-Stream	General public	Ongoing (2002)
DeKalb County Water & Sewer Division	Utility bill inserts: septic tank maintenance, nonpoint source pollution control; pet wastes	General public	Ongoing (2000)
DeKalb County Water & Sewer Division	WaterMatters newsletters	General public	Ongoing (2001)
DeKalb County Water & Sewer Division	Web site: <a href="http://dklbweb.dekalbga.org/watersewer">http://dklbweb.dekalbga.org/watersewer</a>	General public (residential/commercial/industrial); teachers; students	Ongoing (2000)
DeKalb County Water & Sewer Division	WaterMatters poster contest	Grade school students	Ongoing (2003)

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DeKalb County Water & Sewer Division	Web search and poster/collage	Middle school students	Ongoing (2003)
Fulton County	Stenciling program	General Public	Ongoing
Fulton County	Utility bill inserts	General Public	Ongoing
Fulton County	Clean Water Campaign	General Public	Ongoing
Fulton County	Community watershed workshops	General Public	Ongoing
Fulton County	Stream clean ups	General Public	Ongoing
Fulton County	Adopt-A-Stream	General Public	Ongoing
Fulton County	Citizens participation program	General Public	Ongoing
Fulton County	Develop & submit print ads/public service announcements/press releases.	General Public	Ongoing
Fulton County	Develop & distribute educational packets to new septic tank permit applicants.	General Public	Ongoing
Fulton County	Conduct workshops at community meetings, reaching homeowners.	General Public	Ongoing
Fulton County	Conduct classroom demonstrations, reaching students.	General Public	Ongoing
Fulton County	Conduct dye testing on septic tanks.	General Public	Ongoing
Fulton County	Perform Fecal Coliform analysis in conjunction with above dye tests and analyze results.	General Public	Ongoing
Fulton County	Copies of <i>The Septic System Owner's Manual</i> by Lloyd Kahn, Blair Allen, & Julie Jones will be placed in every Fulton County Library and will be available for checkout by the general public.	General Public	Ongoing
Fulton County	Grease Abatement Education	Restaurant Operators	Ongoing
Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local Governments will participate in a regional public education program such as the Clean Water Campaign, or establish its own program. The program must address water quality issues and the promotion of water conservation.	General Public	2004

**IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH**

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- Accomplishment of management practices or activities      - outreach activities
- Installation of BMPs

to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

**Table 8. MILESTONES**

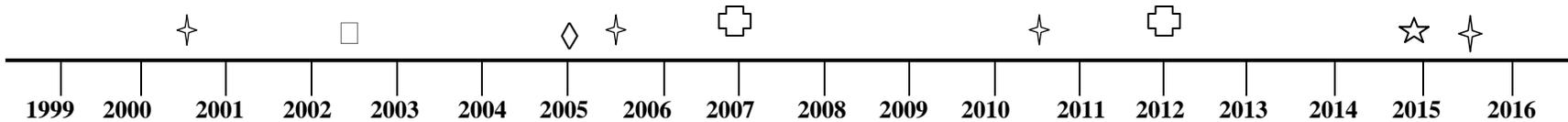
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Phase I MS4 Municipal Stormwater Permit	DeKalb County	1997	Ongoing	Annual Reports submitted to EPD
DeKalb County Storm Water Ordinance	DeKalb County Roads & Drainage	1994	Ongoing	Inspections of Industrial / commercial sites for spill prevention and control
DeKalb County Storm Water Ordinance	DeKalb County Roads & Drainage	1994	Ongoing	Outfall screenings for illicit connections
DeKalb County Storm Water Ordinance	DeKalb County Roads & Drainage	2000	Ongoing	Implementation of Storm Water Management Design Manual to provide BMPs for development sites
Land Development Ordinance (Chapter 14, DeKalb County Code)	DeKalb County government	2002	Ongoing	Passage of ordinance modifications
Land Development Ordinance (Chapter 14, DeKalb County Code)	DeKalb County government	2003	Ongoing	Implementation of conservation zoning
Land Development Ordinance (Chapter 14, DeKalb County Code)	DeKalb County government	2003	Ongoing	Increase level of site inspections for compliance with erosion and sediment control requirements
Point Source Pollution Control	DeKalb County Water & Sewer	2005	2010	Projects initiated and/or completed for design and construction
Sanitary Sewer Maintenance Program	DeKalb County Water & Sewer	1999	Ongoing	Number of inspections completed;
Sanitary Sewer Maintenance Program	DeKalb County Water & Sewer	1996	Ongoing	Miles of sewer line mapped and cleaned
Restoration and Retrofit Programs	DeKalb County government	2001	Ongoing	Number of projects or linear feet of prairie grass planted;
Restoration and Retrofit Programs	DeKalb County government	2005	Ongoing	Number of projects identified through feasibility studies, and then designed and constructed
IAW O.C.G.A. 290-5-26	DeKalb County Board of Health.	1980	Ongoing	Continue the process of reviewing the installation of septic systems as a part of the development review process
IAW O.C.G.A. 290-5-26	DeKalb County Board of Health.	1980	Ongoing	Continue to identify and respond to instances of septic system failure. Enforcement responses to failing septic systems are by complaint only. Home and business owners who don't have a complaint lodged against them can consult with Environmental Health about their failing systems and can pay for an onsite assessment for repair.
CMOM Program	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Emergency Sanitary Sewer Evaluation Study (ESSES)	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Interim Collection System Master Plan	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Survey of Sanitary Sewer	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)

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Sanitary Sewer Modeling	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Flow Monitoring	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Improvements in Wastewater Treatment	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Database and Tracking of Un-sewered Areas	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Permitting of Septic Systems	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Educational Efforts (Pet Waste)	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Providing sewer service to Developed Areas by 2030	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Improving Waste Receptacles	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Reduction in agricultural land use through conversion to developed property	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
Reduction in habitat through development	Fulton County			Refer to Fulton County Watershed Protection Plan (June 2002)
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the District-wide Watershed Management Plan
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the Long-Term Wastewater Management Plan

### PROJECTED ATTAINMENT DATE

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



- Scheduled EPD basin Group Monitoring ✦
- TMDL Completed □
- TMDL Implementation Plan Accepted ◇
- Evaluation of implementation plan/water quality improvement ⊕
- Project Attainment ☆

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Date Submitted to EPD:	August 30, 2004	Revision:	#1

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 or Section 604(b) of the Federal Water Pollution Control Act, as amended.

APPENDIX A  
STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for 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/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Allison Cohen / Emory University	Emory University	Atlanta	GA	30322		
Dieter Franz	3653 N. Stratford Road				404-261-8697	cdf Franz@comcast.net
Janie Dewald Bailey	60 North River Road	McDonough	GA	30252-8711		JPDBailey@juno.com
Steve Boudreaux	P.O. Box 36	Pine Lake	GA	30072		steveboudreaux@yahoo.com
Pam Caird					770-751-9716	pjcaird@aol.com
Robyn Stalson					770-454-6526	rstalson@bellsouth.net
Kevin Johns / Parsons	5320 Mill Run Drive	Marietta	GA	30068	770-992-7470	kevin.johns@parsons.com
Ben G. Stratham / Sandy Spring Fulton Clean & Beautiful					770-475-9214	stratham@mindspring.com
Madelene Reamy / Keep SSNF Beautiful	2394 Harrington Drive	Decatur	GA	30033	404-318-1720	mreamy@mindspring.com
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org
Anne Marie Hoffman	1037 Colquitt Avenue, #12	Atlanta	GA		404-588-9980	
Glen Behrend	1771 Defoor Avenue, Unit F	Atlanta	GA	30318	404-603-9960	gbehrend@att.net
Graham Anthony	9575 Marsh Cove Court	Atlanta	GA	30350	770-643-8286	gha2@mac.com
JP Bertulfo	3504 Sexton Woods Dr	ATLANTA	GA	30341	206-309-0864	JBERTULF@HSC.USF.EDU
Ken Johnson	457 Overbrook Drive, NW	Atlanta	GA	30318	404-351-4652	
Nancy Rinzler	225 Northland Ridge Trail	Atlanta	GA	30342	404 255 8081	nancyrinzler@earthlink.net
Andrea Pinabell / Stormwater Management Inc.	430 Lindbergh Drive #F3	Atlanta	GA	30305	404-846-5785	andreap@stormwaterinc.com
Ben R. Jordan / The Coca-Cola Company	P.O. Box 1734	Atlanta	GA	30301		bjordan@na.ko.com
Bruce W. Thurlby / Archaea Solutions, Inc.	100 Lloyd Avenue, Suite D	Tyrone	GA	30290	770-487-5303	bruce.thurlby@archaseasolutions.com
Bryan Barrett / USDA	355 East Hancock Ave	Athens	GA	30601	706-546-2039	bryan.barrett@ga.usda.gov
Buddy Belflower / USDA/NRCS	734 Crescent Dr	Gainesville	GA	30501	770-536-6981	buddy.belflower@ga.usda.gov
Chad Knudsen / Ecological Solutions					770-998-7848	chadknudsen@ecologicalsolutions.net
Chrissy Marlowe / GA DCA	225 West Broad St.	Athens	GA	30601	706-425-3077	cmarlowe@dca.state.ga.us
Chuck Budinger / Corporate Env. Risk Management	2116 Monroe Drive, Suite 110	Atlanta	GA	30324	678-999-0173	cbudinger@cerm.com
David Smith	740 Hunterhill Court	Roswell	GA	30075	770-641-3096	davidsmith@ecologicalsolutions.net

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David Smith / Ecological Solutions	630 Colonial Park Drive, Suite 200	Roswell	GA	30075	770-998-7848	davidsmith@ecologicalsolutions.net
Duncan Cottrell / Adopt-A-Stream Coordinator / Upper Etowah River Alliance					770-735-2778	duncancottrell@yahoo.com
Geneva Nelson / Foundation for Global Community	899 Chippendale Lane	Norcross	GA	30093	770-564-2730	genevaan@yahoo.com
Jason Barringer	2446 Fallview Terrace	East Point	GA	30344		forrain2@hotmail.com
Kevin Johnson / The Trust for Public Land	1447 Peachtree Street Suite 601	Atlanta	GA	30309	404.873.7306	kevin.johnson@tpl.org
Kimberly Aji / Jordan Jones and Goulding	6801 Governors Lake Parkway	Norcross	GA	30071	6783330232	kaji@jjg.com
Linda MacGregor / McKenzie MacGregor Incorporated	3455 Lawrenceville Suwanee Road, Suite A	Suwanee	GA	30024	678-546-9450	lmacgregor@mckmacg.com
Max Walker	941 Pine Roc Drive	Stone Mountain	GA	30083	770/469/4786	MAXWALKER@mindspring.com
Rose Mary Seymour / UGA - Griffin Campus	1109 Experiment St	Griffin	GA	30223	770 229-3214	rseymour@griffin.uga.edu

**APPENDIX B**  
**UPDATES TO THIS PLAN**

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

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**APPENDIX C**  
**VISUAL FIELD SURVEY**  
**For**  
**March Creek TMDL Segment**  
**(Fulton County)**  
**In the**  
**Chattahoochee River Basin**  
**July 2004**

**Visual Field Survey**  
**For**  
**March Creek TMDL Segment**  
**(Fulton County)**  
**In the**  
**Chattahoochee River Basin**

**July 2004**

Prepared by the Atlanta Regional Commission with the support of the Environmental Protection Division of the Georgia Department of Natural Resources

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

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## 1.0 INTRODUCTION

### 1.1 Location

March Creek is located in the northern portion of the Atlanta Metropolitan region in unincorporated Sandy Springs. As shown in Figure 1, the March Creek watershed extends from DeKalb County into Fulton County before reaching the Chattahoochee River. While the TMDL stream segment is located within both DeKalb and Fulton Counties, the majority of the watershed lies in Fulton County. The segment begins approximately 1750 ft. upstream of crossing under Winding Branches Circle. There are 12 roads crossing the March Creek TMDL segment.

