

STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN REVISION #1
 Sweetwater Creek and Others Watershed
 Chattahoochee River Basin

Douglas, Cobb, Paulding, and Carroll Counties and the cities of Marietta, Austell, Powder Springs, Douglasville and Villa Rica

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.

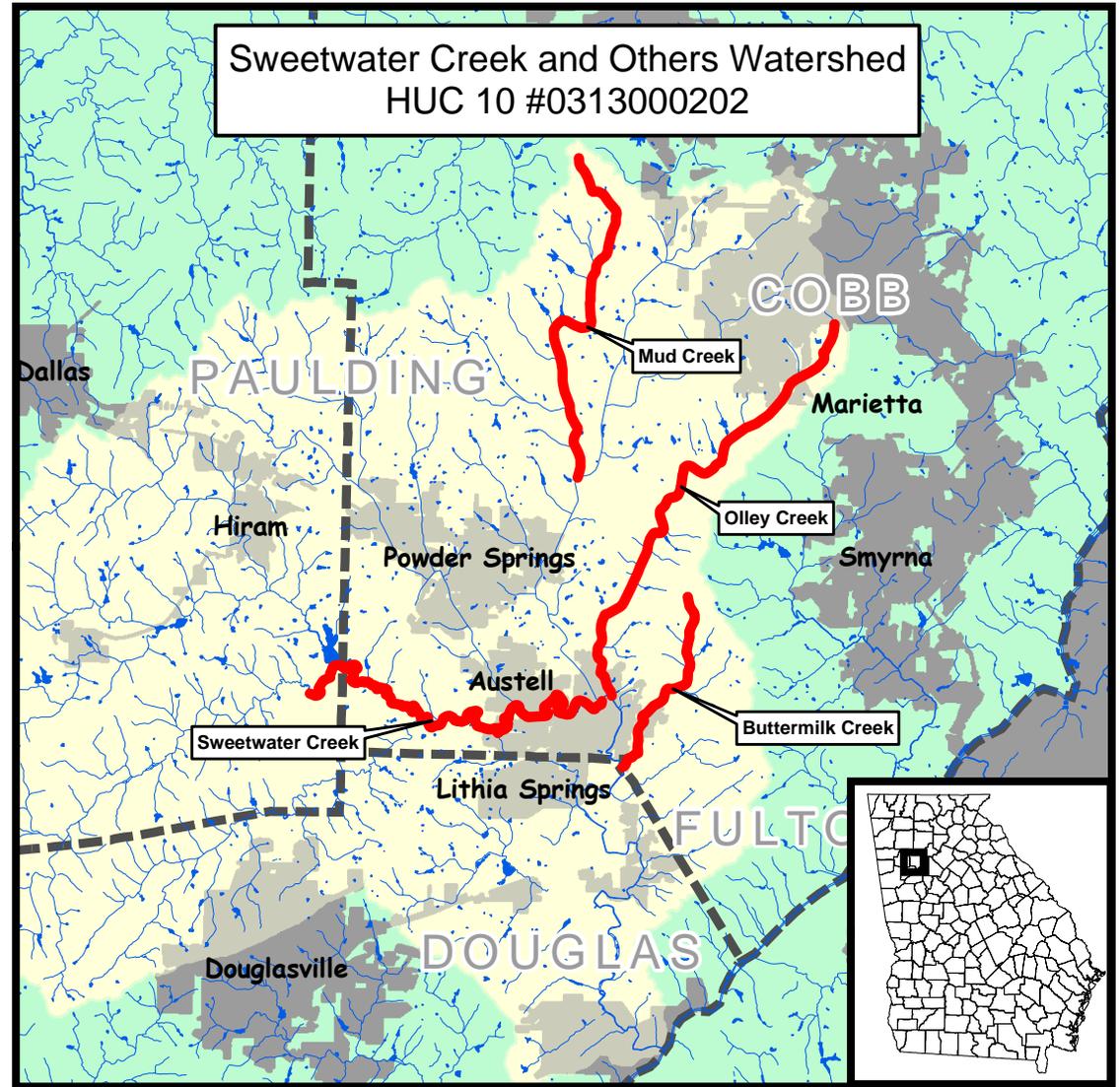


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT
Buttermilk Creek	Cobb County	Fecal Coliform Bacteria
Mud Creek	Ga. Hwy. 120 to Noses Creek	Fecal Coliform Bacteria
Olley Creek	Cobb County	Fecal Coliform Bacteria
Sweetwater Creek	U/S Pine Valley Rd. To Noses Creek	Fecal Coliform Bacteria
Cracker Creek*	Douglas County	Fecal Coliform Bacteria
Sweetwater Creek*	Noses Creek to Chattahoochee River	Fecal Coliform Bacteria
Tributary to Mud Creek*	Cobb County	Fecal Coliform Bacteria
Ward Creek*	Cobb County	Fecal Coliform Bacteria

* Plan will be written by GA EPD

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10 #0313000202. 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.

The Sweetwater Creek and Others Watershed (HUC10 #0313000202) is located in the western portion of metro Atlanta in Cobb, Douglas, Paulding and Carroll Counties. The land area for HUC 10 #0313000202 is 168,907 acres. Interstate 20 runs through the southern portion of this HUC10 in Douglas County. Based on available ARC 2001 land cover data this area appears to be primarily residential. However in the western portion of this HUC10 there are large forested areas. There are also concentrations of commercial areas scattered throughout this HUC10.