### 1.2 Watershed Description

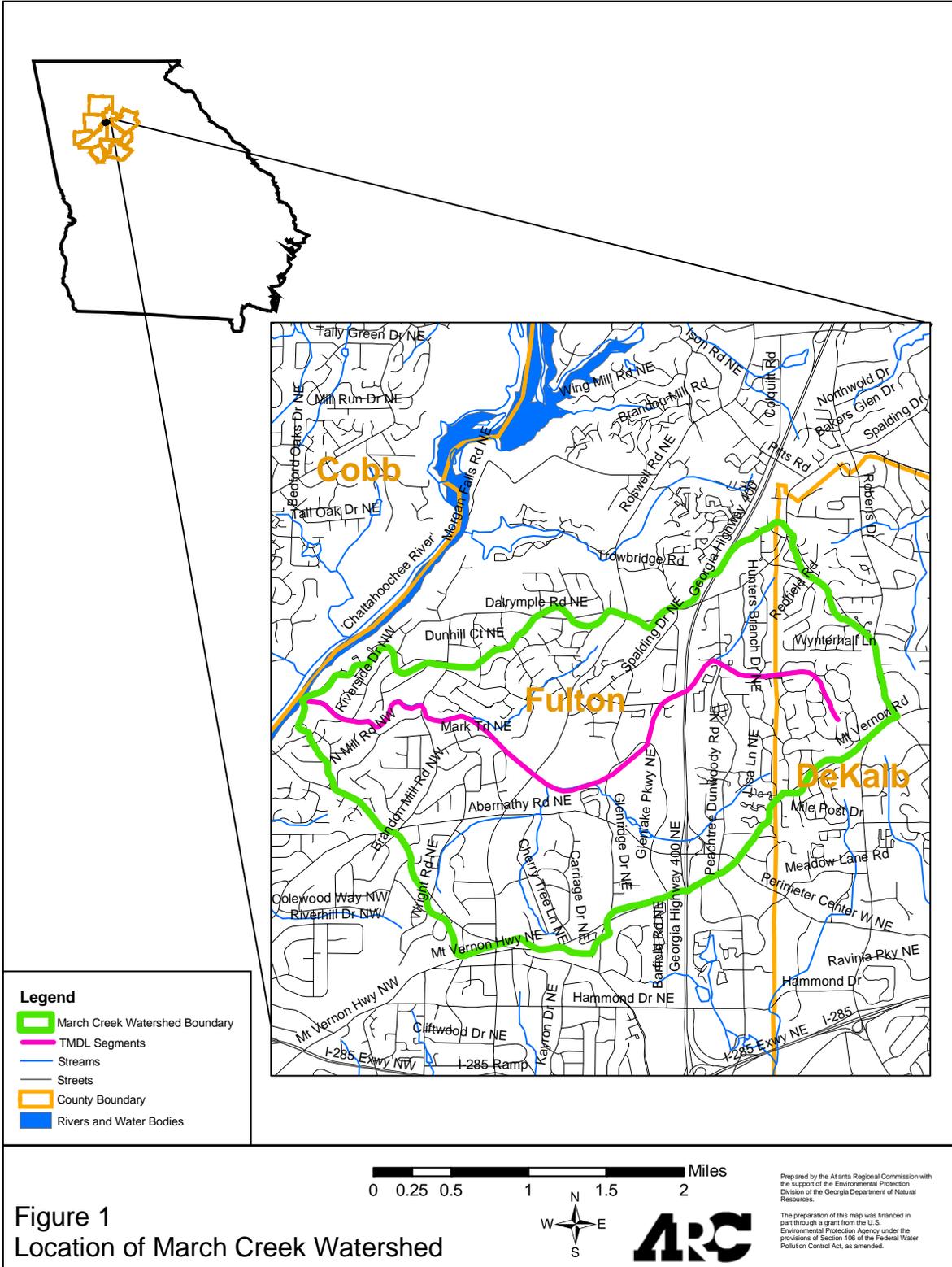
The March Creek TMDL segment watershed is comprised of 3709 acres of land within Fulton and DeKalb Counties. The March Creek TMDL segment is located within HUC 10 – 0313000111 and HUC 12 – 031300011101. Mapping of the watershed shows that land cover within the watershed is predominantly medium density residential, accounting for 60% of the area. The percentages of land cover are presented below in Table 1. Table 2 outlines how ARC’s land cover categories have been aggregated into the categories used for this project. A map showing land use in the watershed is included as Figure 2.

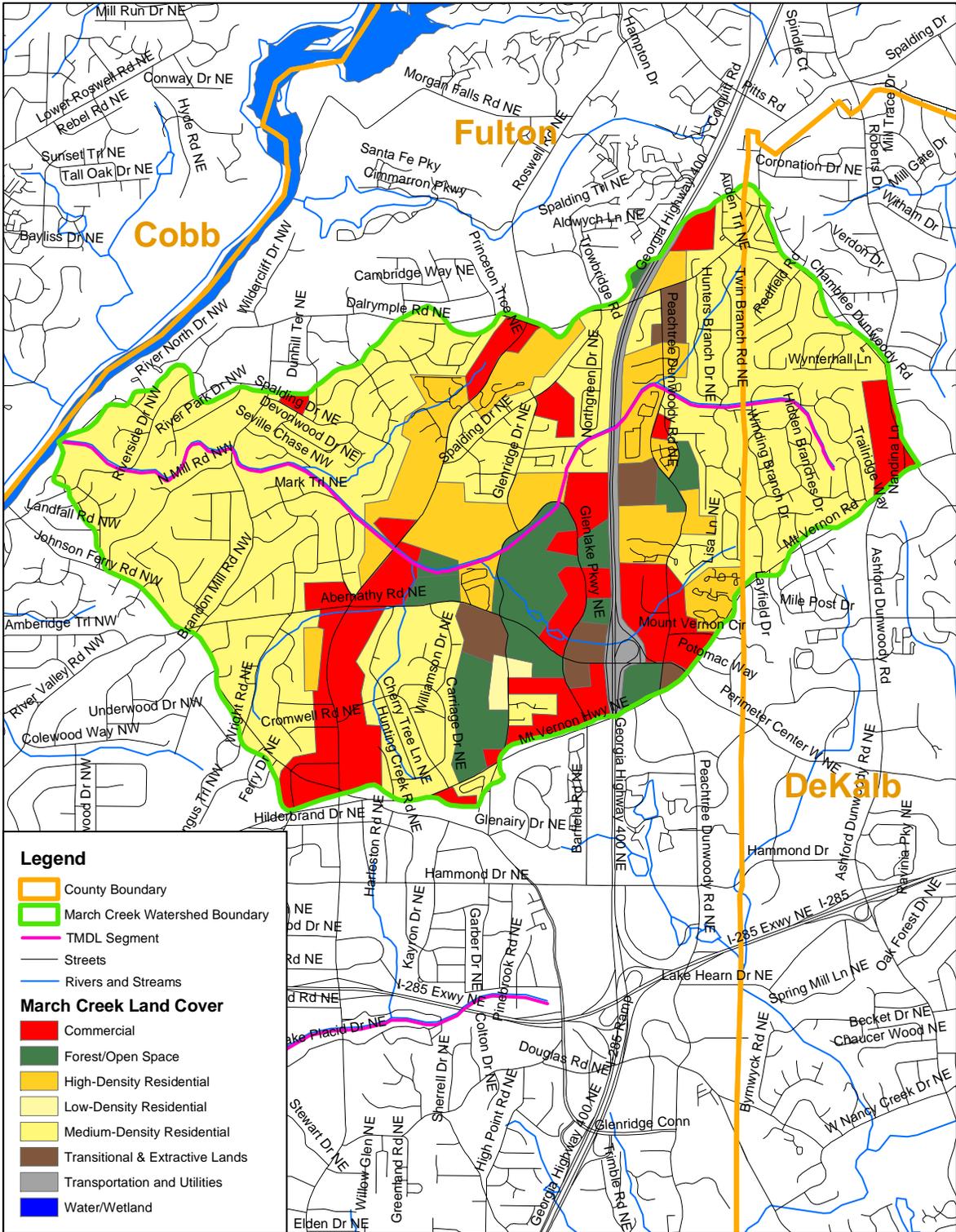
**Table 1. Watershed Land Cover**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Medium-Density Residential	2234.38	60.25%	112
Commercial	540.51	14.57%	12, 15, 121
High-Density Residential	465.58	12.55%	113, 119, 117
Forest/Open Space	268.97	7.25%	40, 171, 172, 173
Transitional & Extractive Lands	102.07	2.75%	17, 74, 75, 76
Transportation and Utilities	79.29	2.14%	14, 145
Low-Density Residential	17.94	0.48%	111
<b>Total Acres</b>	<b>3708.74</b>	<b>100.00%</b>	

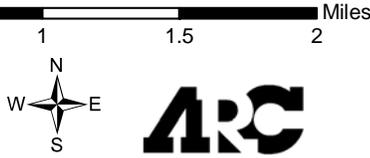
**Table 2. TMDL Watershed Land Cover Matrix (Aggregated ARC Land Cover Categories)**

<b>Aggregated Category</b>	<b>Description of Original ARC Categories</b>	<b>ARC Land Cover Code</b>
<b><i>Commercial</i></b>	Commercial and Services	12
	Industrial and Commercial Complexes	15
	Intensive Institutional	121
<b><i>Industrial/Institutional</i></b>	Industrial	13
<b><i>Transportation &amp; Utilities</i></b>	Transportation, Communication & Utilities	14
	Limited Access Highways	145
<b><i>Agricultural Lands</i></b>	Agriculture-Cropland and Pasture	21
	Agriculture-Orchards, Vineyards and Nurseries	22
	Agriculture-Confined Feeding Operations	23
	Agriculture-Other	24
<b><i>Forest / Open Space</i></b>	Forest	40
	Golf Courses	171
	Cemeteries	172
	Parks	173
<b><i>Water / Wetlands</i></b>	Rivers	51
	Reservoirs, Lakes, and Ponds	53
	Wetlands	60
<b><i>Transitional &amp; Extractive Lands</i></b>	Other Urban	17
	Bare Exposed Rocks	74
	Quarries, Gravel Pits, and Strip Mineds	75
	Transitional Areas	76
<b><i>Low-Density Residential</i></b>	Low Density Single Family Residential	111
<b><i>Medium-Density Residential</i></b>	Medium Density Single Family Residential	112
<b><i>High-Density Residential</i></b>	High Density Residential	113
	Multifamily Residential	117
	Mobile Home Parks	119





**Figure 2**  
**ARC 2001 Land Cover for**  
**March Creek Watershed**



Prepared by the Atlanta Regional Commission with the support of the Environmental Protection Division of the Georgia Department of Natural Resources.

The preparation of this map 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.

## **2.0 METHODOLOGY**

Prior to beginning the field study, data from the 2001 ARC Source Water Assessment Project were studied to determine the locations of any known point sources and potential individual sources of pollution in relation to the area of interest. Known potential individual sources of pollution located in the March Creek watershed are shown in Figure 3. Additionally, aerial photos were compiled and used to further evaluate land use along the stream prior to the beginning of field observations.

Using guidance documents provided by the state, a field assessment of the watershed was conducted. The initial step was a windshield survey of the watershed area adjacent to the March Creek TMDL stream segment. Following completion of the windshield survey, a foot survey of the stream segment was performed where access permitted. The purpose of the stream segment walk was to identify and observe possible sources of pollution. Observations were documented and captured in photographs of the stream channel and its surroundings.

## **3.0 FIELD FINDINGS**

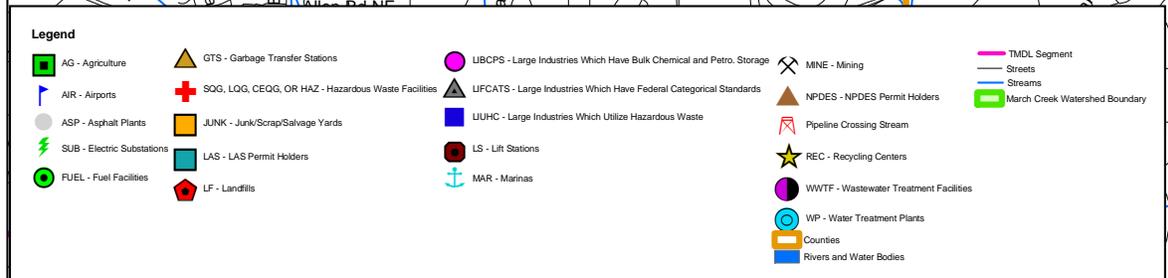
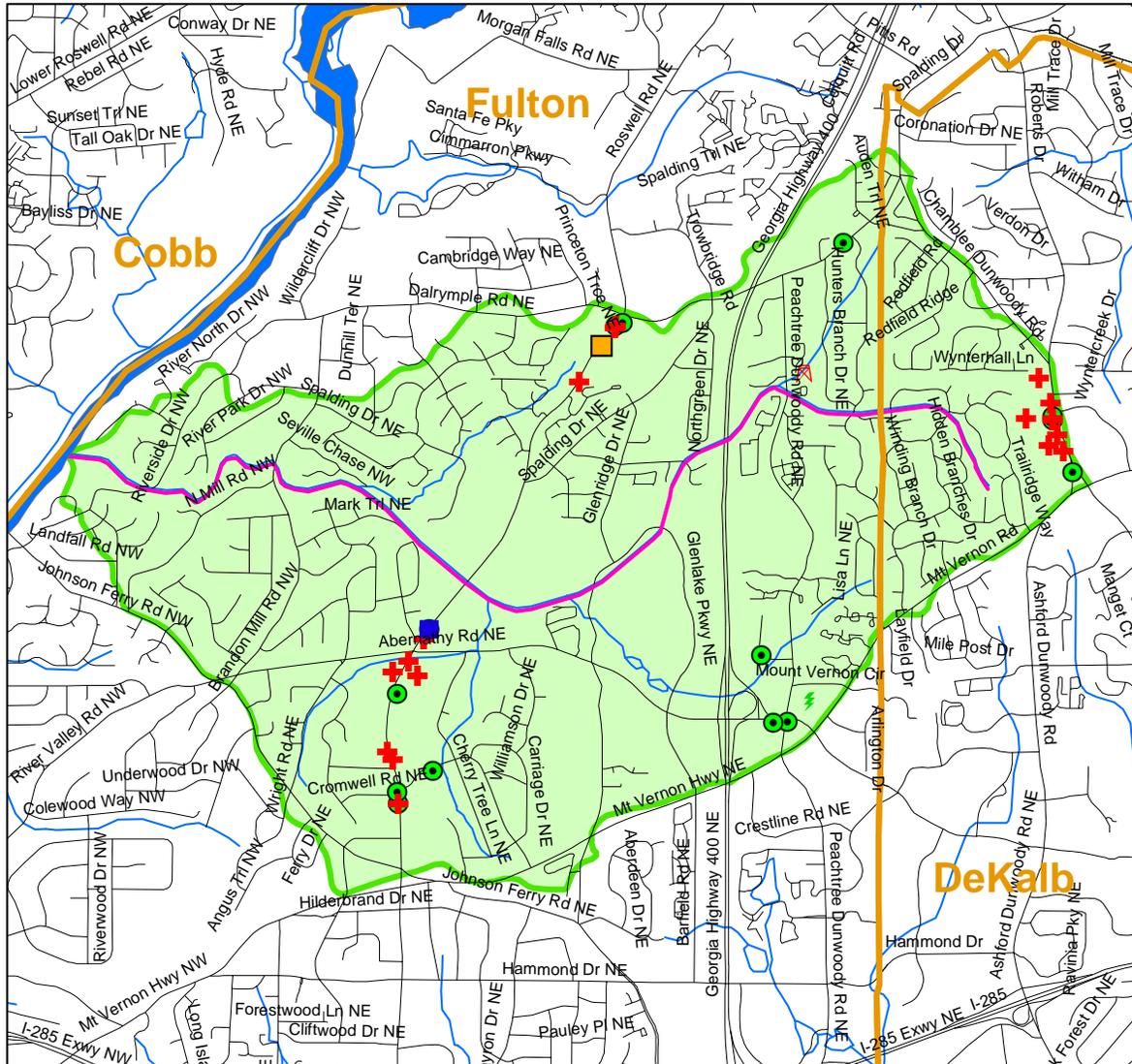
### **3.1 General Characteristics**

The field findings discussed here are the results of the visual survey performed largely on foot throughout the designated segment. The land cover in the area was verified in addition to careful observations of the current conditions in the stream and its surroundings. A map of included images taken during the visual field survey is shown as Figure 4.

The March Creek TMDL segment begins as a small stream in a residential area (Figure 5). The stream flows through neighborhoods and under four roads before reaching Peachtree Dunwoody Road. This area is marked by higher density in several apartment and townhome complexes. The stream is slightly wider in this area, and it also flows through a channelized section (Figure 6) before flowing under Georgia Highway 400 (Figure 7).

On the west side of Georgia Highway 400, March Creek flows through a small residential area and then into an area of more intense land use with a mix of commercial and residential around Roswell Road. This portion of the March Creek TMDL segment has a somewhat smaller buffer and is bordered by extensive areas of impervious surface. The stream widens out and begins exhibiting a more urban character.

Upstream of Brandon Mill Rd, March Creek regains a more natural appearance as it flows through residential areas until it reaches its confluence with the Chattahoochee River.

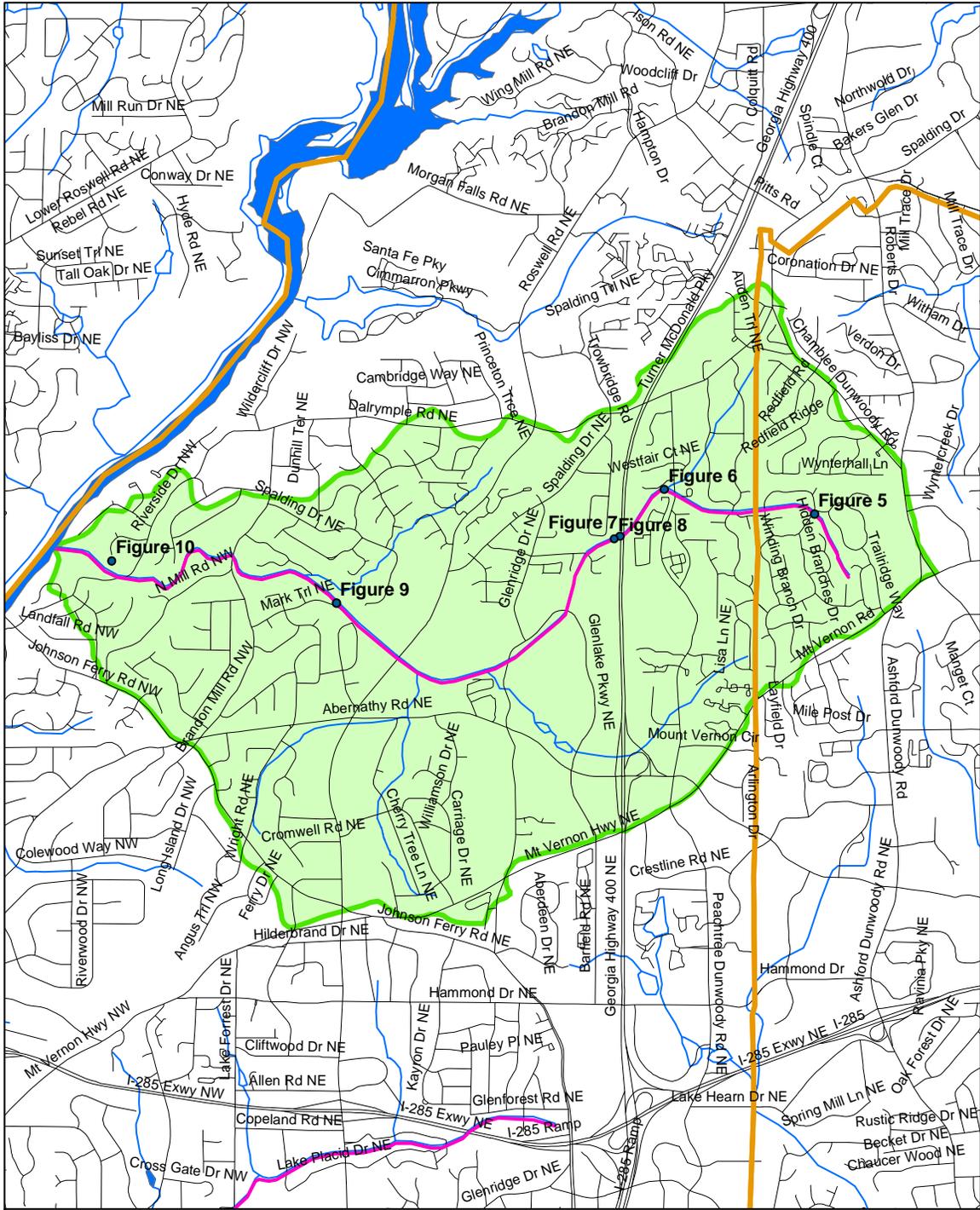


**Figure 3**  
**March Creek Watershed**  
**Potential Individual Sources of Pollution**  
**Identified in ARC's 2001 Source Water**  
**Assessment Project**



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**Figure 4**  
**Location of Images Taken**  
**During Visual Field Survey**

0 0.2 0.4 0.8 1.2 1.6 Miles




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**Figure 5. Looking upstream near the top of the segment**



**Figure 6. Stream channel adjacent to apartments at Peachtree Dunwoody Road  
(looking upstream)**



**Figure 7. Looking upstream at Culvert under Georgia Highway 400**

There are frequent areas of significant erosion (Figure 8) within the stream channel and along the stream banks, especially downstream of Georgia 400 and of Roswell Road.



**Figure 8. Erosion around sewer manhole downstream of Georgia 400 (looking upstream)**

The portion of the TMDL segment downstream of Roswell Road has extensive debris piles at both pipe crossings and culverts, and large sediment deposits.



**Figure 9. Sewer pipe with debris and litter downstream of Roswell Road (looking downstream)**

The stream bed and banks are littered frequently with small pieces of trash such as cans and bottles, as well as occasional large discarded items such as grocery carts. There is more litter in the middle of the TMDL segment than up or downstream.

Additional observations during the visual field survey include bridges over the creek at Brandon Mill and Riverside Drive, and culverts at 10 road crossings. Downstream of Brandon Mill the land cover is lower density residential where there are likely private residences with horses.

Potential sources affecting the overall health of the March Creek TMDL segment are discussed in the Point Source and Non-point Source sections.

### **3.2 Point Sources**

There are no permitted point source discharges in the March Creek TMDL segment watershed.

### **3.3 Non-Point Sources**

The watershed appears primarily sewered but there may be isolated areas where older homes are served by septic systems. Evidence of the presence of wildlife was

observed in the streambed as well as in areas adjacent to the stream. Raccoon tracks were present occasionally throughout the segment. Near the bottom of the TMDL stream segment, a private residence has a stable and field, shown in Figure 10. No horses were observed at the time of the visual survey.



**Figure 10. Horse stable and pasture downstream of Riverside Drive**

### **3.4 Other Potential Individual Sources of Pollution**

Data obtained from the 2001 ARC Source Water Assessment Project show potential individual sources of pollution in the March Creek TMDL segment watershed (Figure 4). No individual sources of pollution were observed directly adjacent to the stream segment. In Figure 3 the red crosses symbolize hazardous waste facilities. Examples of the types of businesses categorized as hazardous waste facilities include dry cleaners, vehicle maintenance facilities, and leather manufacturing facilities. This data was used as a part of the Source Water Assessment Project for Metro Atlanta and the data source was US EPA's Resource Conservation and Recovery Information System (RCRIS). A brief review of these data types shows little or no potential influence on fecal coliform levels in this TMDL stream segment.

### **4.0 RANKS ASSIGNED TO POLLUTION SOURCES**

Urban runoff is considered a moderate source of fecal coliform bacteria affecting the entire reach of this TMDL segment. Leaking or failing septic tank systems and sanitary sewer overflows are considered moderate sources affecting sporadic areas of the March Creek TMDL segment. Animal waste from pets and wildlife is also

considered a moderate source of fecal coliform bacteria affecting sporadic areas of this entire TMDL segment.

## **5.0 SUMMARY OF FINDINGS**

There are no permitted point source discharges in the March Creek watershed. The field survey and background investigation identified non-point sources such as urban runoff, septic system and sewer line failure, and animal waste. These are the most likely potential sources of pollution in and around the TMDL segment. Proposed management practices to address fecal coliform have been provided by local governments and are outlined in the 2004 March Creek TMDL segment Implementation Plan in tables 5, 6 and 7.

## **6.0 STAKEHOLDER INVOLVEMENT**

Fulton County Public Works staff accompanied ARC staff during this stream survey. Results have been made available and discussed with local government representatives.

**Rottenwood Creek**

**COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Rottenwood Creek	Headwaters to Chattahoochee River (Cobb Co.)	9 miles / 12,698 acres	Fishing	NS

Rottenwood Creek is an urban stream originating within the City of Marietta. The highly developed watershed encompasses an area of 19.6 square miles (mi<sup>2</sup>) and includes large areas of impervious surface. Several tributaries to Rottenwood Creek originate within Dobbins Air Reserve Base. On the Dobbins complex is U.S. Air Force Plant 6 (AFP6/Lockheed-Martin), the site of past release of volatile organic compounds (VOCs), primarily trichloroethylene (TCE), and metals into the soil and groundwater. In 2001, The United States Geological Survey (USGS) started an ongoing study to assess conditions within Rottenwood Creek and compare to a nearby similar urban stream, Sope Creek.

**III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLS**

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

**Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLS**

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) and 200 per 100 ml (geometric mean May-Oct)	Urban Runoff (UR)	68%

#### IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
  - Field surveys
  - Review of land cover data
  - Evaluation of sources
- 

The impaired TMDL segment of Rottenwood creek has manhole covers and sanitary pipe creek crossings at regular enough intervals to ensure Cobb County staff has overlapping visual inspection fields at given manhole or crossing points except north of Delk Rd. in Marietta where the city of Marietta maintains its own infrastructure. Cobb County stream monitoring program covers this area north of Delk Rd. as well as the rest of the segment once a quarter, and Cobb County Inflow and Infiltration inspects the sanitary sewer system covered every 18-24 months. Adopt-A-Stream groups are active in the basin. A restaurant in the basin was cited for illicit discharges of grease and oil which in turn increased the total monitoring efforts of Rottenwood by Cobb County Stormwater Management. Marietta Water performs annual aerial crossing inspections, camera recon of a required quantity of pipe, and annually inspects all grease traps for proper operation and maintenance.