The stream segments identified on Georgia Environmental Protection Division's 303(d) list in HUC10 #0313000202 for which ARC has developed an implementation plan include: Buttermilk Creek (Cobb County), Mud Creek (Ga. Hwy. 120 to Noses Creek), Olley Creek (Cobb County), and Sweetwater Creek (U/S Pine Valley Rd. to Noses Creek). The 303 (d) listed stream segment of Buttermilk Creek (Cobb County) is located entirely in Cobb County in the eastern portion of this HUC10. The Mud Creek (Ga. Hwy. 120 to Noses Creek) segment begins in the northern portion of this HUC10 in Cobb County, and then flows south into Noses Creek. The Olley Creek (Cobb County) stream segment begins near the City of Marietta and flows south until it reaches Sweetwater Creek. The Sweetwater Creek (U/S Pine Valley Rd. to Noses Creek) stream segment begins in Paulding County then flows east into Cobb County and through the City of Austell. The Buttermilk Creek, Mud Creek, Olley Creek, and Sweetwater Creek stream segments 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 #0313000202 include: Douglas, Cobb, Paulding, and Carroll Counties and the cities of Marietta, Austell, Powder Springs, Douglasville and Villa Rica.

We have included below four tables that describe the land cover for each of the four 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 Buttermilk Creek TMDL Segment Watershed

Land Cover Classification	Area (Acres)	% of Total Area	Aggregated ARC Land Cover Codes
Medium-Density Residential	2254.87	55.27%	112
Commercial	746.73	18.30%	12, 15, 121
Forest/Open Space	505.53	12.39%	40, 171, 172, 173
Low-Density Residential	285.71	7.00%	111
Agricultural Lands	152.55	3.74%	21, 22, 23, 24
High-Density Residential	51.77	1.27%	113, 119, 117
Water/Wetland	49.24	1.21%	51, 53, 60
Transitional & Extractive Lands	33.19	0.81%	17, 74, 75, 76
Total Acres	4079.60	100.00%	