Cobb County has programs in place for investigating potential sources of pollution. These programs are described below.

1. General urban runoff is monitored through: Cobb Water's Stream Monitoring program and sampling is done for all pertinent biological and chemical data including fecal coliform at 143 sites at all major streams every quarter and NPDES Fecal Coliform Monitoring program. Cobb Water's Adopt-A-Stream program has volunteers on sections of Rottenwood Creek monitoring biological, chemical, and physical changes. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance against unwarranted waste. The National Resources Conservation Service maintains incentives for the restoration of and fencing to protect stream buffers, thereby enhancing urban runoff water quality. The City of Marietta also does dry weather screening including fecal testing in the headwaters of Rottenwood.
2. Monitoring for sanitary sewer leaks is by the aforementioned Cobb Water Stream Monitoring program, by Cobb Water's Water Quality Section, by Cobb Water's Inflow and Infiltration department at sewer crossings of streams and at manholes, and by Cobb Water's Adopt-A-Stream program volunteers' physical monitoring of particular tributaries. Cobb Water Chattahoochee project is projected for completion soon and will relieve pressure off a main sewer line that collects and runs through part of the Rottenwood Creek basin, thereby reducing the potential for sanitary sewer overflow. Cobb's Water Protection group also maintains a restaurant grease trap program, prohibiting all county restaurants from discharging grease to septic tanks, and requiring that they pump their traps quarterly so as to keep sewer line grease at a minimal and less of a factor in blocking lines and causing sanitary sewer overflows. Cobb Water's Engineering also maintains a manhole raising program in low lying areas in order to place sewer caps above the latest FEMA flood plain levels, curtailing overflow contamination. Cobb Water System's System Maintenance also maintains a foam root control program for sewer lines.
3. Monitoring for illicit connections and illegal dumping is by Cobb's Stream Monitoring program as they test for all parameters throughout the watershed, by dry weather screening performed by the city of Marietta, and by Cobb Water's NPDES Fecal Coliform Monitoring Program. The Cobb County Illicit Discharge ordinance prohibits illicit/illegal discharges to the storm drainage system with monitoring by all sections of the Water System.

4. Animal waste from farm animals, wild animals, and domestic pets impacting streams is regulated through Cobb Community Development's restrictive buffer ordinance, and the USDA's National Resources Conservation Service maintains incentives for buffer restoration and fencing, as the USDA also sponsors a program in cooperation with Cobb Stormwater to remove beavers from areas where their dams raise water levels to sanitary sewer cap manholes. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance addressing unwarranted (animal) waste handling. Also, Cobb Water, Keep Cobb Beautiful and Cobb Parks and Recreation are partnering to establish a pet waste management program in County parks.
5. Land disturbing activities are addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMP's and buffer ordinance as well as by NRCS buffer incentives. The City of Marietta maintains erosion and sediment control and buffer ordinances.

In addition to the Cobb County programs listed above, the Atlanta Regional Commission has taken steps to involve local stakeholders in identifying possible pollution sources. A meeting was held in March 2004 with local city and county staff to review the TMDL segment and discuss potential sources of pollution. In May 2004 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2003 aerial imagery were developed for the public meetings as a tool to help locate sources. The stakeholders were asked for their input on any potential sources of pollution in the area. In addition to reviewing aerial imagery ARC staff will review the most recent landuse data available (year 2001) for the area and will be updating the watershed description found in the TMDLs. This process involved first verifying that the correct watershed was used in the development of the TMDL. ARC staff has updated watershed delineations and will provide the updated watershed boundaries to GA EPD.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed effected, the stream miles effected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

**Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT**

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal coliform	Urban Runoff	Entire segment affected	large	is urban/suburban segment
Fecal coliform	Leaking Sewer/Septic Lines	Sporadically throughout the segment	small	sewer lines monitored
Fecal coliform	Illicit Discharges	Limited	negligible	ordinances effective
Fecal coliform	Animal Waste	Entire segment affected	moderate	pets, birds, farm animals
Fecal coliform	Land disturbance(vegetative buffer clearing)	Limited	negligible	regulated by County

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities, which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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As a first step an initial meeting was held with local government agencies to determine possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The local government agencies in the advisory group for this segment are listed in Table 4.

The most important part of developing these implementation plans is locating stakeholders in this area. ARC staff searched for stakeholders listed on existing mailing lists (Home Owner Associations, Adopt-A-Stream, Watershed Alliance groups, etc.) to invite to the public meetings. The staff also gathered tax assessment information on landowners who owned more than 50 acres in the county. These stakeholders were considered large landowners and included public, private, and commercial types of property. Businesses listed on EPA's Enforcement & Compliance History Online (ECHO) website ([www.epa.gov/echo](http://www.epa.gov/echo)) that were located in the area were also invited to the public meetings. A list of elected officials, chambers of commerce, parks & recreation departments, NRCS, GA Soil & Water Conservation Commission, and National Park Service representatives were also invited to the public meetings. ARC staff also included schools, libraries, and large apartment complexes in the public meeting mailing list.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams)). The website provided a variety of information and access opportunities for the TMDL Implementation Plan process. The website identified the local government participants, provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information was available on this website. An online sign-up and feed-back form was included on the website so that people could sign up to be a stakeholder. These stakeholder names and other stakeholders can be found in Appendix A. In an effort to provide further detailed information on the TMDL stream segments and their watersheds, an interactive GIS map was developed as a part of the website. This interactive mapping technology allows individuals to zoom in to the area they are interested in and print out maps. The website also included access to a 10-minute video and slide presentation that explains the implementation plan development process and provides online feedback thus creating a virtual stakeholder public meeting and involvement process. This video resource was made available from May 3, 2004 to August 3, 2004. During this three month period a total of 129 visitors accessed the virtual public meeting. It was confirmed that public libraries in the area have high speed internet access and that the virtual public meeting could be viewed on computers at any public library in the metro Atlanta area.

The next step in this process involved holding 4 initial public meetings in May 2004 to educate stakeholders about this process and solicit input. A total of 43 persons attended the public meetings.

Methods used to inform the general public about the implementation plan development process and the public meetings include: having major environmental groups send out meeting notices in their electronic newsletters, distributing press releases, purchasing newspaper advertising space, sending out numerous e-mails announcing the initial meetings and finally mailing out 3500 meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, large landowners, elected officials, Chambers of Commerce, Parks & Recreation Departments, NRCS, and the National Park Service.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed. This draft document was made available to all stakeholders for discussion and input at the 4 public meetings held in June 2004. A total of 37 persons attended the public meetings.

The primary ongoing outreach activities to advise and engage stakeholders are channeled through the Clean Water Campaign and responses to complaints of violations by Water Quality. Workshops, public events, and the distribution of literature are activities utilized by several stakeholders. Cobb County Government agencies, City of Marietta, Adopt-A-Stream groups, Cobb Community Development and other stakeholders all take an active roll in addressing issues in the watershed. A formal stakeholder committee involving these organizations is currently in the process of being assembled. The following list of Committee members is a proposed list by Cobb County Water System.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

**Table 4. COMMITTEE MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Bill Higgins/Cobb County Water System	680 South Cobb Drive	Marietta	GA	30060	(770)419-6435	William.Higgins@cobbcounty.org
Tom Campbell/ Cobb County Board of Health	3830 South Cobb Drive Suite 102	Smyrna	GA	30080	(770)435-7815	
Wayne McGary/ Marietta Water Authority	1660 Barnes Mill Rd.	Marietta	GA	30062	(770)794-8710	
Rob Hosack/ Cobb County Community Development	191 Lawrence St.	Marietta	GA	30090	(770)528-2125	
Jennifer McCoy/Cobb County Adopt-A-Stream	662 South Cobb Drive	Marietta	GA	30060	(770)528-1480	Jennifer.McCoy@cobbcounty.org
Valerie Pickard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	GA	30060	770 792 0594	
Rusty Simpson/Cobb County Parks and Recreation	1792 County Services Parkway	Marietta	GA	30080	(770)528-8840	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
City of Marietta Public Works	205 Lawrence Street	Marietta	GA	30060	770-794-5650	
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	
Ken Hildebrandt/City of Smyrna	3180 Atlanta Rd.	Smyrna	Ga	30080	770 319 5381	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for 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.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

**Table 5. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, NPDES fecal sites	Cobb	current	1976	very
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	moderate
Pet Waste Management Program	Cobb Water, Cobb Parks and Recreation, Keep Cobb Beautiful	Measures to control pet waste from being washed into creeks at County Park locations	Cobb	proposed	Pending	moderate
Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	very
County Ordinances	Cobb Community Development	Ordinances to protect stream bank buffers, control erosion, stop illicit discharges	Cobb	current	1977-illicit discharge, 1999-stream buffer, 1990-erosion control	moderate
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	moderate
Clean Water Campaign	Atlanta Regional Commission, Cobb Water System, Environmental Protection Division	Campaign to improve water quality in streams and rivers	ARC, Cobb	current	2001	moderate
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	moderate
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	moderate
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	moderate
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	moderate

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grease trap maintenance section	Cobb Water Protection	prohibits running grease to septic tanks and requires restaurants to pump traps regularly in order to prevent grease buildup in lines causing overflows	Cobb	current	1988	very
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	moderate
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	very
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	moderate
CMOM Program	EPD, Cobb Water System (System Maintenance)	CMOM Program -- (Capacity, Management, Operation, and Maintenance): Program that provides incentives to Cobb County to reduce sanitary sewer spills, maintain infrastructure, prioritize problem areas, and provide a Capital Improvement Plan that ensures funding for sewage system improvements.	Cobb Water System	current	2003	very
Preventative Maintenance	Cobb Water System: System Maintenance	Measures taken to prevent spills such as tracking patterns of spills and lining, cleaning, video analysis, re-routing of sewer lines.	Cobb Water System	current	since inception of sewer infrastructure	very
Emergency Response Policy	Cobb Water System: System Maintenance	Employees are on call and respond to sewer spills within one hour of reporting for remediation.	Cobb Water System	current	1960's	very
NPDES Phase I Permit # GAS000132	City of Smyrna	MS4 Permit: The State of GA has issued the City of Smyrna with a permit to operate the City's Municipal Separate Storm Sewer System (MS4). Major aspects of the permit include public education, illicit discharge detection and elimination, source identification activities, water sampling and reporting.	City of Smyrna	Current	1992	Very
Phase I MS4 Permit GAS000125	City of Marietta	See Current Stormwater Management Plan	General Funds	ongoing		

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District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	As a part of this watershed management plan MS4 Phase I and Phase II communities will be required to adopt the following ordinances: Post Development Storm Water Management for New Development and Redevelopment, Illicit Discharge and Illegal Connection, and Stream Buffer Protection. As well as establishing municipal Good Housekeeping Practices.	Local Funds	Ongoing	2004 & 2005	Very
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local wastewater systems will implement a policy on private wastewater systems, develop interim decentralized system plans with concept of merging into larger systems, a grease management program, and numerous sewer system programs (mapping, maintenance programs, Rehab identification and construction program and capacity certification program).	Local Funds	Ongoing	2005	Very

## VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

**Table 6. MONITORING PLAN**

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
FC	Georgia EPD, Water Protection Branch or local government	Recommended	2004	2005	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
Fecal Coliform	Cobb Water System	Current	2002	2009	Determine baseline conditions
Fecal Coliform/Water Quality parameters	Cobb Water System	Current	2001	2009	Determine water quality, determine source of pollutants
Sewage Leaks/Overflows	Cobb Water System (I & I)	Current	1988	On-going	Inspect and repair infrastructure and stop any leaks discovered
Turbidity, detergents, Chlorine, copper, phenol	City of Smyrna	Current	1992	Ongoing	NPDES MS4 Program Dry weather screening

## VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities, which will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
Cobb Water System, Cobb Parks and Recreation, Keep Cobb Beautiful	Pet waste management at County Park Locations	General Public	tentative
Cobb Water System, Marietta Water Authority, Atlanta Regional Commission	Clean Water Campaign	General Public	current
Cobb Water System	Adopt-A-Stream program	General Public, School systems	2001 and future
City of Marietta	See Current Stormwater Management Plan	General Public	Ongoing
Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local Governments will participate in a regional public education program such as the Clean Water Campaign, or establish its own program. The program must address water quality issues and the promotion of water conservation.	General Public	2004
City of Smyrna	Provide educational brochures on stormwater issues	General Public	ongoing

**IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH**

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- Accomplishment of management practices or activities - outreach activities
- Installation of BMPs

to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

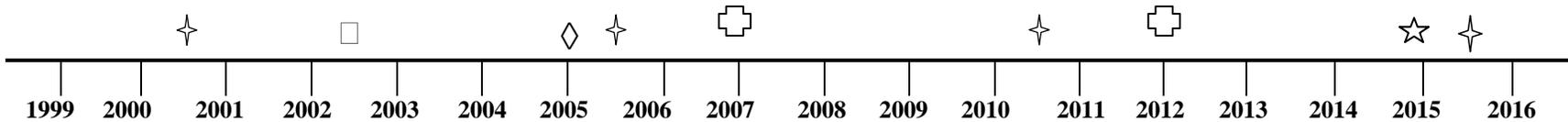
**Table 8. MILESTONES**

MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	2002	2002	collect fecal NPDES permit mandated samples at 8 sites
Stream walks at stream sewer crossings and manholes	Cobb Water: Engineering Inflow and Infiltration, Stream Monitoring	1988	1988	walk all segments for overflow at manholes and creek crossings
buffer ordinance	Community Development	1990	1990, 1999	regulates, maintains 50-200 feet buffers
education	ARC, Cobb County, Austell	1994	1994	ads and literature concerning water quality, fecals
nuisance ordinance, septic regulate	Cobb Board of Health	1988	1988	regulate and enforce septic tanks, removal of improper waste
Wetland and Buffer Preservation, beaver removal	USDA/Cobb County National Resource Conservation Service, U.S. Army Corp of Engineers, USDA/Stormwater	1996, 1998	1996, 1998	incentives for buffer restoration, fencing off and wetland protection
grease trap program	Cobb Water Protection	1988	1991	every restaurant inspected, prohibit discharge into septic
manhole raising program	Cobb Water Engineering	1999	1999	sewer caps raised above current/latest floodplain
CMOM Program	Cobb Water System: System Maintenance	2003	2003	Comprehensive program that provides incentives and gives the guidelines of how the County's collection system will operate.
Pet Waste Management Program	Cobb AAS, Keep Cobb Beautiful, Parks and Recreation	2003	2004	every restaurant inspected, prohibited discharge into septic tanks
NPDES Phase I Permit # GAS000132	City of Smyrna			Refer to Annual Report
Phase I MS4 Permit GAS000125	City of Marietta			Refer to annual report for program effectiveness

District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the District-wide Watershed Management Plan
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the Long-Term Wastewater Management Plan

### PROJECTED ATTAINMENT DATE

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



- Scheduled EPD basin Group Monitoring 
- TMDL Completed 
- TMDL Implementation Plan Accepted 
- Evaluation of implementation plan/water quality improvement 
- Project Attainment 

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Date Submitted to EPD:	August 30, 2004	Revision:	#1

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 or Section 604(b) of the Federal Water Pollution Control Act, as amended.

APPENDIX A  
STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for 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/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Bill Higgins/Cobb County Water System	680 South Cobb Drive	Marietta	GA	30060	(770)419-6435	William.Higgins@cobbcounty.org
Tom Campbell/ Cobb County Board of Health	3830 South Cobb Drive Suite 102	Smyrna	GA	30080	(770)435-7815	
Wayne McGary/ Marietta Water Authority	1660 Barnes Mill Rd.	Marietta	GA	30062	(770)794-8710	
Rob Hosack/ Cobb County Community Development	191 Lawrence St.	Marietta	GA	30090	(770)528-2125	
Jennifer McCoy/Cobb County Adopt-A-Stream	662 South Cobb Drive	Marietta	GA	30060	(770)528-1480	Jennifer.McCoy@cobbcounty.org
Valerie Pickard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	GA	30060	(770)792-0594	
Rusty Simpson/Cobb County Parks and Recreation	1792 County Services Parkway	Marietta	GA	30080	(770)528-8840	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
Kevin Johns / Parsons	5320 Mill Run Drive	Marietta	GA	30068	770-992-7470	kevin.johns@parsons.com
Earnie W. Cortis	2686 Farmstead	Smyrna	GA		770-436-8873	uniproinc@aol.com
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org
Michael Jones	1441 Buckner Road	Mableton	GA	30126	770-739-5191	mikejones@h-hinsurance.com
Andrea Pinabell / Stormwater Management Inc.	430 Lindbergh Drive #F3	Atlanta	GA	30305	404-846-5785	andreap@stormwaterinc.com
Ben R. Jordan / The Coca-Cola Company	P.O. Box 1734	Atlanta	GA	30301		bjordan@na.ko.com
Bruce W. Thurlby / Archaea Solutions, Inc.	100 Lloyd Avenue, Suite D	Tyrone	GA	30290	770-487-5303	bruce.thurlby@archaseasolutions.com
Bryan Barrett / USDA	355 East Hancock Ave	Athens	GA	30601	706-546-2039	bryan.barrett@ga.usda.gov
Buddy Belflower / USDA/NRCS	734 Crescent Dr	Gainesville	GA	30501	770-536-6981	buddy.belflower@ga.usda.gov
Chad Knudsen / Ecological Solutions					770-998-7848	chadknudsen@ecologicalsolutions.net
Chrissy Marlowe / GA DCA	225 West Broad St.	Athens	GA	30601	706-425-3077	cmarlowe@dca.state.ga.us
Chuck Budinger / Corporate	2116 Monroe Drive, Suite 110	Atlanta	GA	30324	678-999-0173	cbudinger@cerm.com

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Env. Risk Management						
David Smith	740 Hunterhill Court	Roswell	GA	30075	770-641-3096	davidsmith@ecologicalsolutions.net
David Smith / Ecological Solutions	630 Colonial Park Drive, Suite 200	Roswell	GA	30075	770-998-7848	davidsmith@ecologicalsolutions.net
Duncan Cottrell / Adopt-A-Stream Coordinator / Upper Etowah River Alliance					770-735-2778	duncancottrell@yahoo.com
Geneva Nelson / Foundation for Global Community	899 Chippendale Lane	Norcross	GA	30093	770-564-2730	genevaan@yahoo.com
Jason Barringer	2446 Fallview Terrace	East Point	GA	30344		forrain2@hotmail.com
Kevin Johnson / The Trust for Public Land	1447 Peachtree Street Suite 601	Atlanta	GA	30309	404.873.7306	kevin.johnson@tpl.org
Kimberly Ajy / Jordan Jones and Goulding	6801 Governors Lake Parkway	Norcross	GA	30071	6783330232	kajy@jyg.com
Linda MacGregor / McKenzie MacGregor Incorporated	3455 Lawrenceville Suwanee Road, Suite A	Suwanee	GA	30024	678-546-9450	lmacgregor@mckmacg.com
Max Walker	941 Pine Roc Drive	Stone Mountain	GA	30083	770/469/4786	MAXWALKER@mindspring.com
Rose Mary Seymour / UGA - Griffin Campus	1109 Experiment St	Griffin	GA	30223	770 229-3214	rseymour@griffin.uga.edu

**APPENDIX B**  
**UPDATES TO THIS PLAN**

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

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**Sewell Mill Creek**

**COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Sewell Mill Creek	Cobb County	4 miles / 9,195 acres	Fishing	NS

Sewell Mill Creek is located in eastern Cobb County and is a major tributary to Sope Creek. Sewell Mill Creek flows southward and joins Sope Creek as they flow to the Chattahoochee River. The majority of land use within the Sewell Mill Creek watershed is established, medium density residential. There is one Stormwater Monitoring site on Sewell Mill Creek. It is located at Post Oak Tritt Road, on Piney Grove Creek, upstream of the first Stream Monitoring site.

**III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs**

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

**Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs**

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) and 200 per 100 ml (geometric mean May-Oct)	Urban Runoff (UR)	30%

#### IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
- Field surveys
- Review of land cover data
- Evaluation of sources

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The impaired TMDL segment of Sewell Mill creek has sewer infrastructure at regular enough intervals to ensure overlapping visual inspection fields at given manhole or crossing points, and they are inspected by Cobb County Inflow and Infiltration every 18-24 months. Adopt-A-Stream is active in the basin and the Stream monitoring program covers the segment every quarter.

Cobb County has programs in place for investigating potential sources of pollution. These programs are described below.

1. General urban runoff is monitored through: Cobb Water's comprehensive stream monitoring program involving the Stream department and Stormwater's Water Quality department, and sampling is done for all pertinent biological and chemical data including fecals at 143 sites all major streams every quarter. Cobb Water's Adopt-A-Stream has volunteers on sections of Sewell Mill monitoring biological, chemical, and physical changes. Also, urban runoff is monitored through Cobb Water's Fecal Coliform Monitoring Program. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance against unwarranted waste. The National Resources Conservation Service maintains incentives for the restoration of and fencing to protect stream buffers, thereby enhancing urban runoff water quality.
2. Monitoring for sanitary sewer leaks is by the aforementioned Cobb Water Stream Monitoring program, by Cobb Water's Inflow and Infiltration stream walks at sewer crossings and manholes, by Cobb's Water Quality Section and by Cobb Water's Adopt-A-Stream volunteers' physical monitoring of particular tributaries. Cobb Water Engineering's tunnel project is projected for completion soon and will relieve pressure off a main sewer line that collects and runs through part of the Sewell Mill basin, thereby reducing the potential for sanitary sewer overflow. Cobb's Water Protection group also maintains a restaurant grease trap program, prohibiting all county restaurants from discharging grease to septic tanks, and requiring that they pump their traps quarterly so as to keep sewer line grease at a minimal and less of a factor in blocking lines and causing sanitary sewer overflows. Cobb Water's Engineering also maintains a manhole raising program in low lying areas in order to place sewer caps above the latest FEMA flood plain levels, curtailing overflow contamination. Cobb Water System's System Maintenance also maintains a foaming root control program for sewer lines.
3. Monitoring for Illicit connections and illegal dumping is by Cobb's Stream Monitoring program as they test for all parameters throughout the watershed, by Cobb Water's Fecal Coliform monitoring program. The Cobb County Illicit Discharge ordinance prohibits illicit/illegal discharges to the storm drainage system with monitoring by all sections of the Water System.
4. Animal waste from farm animals, wild animals and domestic pets impacting streams is regulated by Cobb Community Development's restrictive buffer ordinance, and the USDA's National Resources Conservation Service maintains incentives for buffer restoration and fencing, as the USDA also sponsors a program in cooperation with Cobb Stormwater to remove beavers from areas where their dams raise water levels to sanitary sewer cap manholes. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance

addressing unwarranted (animal) waste handling. Also, Cobb Water, Keep Cobb Beautiful and Cobb Parks are partnering to establish pet waste management program in county parks.

5. Land disturbing activities' fecal agitation and distribution is addressed by Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMP's and buffer ordinance as well as by NRCS buffer incentives.

In addition to the Cobb County programs listed above, the Atlanta Regional Commission has taken steps to involve local stakeholders in identifying possible pollution sources. A meeting was held in March 2004 with local city and county staff to review the TMDL segment and discuss potential sources of pollution. In May 2004 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2003 aerial imagery were developed for the public meetings as a tool to help locate sources. The stakeholders were asked for their input on any potential sources of pollution in the area. In addition to reviewing aerial imagery ARC staff will review the most recent landuse data available (year 2001) for the area and will be updating the watershed description found in the TMDLs. This process involved first verifying that the correct watershed was used in the development of the TMDL. ARC staff has updated watershed delineations and will provide the updated watershed boundaries to GA EPD.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed affected, the stream miles affected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

**Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT**

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
fecal	urban runoff	entire segment	large	is urban/suburban segment
fecal	sanitary sewer leaks	entire segment	small	sewer lines monitored
fecal	illegal/illicit discharge	sporadic	negligible	ordinances effective
fecal	animal waste	entire segment	moderate	pets, wild animals, farm animals
fecal	land disturbing activities	limited	small	regulated by County

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities, which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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As a first step an initial meeting was held with local government agencies to determine possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The local government agencies in the advisory group for this segment are listed in Table 4.