ARC 2001 Land Cover for Mud Creek TMDL Segment Watershed

Land Cover Classification	Area (Acres)	% of Total Area	Aggregated ARC Land Cover Codes
Medium-Density Residential	3785.26	36.32%	112
Agricultural Lands	2049.32	19.66%	21, 22, 23, 24
Low-Density Residential	2041.80	19.59%	111
Forest/Open Space	1910.08	18.33%	40, 171, 172, 173
Water/Wetland	332.26	3.19%	51, 53, 60
Transitional & Extractive Lands	155.46	1.49%	17, 74, 75, 76
Commercial	147.45	1.41%	12, 15, 121
Transportation and Utilities	1.51	0.01%	14, 145
Total Acres	10423.13	100.00%	

ARC 2001 Land Cover for Olley Creek TMDL Segment Watershed

Land Cover Classification	Area (Acres)	% of Total Area	Aggregated ARC Land Cover Codes
Medium-Density Residential	4108.01	45.42%	112
Forest/Open Space	1485.77	16.43%	40, 171, 172, 173
Commercial	1192.72	13.19%	12, 15, 121
High-Density Residential	920.77	10.18%	113, 117, 119
Transitional & Extractive Lands	463.75	5.13%	17, 74, 75, 76
Agricultural Lands	331.53	3.67%	21, 22, 23, 24
Low-Density Residential	222.25	2.46%	111
Industrial/Institutional	167.80	1.86%	13
Water/Wetland	140.10	1.55%	51, 53, 60
Transportation and Utilities	11.94	0.13%	14, 145
Total Acres	9044.64	100.00%	

ARC 2001 Land Cover for Sweetwater Creek TMDL Segment Watershed

Land Cover Classification	Area (Acres)	% of Total Area	Aggregated ARC Land Cover Codes
Forest/Open Space	38270.70	37.78%	40, 171, 172, 173
Medium-Density Residential	17249.80	17.03%	112
Agricultural Lands	16285.12	16.08%	21, 22, 23, 24
Low-Density Residential	16044.68	15.84%	111
Water/Wetland	5423.83	5.35%	51, 53, 60
Transitional & Extractive Lands	4397.47	4.34%	17, 74, 75, 76
Commercial	2975.07	2.94%	12, 15, 121
Industrial/Institutional	290.61	0.29%	13
High-Density Residential	235.47	0.23%	113, 117, 119
Transportation and Utilities	124.65	0.12%	14, 145
Total Acres	101297.39	100.00%	

All four 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: 51% for Buttermilk Creek (Cobb County), 48% for Mud Creek (Ga. Hwy. 120 to Noses Creek), 49% for Olley Creek (Cobb County), and 40% for Sweetwater Creek (U/S Pine Valley Rd. to Noses Creek).

Staff from the Cobb County Water System helped to identify and rank the potential sources of fecal coliform in these segment watersheds. The following potential fecal coliform sources were identified for the stream segments in HUC10 #0313000202: urban runoff, animal waste, sanitary sewer leaks, illicit connections, land disturbing activities, and leaking/failing septic systems.

This implementation plan was developed with the help of representatives from the Cobb County Water System, the Metropolitan North Georgia Water Planning District and the cities of Austell, Powder Springs 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 all four of the stream segments. The City of Austell monitors Buttermilk Creek, Olley Creek, and Sweetwater Creek for fecal coliform. The City of Powder Springs also monitors Sweetwater 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. Cobb County and the Cities of Austell, Marietta and Powder Springs all participate in the Clean Water Campaign (www.cleanwatercampaign.com). An active Adopt-A-Stream program operates in Cobb County and the Cities of Austell.

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.

Buttermilk 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
Buttermilk Creek	Cobb County	4 miles / 4,079 acres	Fishing	NS

Buttermilk Creek begins in the south-central part of Cobb County and flows for 4.6 miles before joining with Sweetwater Creek near Austell. Land use in the headwaters of this basin is medium or low density residential, however, areas lower in the watershed are more commercial and light industrial. Riparian zones along the stream corridor are typically wide and well vegetated. Wetland areas can also be found along the riparian corridor of Buttermilk Creek. Although the stream appears to be well buffered the bank vegetation is often compromised and severe erosion is frequent. Bottom substrate is mostly deep, soft and shifting sand with only small areas of exposed rock and riffles.