The most important part of developing these implementation plans is locating stakeholders in this area. ARC staff searched for stakeholders listed on existing mailing lists (Home Owner Associations, Adopt-A-Stream, Watershed Alliance groups, etc.) to invite to the public meetings. The staff also gathered tax assessment information on landowners who owned more than 50 acres in the county. These stakeholders were considered large landowners and included public, private, and commercial types of property. Businesses listed on EPA's Enforcement & Compliance History Online (ECHO) website ([www.epa.gov/echo](http://www.epa.gov/echo)) that were located in the area were also invited to the public meetings. A list of elected officials, chambers of commerce, parks & recreation departments, NRCS, GA Soil & Water Conservation Commission, and National Park Service representatives were also invited to the public meetings. ARC staff also included schools, libraries, and large apartment complexes in the public meeting mailing list.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams)). The website provided a variety of information and access opportunities for the TMDL Implementation Plan process. The website identified the local government participants, provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information was available on this website. An online sign-up and feed-back form was included on the website so that people could sign up to be a stakeholder. These stakeholder names and other stakeholders can be found in Appendix A. In an effort to provide further detailed information on the TMDL stream segments and their watersheds, an interactive GIS map was developed as a part of the website. This interactive mapping technology allows individuals to zoom in to the area they are interested in and print out maps. The website also included access to a 10-minute video and slide presentation that explains the implementation plan development process and provides online feedback thus creating a virtual stakeholder public meeting and involvement process. This video resource was made available from May 3, 2004 to August 3, 2004. During this three month period a total of 129 visitors accessed the virtual public meeting. It was confirmed that public libraries in the area have high speed internet access and that the virtual public meeting could be viewed on computers at any public library in the metro Atlanta area.

The next step in this process involved holding 4 initial public meetings in May 2004 to educate stakeholders about this process and solicit input. A total of 43 persons attended the public meetings.

Methods used to inform the general public about the implementation plan development process and the public meetings include: having major environmental groups send out meeting notices in their electronic newsletters, distributing press releases, purchasing newspaper advertising space, sending out numerous e-mails announcing the initial meetings and finally mailing out 3500 meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, large landowners, elected officials, Chambers of Commerce, Parks & Recreation Departments, NRCS, and the National Park Service.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed. This draft document was made available to all stakeholders for discussion and input at the 4 public meetings held in June 2004. A total of 37 persons attended the public meetings.

There is a variety of programs in place for involving stakeholders, they include:

1. Cobb County Water System utilizes its Stream Monitoring and Stormwater Quality sections in testing for all pertinent biological and chemical data including fecals at 143 sampling sites on all streams once a quarter as well as 8 NPDES fecal sites once a quarter. Engineering's Inflow and Infiltration walks streams, inspecting manholes and sanitary sewer creek crossings. Engineering also is in the process of completing a sewage storage tunnel which will relieve the 72" line that partly runs through the Sewell Mill basin. Water Quality Section also administrates Cobb Water's obligations in the Clean Water Campaign, distributing literature and attending and holding workshops, and enforces county ordinances regarding illicit discharges.
2. Cobb's Adopt-A-Stream program is sanctioned by the Georgia EPD, and administered by EPD and Cobb's Water System. Groups are active in the Sewell Mill watershed, monitoring for biological, chemical, and physical parameters.
3. Cobb Board of Health maintains nuisance ordinances regarding irresponsible fecal generating activities and regulates septic tank installation and inspection.
4. The USDA Natural Resources Conservation Service provides incentives for fencing off and restoration of stream buffers from detrimental environmental impact, including fecal pollution.
5. Cobb Community Development's Erosion and Sediment department maintains restrictions on land disturbances, BMPs, and buffers throughout the county.
6. Cobb Parks and Recreation, in partnership with Keep Cobb Beautiful and Cobb Adopt-A-Stream, are working to establish future regulatory and physical controls for pet waste in Cobb parks.
7. Metropolitan North Georgia Water Resources Planning District has developed model ordinances adopted by the county including those regulating fecal coliform levels.

A formal stakeholder committee involving these organization representatives is currently in the process of being assembled. The following is Cobb County's proposed list of stakeholder committee members.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

**Table 4. COMMITTEE MEMBERS**

<b>NAME/ORG</b>	<b>ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP</b>	<b>PHONE</b>	<b>E-MAIL</b>
Bill Higgins/Cobb County Water System	660 South Cobb Drive	Marietta	Ga.	30060	770 419 6225	William.Higgins@cobbcounty.org
Tom Campell/Cobb Board of Health	3830 South Cobb Drive	Smyrna	Ga	30080	770 435 7815	
Valerie Picard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	Ga	30060	770 792 0594	
Rob Hosak/Cobb Community Development	191 Lawrence St	Marietta	Ga.	30090	770 528 2125	
Jennifer McCoy/Adopt-A-Stream	662 South Cobb Drive	Marietta	Ga	30060	770 528 1480	Jennifer.McCoy@cobbcounty.org
Rusty Simpson/Cobb Parks and Recreation	1792 County Services Parkway	Marietta	Ga	30008	770 528 8805	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for 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.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

**Table 5. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, NPDES fecal sites	Cobb	current	1976	very
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	moderate
Pet Waste Management Program	Cobb Water, Cobb Parks and Recreation, Keep Cobb Beautiful	Measures to control pet waste from being washed into creeks at County Park locations	Cobb	proposed	Pending	moderate
Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	very
County Ordinances	Cobb Community Development	Ordinances to protect stream bank buffers, control erosion, stop illicit discharges	Cobb	current	1977-illicit discharge, 1999-stream buffer, 1990-erosion control	moderate
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	moderate
Clean Water Campaign	Atlanta Regional Commission, Cobb Water System, Environmental Protection Division	Campaign to improve water quality in streams and rivers	ARC, Cobb	current	2001	moderate
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	moderate
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	moderate
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	moderate
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	moderate

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grease trap maintenance section	Cobb Water Protection	prohibits running grease to septic tanks and requires restaurants to pump traps regularly in order to prevent grease buildup in lines causing overflows	Cobb	current	1988	very
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	moderate
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	very
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	moderate
CMOM Program	EPD, Cobb Water System (System Maintenance)	CMOM Program -- (Capacity, Management, Operation, and Maintenance): Program that provides incentives to Cobb County to reduce sanitary sewer spills, maintain infrastructure, prioritize problem areas, and provide a Capital Improvement Plan that ensures funding for sewage system improvements.	Cobb Water System	current	2003	very
Preventative Maintenance	Cobb Water System: System Maintenance	Measures taken to prevent spills such as tracking patterns of spills and lining, cleaning, video analysis, re-routing of sewer lines.	Cobb Water System	current	since inception of sewer infrastructure	very
Emergency Response Policy	Cobb Water System: System Maintenance	Employees are on call and respond to sewer spills within one hour of reporting for remediation.	Cobb Water System	current	1960's	very

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<p>District-Wide Watershed Management Plan</p>	<p>Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area</p>	<p>As a part of this watershed management plan MS4 Phase I and Phase II communities will be required to adopt the following ordinances: Post Development Storm Water Management for New Development and Redevelopment, Illicit Discharge and Illegal Connection, and Stream Buffer Protection. As well as establishing municipal Good Housekeeping Practices.</p>	<p>Local Funds</p>	<p>Ongoing</p>	<p>2004 &amp; 2005</p>	<p>Very</p>
<p>Long-Term Wastewater Management Plan</p>	<p>Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area</p>	<p>Local wastewater systems will implement a policy on private wastewater systems, develop interim decentralized system plans with concept of merging into larger systems, a grease management program, and numerous sewer system programs (mapping, maintenance programs, Rehab identification and construction program and capacity certification program).</p>	<p>Local Funds</p>	<p>Ongoing</p>	<p>2005</p>	<p>Very</p>

**VII. MONITORING PLAN**

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

**Table 6. MONITORING PLAN**

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
FC	Georgia EPD, Water Protection Branch or local government	Recommended	2004	2005	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
fecals	Cobb Water's Streams and Water Quality Section	current	1970's	n/a	comprehensive monitoring of bio and chem. data including fecals, for delist, detection and enforcement
fecals	Cobb Water Streams/ Water Quality Section	current	2002	n/a	monitor 8 sites quarterly fecals
fecals/overflow/ and spills	Cobb Water Engineering	current	1988	n/a	streamwalks for sanitary sewer leaks at crossings and manholes
fecals(observed), water quality	Cobb Water's Adopt-A-Stream program	current	2001	n/a	enlists groups for monitoring specific reaches or tributaries

**VIII. PLANNED OUTREACH FOR IMPLEMENTATION**

List and describe outreach activities, which will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
Cobb Water, ARC, EPD	Clean Water ads, literature, workshops	general public, targeted industries	ongoing
Cobb Adopt- A-Stream, Cobb Water Quality Section	workshops, seminars, training and liaison with various government and private entities	public, specific AAS groups, environmental clubs, Cobb and State government training	ongoing
Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local Governments will participate in a regional public education program such as the Clean Water Campaign, or establish its own program. The program must address water quality issues and the promotion of water conservation.	General Public	2004

**IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH**

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- Accomplishment of management practices or activities - outreach activities
- Installation of BMPs

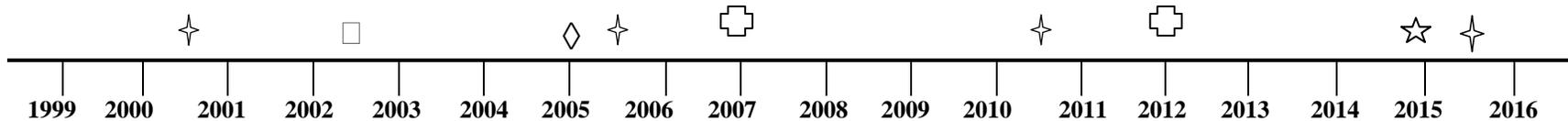
to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

**Table 8. MILESTONES**

MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	2002	2002	collect fecal NPDES permit mandated samples at 8 sites
Stream walks at stream sewer crossings and manholes	Cobb Water: Engineering Inflow and Infiltration, Stream Monitoring	1988	1988	walk all segments for overflow at manholes and creek crossings
buffer ordinance	Community Development	1990	1990, 1999	regulates, maintains 50-200 feet buffers
education	ARC, Cobb County, Austell	1994	1994	ads and literature concerning water quality, fecals
nuisance ordinance, septic regulate	Cobb Board of Health	1988	1988	regulate and enforce septic tanks, removal of improper waste
Wetland and Buffer Preservation, beaver removal	USDA/Cobb County National Resource Conservation Service, U.S. Army Corp of Engineers, USDA/Stormwater	1996, 1998	1996, 1998	incentives for buffer restoration, fencing off and wetland protection
grease trap program	Cobb Water Protection	1988	1991	every restaurant inspected, prohibit discharge into septic
manhole raising program	Cobb Water Engineering	1999	1999	sewer caps raised above current/latest floodplain
CMOM Program	Cobb Water System: System Maintenance	2003	2003	Comprehensive program that provides incentives and gives the guidelines of how the County's collection system will operate.
Pet Waste Management Program	Cobb AAS, Keep Cobb Beautiful, Parks and Recreation	2003	2004	every restaurant inspected, prohibited discharge into septic tanks
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the District-wide Watershed Management Plan
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the Long-Term Wastewater Management Plan

### PROJECTED ATTAINMENT DATE

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



- Scheduled EPD basin Group Monitoring 
- TMDL Completed 
- TMDL Implementation Plan Accepted 
- Evaluation of implementation plan/water quality improvement 
- Project Attainment 

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Date Submitted to EPD:	August 30, 2004	Revision:	#1

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 or Section 604(b) of the Federal Water Pollution Control Act, as amended.