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)	51%

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 Buttermilk Creek TMDL segment has manhole covers and sanitary pipe creek crossings at regular enough intervals to ensure overlapping visual inspection fields by Cobb County at any given manhole or crossing point. Each basin is scheduled to be sanitary sewer inspected every 18-24 months by the Cobb County Inflow and Infiltration department. Every quarter, Cobb's Stream Monitoring Program maintains sites along the segment for assessing water quality every quarter, including fecal coliform. In one enforcement action in 2002, Old Fashion Foods was required by Cobb County to discontinue wash discharge from the area of their facility adjoining Buttermilk Creek. One spill was discovered by Cobb County Monitoring and repaired by System Maintenance as a result of these coordinated efforts in the last fifteen months.

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

1. General urban runoff is fecal tested by Cobb County Water System's Stream monitoring program and sampling is done for all pertinent biological and chemical data including fecal coliform for all streams at 143 sites per quarter and by Cobb's NPDES Fecal Coliform Monitoring Program at 8 sites per 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's Stream Monitoring Program, Cobb Water Engineering's Inflow and Infiltration department's stream walks at sewer stream crossings and manholes, and through the aforementioned Fecal Coliform Monitoring Program. 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 through the efforts of Cobb's Stream Monitoring Program, Cobb's Water Quality Section, and the NPDES Fecal Coliform monitoring, and Cobb County. 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 is regulated through restrictive stream buffers enforced by Cobb Community Development and by Cobb Board of Health's nuisance ordinance, as well as the USDA's NRCS's incentives for maintaining fences and buffers. 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. Monitoring is accomplished under general fecal monitoring through the aforementioned stream monitoring and NPDES fecal monitoring programs.

5. Land disturbing activities' fecal agitation and distribution is addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMPs and buffer ordinance as well as the 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 suburban/urban area
fecal	sanitary sewer leaks	where sewer adjoins stream	small	sewer adjoins stream
fecal	illegal dump/illicit connections	sporadic	negligible	no dumping/illicit taps enforced
fecal	animal waste	entire segment	moderate	birds, pets, farm animals
fecal	land disturbing	limited	small	new construction/residential

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.

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) 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). 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.

1. Cobb County Water System (Stream Monitoring, Stormwater Water Quality, Engineering,) 660 South Cobb Drive, Marietta, Ga. 30060 : Stream Monitoring and Stormwater Water Quality test for all pertinent biological and chemical parameters including fecals at 143 sampling sites on every county stream once a quarter as well as 8 NPDES fecal sites once a quarter. Engineering's Inflow and Infiltration walk streams, inspecting manholes and sanitary sewer creek crossings. Stormwater Water Quality is involved in the Clean Water Campaign, distributing literature and attending and holding workshops, and also enforces county ordinances regarding illicit discharges.
2. City of Austell, 2716 Broad Sreet, Austell, Ga. 30106 The city regulates fecals through illicit discharge ordinances.
3. Cobb Board of Health 3830 South Cobb Drive Smyrna, Ga. 30080 The Board of Health maintains nuisance ordinances regarding irresponsible fecal generating activities and regulates septic tank installation and inspection.
4. USDA Natural Resources Conservation Service 678 South Cobb Drive Marietta, Ga.30060 The NRCS provides incentives for fencing to restore and protect stream buffers from farm animal fecals.
5. Cobb County Community Development 191 Lawrence St. Marietta Ga 30090 Cobb Community Development's Erosion and Sedimentation department regulates and maintains restrictions on land disturbance, BMPS, and buffers within the county.
6. Metropolitan North Georgia Water Resources Planning District 40 Courtland Street Atlanta, Ga. 30303 They have developed model ordinances adopted by the county including those regulating fecals.

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

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Bill Higgins/Cobb Water	680 South Cobb Drive	Marietta	Ga	30060	770 419 6435	William.Higgins@cobbcounty.org
Rob Hosack/Cobb Community Development	191 Lawrence Street	Marietta	Ga.	30090	770 528 2125	
Duane Demeritt/City of Austell	5000 Austell-Powder Springs Rd Suite 101	Austell	GA	30106	(770)944-4325	duane@austell.org
Valerie Picard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	Ga.	30060	770 792 0594	
Tom Cambell/Cobb Board of Health	3830 South Cobb Drive	Smyrna	Ga	30080	770 435 7815	
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
City Ordinances	City of Austell – Stormwater Division	Adopted suite of 6 ordinances, Stormwater Management Ordinances, Erosion and Sediment Control Ordinances	Austell	Current	Both - 2004	Very
Clean Water Campaign	Atlanta Regional Commission, City of Austell – Stormwater Division	Public outreach on the importance of improving water quality	Austell	Current	Both – 1999	Moderate
Preventive Maintenance	City of Austell – Sewer Division	Routine inspections to pump stations, line cleaning, televising	Austell	Current	Both - 1977	Very
Emergency Response	City of Austell – Sewer Division	On call staff responds to sewer spill within one hour of receiving report	Austell	Current	Both - 1977	Very
GIS	City of Austell – Stormwater Division	Stormwater infrastructure mapping	Austell	Current	Both - 2000	Moderate
Storm Drain Curb Marking Program	City of Austell – Stormwater Division	Storm drain curb marker application	Austell	Current	Both - 2002	Weak

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Program Partnership	City of Austell – Stormwater Division	To involve local businesses as a partner in our Stormwater Management Program	Austell, Local Businesses	Current	Both - 2002	Weak
Stormwater Utility	City of Austell – Stormwater Division	\$1.00 monthly fee charge to all residents to help offset the cost of controlling problems as they arise	Austell	Current	Both - 1998	Very
Stormwater Utility	City of Austell – Stormwater Division	Monthly fee based on amount of impervious surface	Austell	Proposed - 2005	In planning stages	
Business Inspection Program	City of Austell – Stormwater Division	Inspection of all area businesses to assure proper working order of drainage infrastructure and BMP's	Austell	Current	Both - 2004	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
fecals	Cobb Water: Stream Monitoring, 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, Monitoring, Water Quality Section	current	2002	n/a	monitor eight stream sites once a quarter for fecals
fecals/overflow	Cobb Water: Engineering Inflow and Infiltration	current	1980's	n/a	walk streams inspecting sanitary sewer crossings and manholes
FC, Chlorine, Copper, Phenol, Detergents	City of Austell – Stormwater Division	Current	1994	Ongoing	Outfall Sampling. Annual sampling of 8 outfall sites
Sewage Leaks/Overflows	City of Austell – Sewer Division	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

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
Cobb Water Quality Section, Adopt-A-Stream, ARC, City of Austell	Clean Water Campaign(Clean Water ads, literature, workshops)	general public, targeted industries	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 Austell, Atlanta Regional Commission	Clean Water Campaign	General Public	current
City of Austell – Stormwater Division	Curb Marker Program	General Public	current
City of Austell – Stormwater Division	Adopt-A-Stream program	General Public, School systems	2001 and future

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

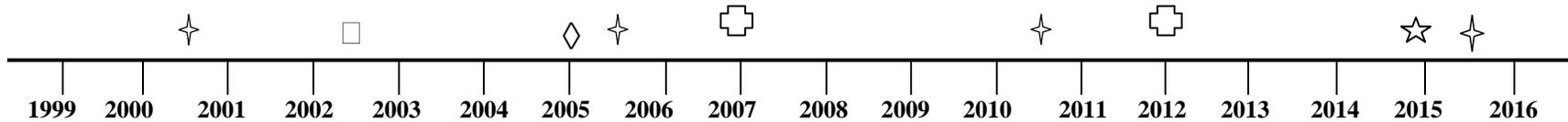
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring 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
Stream Monitoring (NPDES)	City of Austell – Stormwater Division	X - 2005		comprehensive bio and chem. include fecal
Nuisance Ordinance (septic tanks, removal of health hazards)	City of Austell, Cobb Board of Health		X - 1976	regulate and enforce septic tanks, remove improper waste
County Ordinances (illicit discharges, Erosion and Sediment Control, buffer)	City of Austell Stormwater Division		X – 2004 (updated)	City of Austell and County enforce water quality standards, maintain buffers, regulate
Clean Water Campaign	Atlanta Regional Commission, City of Austell		X – 1999	ads and literature concerning water quality, fecals