APPENDIX A

STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for 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/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Bill Higgins/Cobb County Water System	660 South Cobb Drive	Marietta	Ga.	30060	770 419 6225	William.Higgins@cobbcounty.org
Tom Campell/Cobb Board of Health	3830 South Cobb Drive	Smyrna	Ga	30080	770 435 7815	
Valerie Picard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	Ga	30060	770 792 0594	
Rob Hosak/Cobb Community Development	191 Lawrence St	Marietta	Ga.	30090	770 528 2125	
Jennifer McCoy/Adopt-A-Stream	662 South Cobb Drive	Marietta	Ga	30060	770 528 1480	Jennifer.McCoy@cobbcounty.org
Rusty Simpson/Cobb Parks and Recreation	1792 County Services Parkway	Marietta	Ga	30008	770 528 8805	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
Kevin Johns / Parsons	5320 Mill Run Drive	Marietta	GA	30068	770-992-7470	kevin.johns@parsons.com
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org
Michael Jones	1441 Buckner Road	Mableton	GA	30126	770-739-5191	mikejones@h-hinsurance.com
Andrea Pinabell / Stormwater Management Inc.	430 Lindbergh Drive #F3	Atlanta	GA	30305	404-846-5785	andreap@stormwaterinc.com
Ben R. Jordan / The Coca-Cola Company	P.O. Box 1734	Atlanta	GA	30301		bjordan@na.ko.com
Bruce W. Thurlby / Archaea Solutions, Inc.	100 Lloyd Avenue, Suite D	Tyrone	GA	30290	770-487-5303	bruce.thurlby@archaseasolutions.com
Bryan Barrett / USDA	355 East Hancock Ave	Athens	GA	30601	706-546-2039	bryan.barrett@ga.usda.gov
Buddy Belflower / USDA/NRCS	734 Crescent Dr	Gainesville	GA	30501	770-536-6981	buddy.belflower@ga.usda.gov
Chad Knudsen / Ecological Solutions					770-998-7848	chadknudsen@ecologicalsolutions.net
Chrissy Marlowe / GA DCA	225 West Broad St.	Athens	GA	30601	706-425-3077	cmarlowe@dca.state.ga.us
Chuck Budinger / Corporate Env. Risk Management	2116 Monroe Drive, Suite 110	Atlanta	GA	30324	678-999-0173	cbudinger@cerm.com
David Smith	740 Hunterhill Court	Roswell	GA	30075	770-641-3096	davidsmith@ecologicalsolutions.net

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David Smith / Ecological Solutions	630 Colonial Park Drive, Suite 200	Roswell	GA	30075	770-998-7848	davidsmith@ecologicalsolutions.net
Duncan Cottrell / Adopt-A-Stream Coordinator / Upper Etowah River Alliance					770-735-2778	duncancottrell@yahoo.com
Geneva Nelson / Foundation for Global Community	899 Chippendale Lane	Norcross	GA	30093	770-564-2730	genevaan@yahoo.com
Jason Barringer	2446 Fallview Terrace	East Point	GA	30344		forrain2@hotmail.com
Kevin Johnson / The Trust for Public Land	1447 Peachtree Street Suite 601	Atlanta	GA	30309	404.873.7306	kevin.johnson@tpl.org
Kimberly Aji / Jordan Jones and Goulding	6801 Governors Lake Parkway	Norcross	GA	30071	6783330232	kajy@jig.com
Linda MacGregor / McKenzie MacGregor Incorporated	3455 Lawrenceville Suwanee Road, Suite A	Suwanee	GA	30024	678-546-9450	lmacgregor@mckmacg.com
Max Walker	941 Pine Roc Drive	Stone Mountain	GA	30083	770/469/4786	MAXWALKER@mindspring.com
Rose Mary Seymour / UGA - Griffin Campus	1109 Experiment St	Griffin	GA	30223	770 229-3214	rseymour@griffin.uga.edu

**APPENDIX B**  
**UPDATES TO THIS PLAN**

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

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## Sope Creek

**COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Sope Creek	Headwaters to Chattahoochee River (Cobb Co.)	11 miles / 22,510 acres	Fishing	NS

The headwaters of Sope Creek originate in commercial and industrial areas in eastern Marietta. Land use within the watershed is a mix of medium density residential, commercial, and industrial. There is very little open or forested area left in this urban watershed with a high percentage of impervious surface. As a result, Sope Creek suffers extensive bank erosion throughout its course due to the increased volume and velocity of storm flow. Sewell Mill Creek joins Sope Creek downstream of Indian Hills Drive, about halfway through its course. Historically Sope Creek has seen an increase in water quality and macro invertebrate diversity after the waters of Sewell Mill Creek joins it.

### III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLS

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

**Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLS**

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) and 200 per 100 ml (geometric mean May-Oct)	Urban Runoff (UR)	83%

#### IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
- Field surveys
- Review of land cover data
- Evaluation of sources

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The impaired TMDL segment of Sope creek has sewer infrastructure at regular enough intervals to ensure overlapping visual inspection fields at given manhole or crossing points except west of Roswell Rd, where there are only two creek crossings. The segment is completely covered by the monitoring efforts of the Cobb County Stream Monitoring Program. Adopt-A-Stream program is active in this basin. In a 15 month time frame 5 sanitary sewer overflows were discovered and repaired. In February of 2004 Cobb County Water and the Georgia EPD required Tip Top poultry to upgrade stormwater pollution prevention measures in order to restrict the discharge of BOD and fecal polluted stormwater from their facility. Marietta Water performs annual aerial crossing inspections, camera recon of a required quantity of pipe, and annually inspects all grease traps for proper operation and maintenance.

Cobb County has programs in place for investigating potential sources of pollution. These programs are described below.

1. General urban runoff is monitored through: Cobb Water's comprehensive stream monitoring program involving the Stream department and Stormwater's Water Quality department, and sampling is done for all pertinent biological and chemical data including fecals at 143 sites at all major streams every quarter. Cobb Water's Adopt-A-Stream has volunteers on sections of Sope Creek monitoring biological, chemical, and physical changes. Also, urban runoff is monitored through Cobb Water System's NPDES Fecal Coliform Monitoring Program. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance against unwarranted waste. The National Resources Conservation Service maintains incentives for the restoration and fencing of buffers, thereby enhancing urban runoff water quality. The City of Marietta also does dry weather screening including fecal testing in the headwaters of Sope.
6. Monitoring for sanitary sewer leaks is by the aforementioned Cobb water Stream Monitoring Program, by Cobb Water's Inflow and Infiltration stream walks at sewer crossings of streams and at manholes, and by Cobb Water's Adopt-A-Stream volunteers' physical monitoring of particular tributaries. Cobb Water Engineering's tunnel project is projected for completion soon and will relieve pressure off a main sewer line that collects and runs through part of the Sope basin, thereby reducing the potential for sanitary sewer overflow. Cobb's Water Protection group also maintains a restaurant grease trap program, prohibiting all county restaurants from discharging grease to septic tanks. requiring all county restaurants to pump their traps quarterly so as to keep sewer line grease at a minimal and less of a factor in blocking lines and causing sanitary sewer overflows. Cobb Water's Engineering also maintains a manhole raising program in low lying areas in order to place sewer caps above the latest FEMA flood plain levels, curtailing overflow contamination. Cobb Water System Maintenance also maintains a foam root control program for sewer lines.
2. Monitoring for illicit connections and illegal dumping is by Cobb's Stream Monitoring program as they test for all parameters throughout the watershed, by Cobb Water's NPDES Fecal Coliform Monitoring Program. The Cobb County Illicit Discharge ordinance prohibits illicit/illegal

discharges to the storm drainage system with monitoring by all sections of the Water System. The City of Marietta also has an illicit connection ordinance.

3. Animal waste from farm animals, birds and pets impacting streams is regulated through Cobb Community Development's restrictive buffer ordinance, and the USDA's National Resources Conservation Service maintains incentives for buffer restoration and fencing, as the USDA also sponsors a program in cooperation with Cobb Stormwater to remove beavers from areas where their dams raise water levels to sanitary sewer cap manholes. The Cobb Board of Health regulates septic tanks and maintains a nuisance ordinance addressing unwarranted (animal) waste handling. Also, Cobb Water, Keep Cobb Beautiful and Cobb Parks are partnering to establish a pet waste management program in County parks.
4. Land disturbing activities' fecal agitation and distribution are addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMP's and buffer ordinance as well as by NRCS buffer incentives. The City of Marietta maintains erosion and sediment control and buffer ordinances.

In addition to the Cobb County programs listed above, the Atlanta Regional Commission has taken steps to involve local stakeholders in identifying possible pollution sources. A meeting was held in March 2004 with local city and county staff to review the TMDL segment and discuss potential sources of pollution. In May 2004 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2003 aerial imagery were developed for the public meetings as a tool to help locate sources. The stakeholders were asked for their input on any potential sources of pollution in the area. In addition to reviewing aerial imagery ARC staff will review the most recent landuse data available (year 2001) for the area and will be updating the watershed description found in the TMDLs. This process involved first verifying that the correct watershed was used in the development of the TMDL. ARC staff has updated watershed delineations and will provide the updated watershed boundaries to GA EPD.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed affected, the stream miles affected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

**Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT**

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
fecal	urban runoff	entire segment	large	is urban/suburban segment
fecal	sanitary sewer leaks	entire segment	small	sewer lines monitored
fecal	illegal/illicit discharge	sporadic	negligible	ordinances effective
fecal	animal waste	entire segment	moderate	pets, birds, farm animals
fecal	land disturbing activities	limited	small	regulated by County

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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As a first step an initial meeting was held with local government agencies to determine possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The local government agencies in the advisory group for this segment are listed in Table 4.

The most important part of developing these implementation plans is locating stakeholders in this area. ARC staff searched for stakeholders listed on existing mailing lists (Home Owner Associations, Adopt-A-Stream, Watershed Alliance groups, etc.) to invite to the public meetings. The staff also gathered tax assessment information on landowners who owned more than 50 acres in the county. These stakeholders were considered large landowners and included public, private, and commercial types of property. Businesses listed on EPA's Enforcement & Compliance History Online (ECHO) website ([www.epa.gov/echo](http://www.epa.gov/echo)) that were located in the area were also invited to the public meetings. A list of elected officials, chambers of commerce, parks & recreation departments, NRCS, GA Soil & Water Conservation Commission, and National Park Service representatives were also invited to the public meetings. ARC staff also included schools, libraries, and large apartment complexes in the public meeting mailing list.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams)). The website provided a variety of information and access opportunities for the TMDL Implementation Plan process. The website identified the local government participants, provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information was available on this website. An online sign-up and feed-back form was included on the website so that people could sign up to be a stakeholder. These stakeholder names and other stakeholders can be found in Appendix A. In an effort to provide further detailed information on the TMDL stream segments and their watersheds, an interactive GIS map was developed as a part of the website. This interactive mapping technology allows individuals to zoom in to the area they are interested in and print out maps. The website also included access to a 10-minute video and slide presentation that explains the implementation plan development process and provides online feedback thus creating a virtual stakeholder public meeting and involvement process. This video resource was made available from May 3, 2004 to August 3, 2004. During this three month period a total of 129 visitors accessed the virtual public meeting. It was confirmed that public libraries in the area have high speed internet access and that the virtual public meeting could be viewed on computers at any public library in the metro Atlanta area.

The next step in this process involved holding 4 initial public meetings in May 2004 to educate stakeholders about this process and solicit input. A total of 43 persons attended the public meetings.

Methods used to inform the general public about the implementation plan development process and the public meetings include: having major environmental groups send out meeting notices in their electronic newsletters, distributing press releases, purchasing newspaper advertising space, sending out numerous e-mails announcing the initial meetings and finally mailing out 3500 meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, large landowners, elected officials, Chambers of Commerce, Parks & Recreation Departments, NRCS, and the National Park Service.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed. This draft document was made available to all stakeholders for discussion and input at the 4 public meetings held in June 2004. A total of 37 persons attended the public meetings.

There is a variety of programs in place for involving stakeholders, they include:

1. Cobb County Water System utilizes its Stream Monitoring and Stormwater Quality sections in testing for all pertinent biological and chemical data including fecals at 143 sampling sites on all streams once a quarter as well as 8 NPDES fecal sites once a quarter. Engineering's Inflow and Infiltration walks streams, inspecting manholes and sanitary sewer creek crossings. Engineering also is in the process of completing a sewage storage tunnel which will relieve the 72" line that partly runs through the Sewell Mill basin. Stormwater Water Quality also administrates Cobb Water's obligations in the Clean Water Campaign, distributing literature and attending and holding workshops, and enforces county ordinances regarding illicit discharges.
2. Cobb's Adopt-A-Stream program is sanctioned by the Georgia EPD, and administered by EPD and Cobb's Water System. Groups are active in the Sope watershed, monitoring for biological, chemical, and physical parameters.
3. Cobb Board of Health maintains nuisance ordinances regarding irresponsible fecal generating activities and regulates septic tank installation and inspection.
4. The USDA Natural Resources Conservation Service provides incentives for fencing off and restoration of stream buffers from detrimental environmental impact, including fecal pollution.
5. Cobb Community Development's Erosion and Sediment department maintains restrictions on land disturbances, BMPs, and buffers throughout the county.
6. Cobb Parks and Recreation, in partnership with Keep Cobb Beautiful and Cobb Adopt-A-Stream, are working to establish future regulatory and physical controls for pet waste in Cobb parks.
7. Metropolitan North Georgia Water Resources Planning District has developed model ordinances adopted by the county including those regulating fecals.
8. The City of Marietta maintains ordinances regulating illicit discharges, erosion and sediment, as well as buffer encroachment. They dry weather screen for mandated pollutants including fecals in the headwaters of Sope.

A formal stakeholder committee involving these organization representatives is currently in the process of being assembled. The following is Cobb County's proposed list of stakeholder committee members

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

**Table 4. COMMITTEE MEMBERS**

<b>NAME/ORG</b>	<b>ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP</b>	<b>PHONE</b>	<b>E-MAIL</b>
Bill Higgins /Cobb County Water	660 South Cobb Drive	Marietta	Ga.	30060	770 419 6225	William.Higgins@cobbcounty.org
Tom Campell/Cobb Board of Health	3830 South Cobb Drive	Smyrna	Ga	30080	770 435 7815	
Valerie Picard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	Ga	30060	770 792 0594	
Rob Hosak/Cobb Community Development	191 Lawrence St	Marietta	Ga.	30090	770 528 2125	
Jennifer McCoy/Adopt-A Stream	662 South Cobb Drive	Marietta	Ga	30060	770 528 1480	Jennifer.McCoy@cobbcounty.org
Rusty Simpson/Cobb Parks and Recreation	1792 County Services Parkway	Marietta	Ga	30008	770 528 8805	
Wayne McGary/ City of Marietta	205 Lawrence Street	Marietta	Ga	30060	770 794 8710	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
City of Marietta Public Works	205 Lawrence Street	Marietta	GA	30060	770-794-5650	
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for 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.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

**Table 5. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, NPDES fecal sites	Cobb	current	1976	very
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	moderate
Pet Waste Management Program	Cobb Water, Cobb Parks and Recreation, Keep Cobb Beautiful	Measures to control pet waste from being washed into creeks at County Park locations	Cobb	proposed	Pending	moderate
Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	very
County Ordinances	Cobb Community Development	Ordinances to protect stream bank buffers, control erosion, stop illicit discharges	Cobb	current	1977-illicit discharge, 1999-stream buffer, 1990-erosion control	moderate
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	moderate
Clean Water Campaign	Atlanta Regional Commission, Cobb Water System, Environmental Protection Division	Campaign to improve water quality in streams and rivers	ARC, Cobb	current	2001	moderate
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	moderate
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	moderate
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	moderate
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	moderate

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grease trap maintenance section	Cobb Water Protection	prohibits running grease to septic tanks and requires restaurants to pump traps regularly in order to prevent grease buildup in lines causing overflows	Cobb	current	1988	very
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	moderate
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	very
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	moderate
CMOM Program	EPD, Cobb Water System (System Maintenance)	CMOM Program -- (Capacity, Management, Operation, and Maintenance): Program that provides incentives to Cobb County to reduce sanitary sewer spills, maintain infrastructure, prioritize problem areas, and provide a Capital Improvement Plan that ensures funding for sewage system improvements.	Cobb Water System	current	2003	very
Preventative Maintenance	Cobb Water System: System Maintenance	Measures taken to prevent spills such as tracking patterns of spills and lining, cleaning, video analysis, re-routing of sewer lines.	Cobb Water System	current	since inception of sewer infrastructure	very
Emergency Response Policy	Cobb Water System: System Maintenance	Employees are on call and respond to sewer spills within one hour of reporting for remediation.	Cobb Water System	current	1960's	very
Phase I MS4 Permit GAS000125	City of Marietta	See Current Stormwater Management Plan	General Funds	ongoing		

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District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	As a part of this watershed management plan MS4 Phase I and Phase II communities will be required to adopt the following ordinances: Post Development Storm Water Management for New Development and Redevelopment, Illicit Discharge and Illegal Connection, and Stream Buffer Protection. As well as establishing municipal Good Housekeeping Practices.	Local Funds	Ongoing	2004 & 2005	Very
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local wastewater systems will implement a policy on private wastewater systems, develop interim decentralized system plans with concept of merging into larger systems, a grease management program, and numerous sewer system programs (mapping, maintenance programs, Rehab identification and construction program and capacity certification program).	Local Funds	Ongoing	2005	Very

## VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

**Table 6. MONITORING PLAN**

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
FC	Georgia EPD, Water Protection Branch or local government	Recommended	2004	2005	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
fecals	Cobb Water's Streams and Water Quality Section, City of Marietta	current	1970's	n/a	comprehensive monitoring of bio and chem. data including fecals, for delist, detection and enforcement
fecals	Cobb Water Streams/ Stormwater	current	2002	n/a	monitor 8 sites quarterly fecals
fecals/overflow/ and spills	Cobb Water Engineering	current	1988	n/a	Stream walks for sanitary sewer leaks at crossings and manholes
fecals(observed), water quality	Cobb Water's and EPD's Adopt A Stream	current	2001	n/a	enlists groups for monitoring specific reaches or tributaries

## VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities, which will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
Cobb Water, ARC, EPD, City of Marietta	Clean Water ads, literature, workshops	general public, targeted industries	ongoing
Cobb Water, EPD, Adopt-A-Stream	workshops, seminars, training and liaison with various government and private entities	public, specific AAS groups, environmental clubs, Cobb and State government training	ongoing
City of Marietta	See Current Stormwater Management Plan	General Public	Ongoing
Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area	Local Governments will participate in a regional public education program such as the Clean Water Campaign, or establish its own program. The program must address water quality issues and the promotion of water conservation.	General Public	2004

**IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH**

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- Accomplishment of management practices or activities - outreach activities
- Installation of BMPs

to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

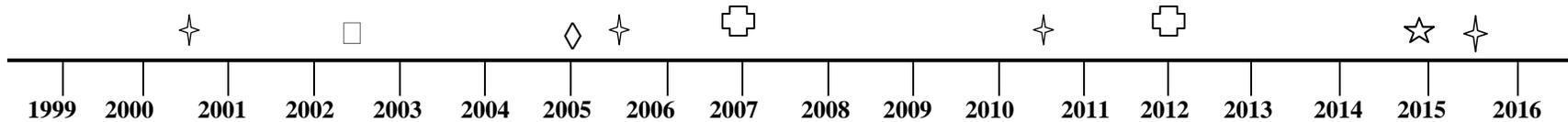
**Table 8. MILESTONES**

MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	2002	2002	collect fecal NPDES permit mandated samples at 8 sites
Stream walks at stream sewer crossings and manholes	Cobb Water: Engineering Inflow and Infiltration, Stream Monitoring	1988	1988	walk all segments for overflow at manholes and creek crossings
buffer ordinance	Community Development	1990	1990, 1999	regulates, maintains 50-200 feet buffers
education	ARC, Cobb County, Austell	1994	1994	ads and literature concerning water quality, fecals
nuisance ordinance, septic regulate	Cobb Board of Health	1988	1988	regulate and enforce septic tanks, removal of improper waste
Wetland and Buffer Preservation, beaver removal	USDA/Cobb County National Resource Conservation Service, U.S. Army Corp of Engineers, USDA/Stormwater	1996, 1998	1996, 1998	incentives for buffer restoration, fencing off and wetland protection
grease trap program	Cobb Water Protection	1988	1991	every restaurant inspected, prohibit discharge into septic
manhole raising program	Cobb Water Engineering	1999	1999	sewer caps raised above current/latest floodplain
CMOM Program	Cobb Water System: System Maintenance	2003	2003	Comprehensive program that provides incentives and gives the guidelines of how the County's collection system will operate.
Pet Waste Management Program	Cobb AAS, Keep Cobb Beautiful, Parks and Recreation	2003	2004	every restaurant inspected, prohibited discharge into septic tanks
Phase I MS4 Permit GAS000125	City of Marietta			Refer to annual report for program effectiveness

District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the District-wide Watershed Management Plan
Long-Term Wastewater Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area			Refer to the Long-Term Wastewater Management Plan

### PROJECTED ATTAINMENT DATE

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



- Scheduled EPD basin Group Monitoring 
- TMDL Completed 
- TMDL Implementation Plan Accepted 
- Evaluation of implementation plan/water quality improvement 
- Project Attainment 

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Date Submitted to EPD:	August 30, 2004	Revision:	#1

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 or Section 604(b) of the Federal Water Pollution Control Act, as amended.

APPENDIX A  
STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for 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/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Bill Higgins /Cobb County Water	660 South Cobb Drive	Marietta	Ga.	30060	770 419 6225	William.Higgins@cobbcounty.org
Tom Campell/Cobb Board of Health	3830 South Cobb Drive	Smyrna	Ga	30080	770 435 7815	
Valerie Picard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	Ga	30060	770 792 0594	
Rob Hosak/Cobb Community Development	191 Lawrence St	Marietta	Ga.	30090	770 528 2125	
Jennifer McCoy/Adopt-A Stream	662 South Cobb Drive	Marietta	Ga	30060	770 528 1480	Jennifer.McCoy@cobbcounty.org
Rusty Simpson/Cobb Parks and Recreation	1792 County Services Parkway	Marietta	Ga	30008	770 528 8805	
Wayne McGary/ City of Marietta	205 Lawrence Street	Marietta	Ga	30060	770 794 8710	
Sally Bethea/Upper Chattahoochee River Keeper	3 Puritan Mill 916 Joseph Lowery Blvd.	Atlanta	GA	30318	(404)352-9828	
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org
Michael Jones	1441 Buckner Road	Mableton	GA	30126	770-739-5191	mikejones@h-hinsurance.com
Andrea Pinabell / Stormwater Management Inc.	430 Lindbergh Drive #F3	Atlanta	GA	30305	404-846-5785	andreap@stormwaterinc.com
Ben R. Jordan / The Coca-Cola Company	P.O. Box 1734	Atlanta	GA	30301		bjordan@na.ko.com
Bruce W. Thurlby / Archaea Solutions, Inc.	100 Lloyd Avenue, Suite D	Tyrone	GA	30290	770-487-5303	bruce.thurlby@archaseasolutions.com
Bryan Barrett / USDA	355 East Hancock Ave	Athens	GA	30601	706-546-2039	bryan.barrett@ga.usda.gov
Buddy Belflower / USDA/NRCS	734 Crescent Dr	Gainesville	GA	30501	770-536-6981	buddy.belflower@ga.usda.gov
Chad Knudsen / Ecological Solutions					770-998-7848	chadknudsen@ecologicalsolutions.net
Chrissy Marlowe / GA DCA	225 West Broad St.	Athens	GA	30601	706-425-3077	cmarlowe@dca.state.ga.us
Chuck Budinger / Corporate Env. Risk Management	2116 Monroe Drive, Suite 110	Atlanta	GA	30324	678-999-0173	cbudinger@cerm.com

TMDL Implementation Plan for Sope Creek  
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David Smith	740 Hunterhill Court	Roswell	GA	30075	770-641-3096	davidsmith@ecologicalsolutions.net
David Smith / Ecological Solutions	630 Colonial Park Drive, Suite 200	Roswell	GA	30075	770-998-7848	davidsmith@ecologicalsolutions.net
Duncan Cottrell / Adopt-A-Stream Coordinator / Upper Etowah River Alliance					770-735-2778	duncancottrell@yahoo.com
Geneva Nelson / Foundation for Global Community	899 Chippendale Lane	Norcross	GA	30093	770-564-2730	genevaan@yahoo.com
Jason Barringer	2446 Fallview Terrace	East Point	GA	30344		forrain2@hotmail.com
Kevin Johnson / The Trust for Public land	1447 Peachtree Street Suite 601	Atlanta	GA	30309	404.873.7306	kevin.johnson@tpl.org
Kimberly Ajy / Jordan Jones and Goulding	6801 Governors Lake Parkway	Norcross	GA	30071	6783330232	kajy@jjg.com
Linda MacGregor / McKenzie MacGregor Incorporated	3455 Lawrenceville Suwanee Road, Suite A	Suwanee	GA	30024	678-546-9450	lmacgregor@mckmacg.com
Max Walker	941 Pine Roc Drive	Stone Mountain	GA	30083	770/469/4786	MAXWALKER@mindspring.com
Rose Mary Seymour / UGA - Griffin Campus	1109 Experiment St	Griffin	GA	30223	770 229-3214	rseymour@griffin.uga.edu

**APPENDIX B**  
**UPDATES TO THIS PLAN**

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

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**TMDL Watershed Land Cover Matrix (Aggregated ARC Land Cover Categories)**

<b>Aggregated Category</b>	<b>Description of Original ARC Categories</b>	<b>ARC Land Cover Code</b>
<b><i>Commercial</i></b>	Commercial and Services	12
	Industrial and Commercial Complexes	15
	Intensive Institutional	121
<b><i>Industrial/Institutional</i></b>	Industrial	13
<b><i>Transportation &amp; Utilities</i></b>	Transportation, Communication & Utilities	14
	Limited Access Highways	145
<b><i>Agricultural Lands</i></b>	Agriculture-Cropland and Pasture	21
	Agriculture-Orchards, Vineyards and Nurseries	22
	Agriculture-Confined Feeding Operations	23
	Agriculture-Other	24
<b><i>Forest / Open Space</i></b>	Forest	40
	Golf Courses	171
	Cemeteries	172
	Parks	173
<b><i>Water / Wetlands</i></b>	Rivers	51
	Reservoirs, Lakes, and Ponds	53
	Wetlands	60
<b><i>Transitional &amp; Extractive Lands</i></b>	Other Urban	17
	Bare Exposed Rocks	74
	Quarries, Gravel Pits, and Strip Mined	75
	Transitional Areas	76
<b><i>Low-Density Residential</i></b>	Low Density Single Family Residential	111
<b><i>Medium-Density Residential</i></b>	Medium Density Single Family Residential	112
<b><i>High-Density Residential</i></b>	High Density Residential	113
	Multifamily Residential	117
	Mobile Home Parks	119