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Wetland and Buffer Preservation, beaver removal	USDA Natural Resources Conservation Service, U.S. Army Corp of Engineers, City of Austell Stormwater Division		X Unsure of date	provide incentives for buffers restoration, fencing buffers, removing beavers
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 ☆

Prepared By:	Matt Harper		
Agency:	Atlanta Regional Commission		
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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 Water	680 South Cobb Drive	Marietta	Ga	30060	770 419 64355	William.Higgins@cobbcounty.org
Rob Hosack/Cobb Community Development	191 Lawrence Street	Marietta	Ga.	30090	770 528 2125	
Duane Demeritt/City of Austell	2716 Broad Street	Austell	Ga.	30106	770 944 4300	
Valerie Picard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	Ga.	30060	770 792 0594	
Tom Cambell/Cobb Board of Health	3830 South Cobb Drive	Smyrna	Ga	30080	770 435 7815	
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
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
Michael Jones	1441 Buckner Road	Mableton	GA	30126	770-739-5191	mikejones@h-hinsurance.com
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org

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.

Mud 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
Mud Creek	Ga. Hwy. 120 to Noses Creek (Cobb Co.)	5 miles / 10,423 acres	Fishing	NS

Mud Creek begins west of Marietta and flows for approximately 8 miles before joining Noses Creek near Powder Springs. The headwaters of this stream are medium density residential but land use varies quite a bit throughout the watershed. Mud Creek crosses Dallas Highway (well developed commercial area) and flows in the same direction of West Cobb Parkway located nearby. Both these road corridors are opening western Cobb for commercial and residential development. Monitoring stations along Mud Creek are typically located near large, open areas more typical of farm or pastureland; however, these areas are not as common as they once were in this watershed. Vegetation along the riparian corridor of Mud Creek is not usually extensive; however, there is not currently much human activity close to the stream course. A small buffer zone of trees and other quality growth often lines the stream channel but quickly gives way to grasses and open fields. As this watershed develops, special attention must be given to providing an unimpacted buffer zone.

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

The Mud Creek TMDL segment has manhole covers and sanitary pipe creek crossings at regular enough intervals to ensure overlapping visual inspection fields by Cobb County at any given manhole or crossing point. Each basin is scheduled to be sanitary sewer inspected every 18-24 months by the Cobb County Inflow and Infiltration department in Engineering. Every quarter, the Cobb County Water System Stream Monitoring program maintains sites along the segment that assess comprehensive water quality, including fecal coliform. Two spills in the basin were discovered by Cobb County Monitoring and repaired by System Maintenance as a result of these coordinated efforts in the last 15 months.

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 all major streams every quarter at 143 sites per 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 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 and by Cobb Water's Inflow and Infiltration department at sewer crossings of streams and at 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 County 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's Stream Monitoring program 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 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.

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	
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.

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) 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). 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 the 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

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	
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

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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/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

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
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

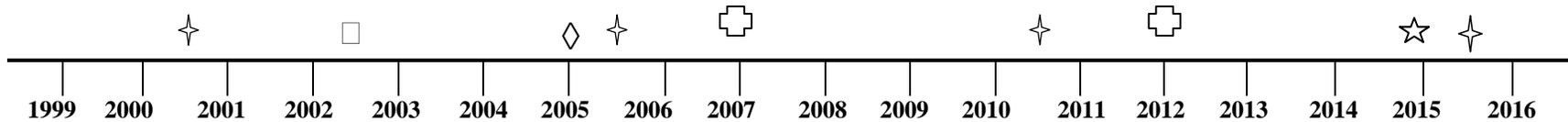
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring 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

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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

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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	
Valerie Pickard/USDA Narutral 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
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 Cresent 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

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.

Olley 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
Olley Creek	Cobb County	11 miles / 9,044 acres	Fishing	NS

Olley Creek begins in southern Marietta and flows 10 miles before joining Sweetwater Creek in Austell. The headwaters of this stream are residential and commercial. South Cobb Drive, Powder Springs Road and Austell Road, all major corridors, define the drainage area for the Olley Creek Basin. Once Olley flows past the residential areas where it originates the stream passes through the Cobb County Complex located at County Services Road. This area contains many government operations, a land fill, a composting facility and Jim R. Miller Park. Olley then continues through another length of residential homes before entering Tramore Park, a well used public park, and crosses the East West Connector, a highly commercial corridor that's still developing. Olley then flows to Dogwood Golf and Country Club and continues on through lower density residential areas. By the time Olley reaches the lower regions of the watershed, riparian vegetation and macro invertebrate habitat is greatly increased from those found further up in the basin. The length of this stream and varied land use make conditions quite variable along the course of this stream. As a result, all common habitats and flow regimes can be found somewhere along Olley Creek but generally speaking, instream quality increases as you move downstream.

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)	49%

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 Olley Creek has sewer infrastructure at regular enough intervals to ensure overlapping visual inspection fields at given manhole or crossing points except between Flint Hill Rd. and the Silver Comet Trail. There are two manholes inspection sites in this area. Cobb County Stream Monitoring covers the entire segment every quarter, Cobb Inflow and Infiltration inspect the entire reach of the segment every 18-24 months, and the Adopt-A-Stream program is active throughout the basin. 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.

6. 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 all major streams every quarter at 143 sites, and NPDES Fecal Coliform Monitoring Program of 8 sites a quarter. Cobb Water's Adopt-A-Stream program has volunteers on sections of Olley 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.
7. Monitoring for Sanitary Sewer Leaks is by the aforementioned Cobb Water Stream Monitoring program, 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'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.
8. Monitoring for Illicit connections and illegal dumping is by Cobb's Stream Monitoring program as they test for all parameters throughout the watershed 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.
9. 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 and Recreation are partnering to establish a pet waste management program in County parks.

- 10.** 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	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, wildlife
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.

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) 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). 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, City of Marietta, Adopt-A-Stream groups, 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 put together. 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	
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	
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	
Duane Demeritt/City of Austell	5000 Austell-Powder Springs Rd Suite 101	Austell	GA	30106	(770)944-4325	duane@austell.org

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
City Ordinances	City of Austell – Stormwater Division	Adopted suite of 6 ordinances, Stormwater Management Ordinances, Erosion and Sediment Control Ordinances	Austell	Current	Both - 2004	Very
Clean Water Campaign	Atlanta Regional Commission, City of Austell – Stormwater Division	Public outreach on the importance of improving water quality	Austell	Current	Both – 1999	Moderate
Preventive Maintenance	City of Austell – Sewer Division	Routine inspections to pump stations, line cleaning, televising	Austell	Current	Both - 1977	Very
Emergency Response	City of Austell – Sewer Division	On call staff responds to sewer spill within one hour of receiving report	Austell	Current	Both - 1977	Very
GIS	City of Austell – Stormwater Division	Stormwater infrastructure mapping	Austell	Current	Both - 2000	Moderate
Storm Drain Curb Marking Program	City of Austell – Stormwater Division	Storm drain curb marker application	Austell	Current	Both - 2002	Weak

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Program Partnership	City of Austell – Stormwater Division	To involve local businesses as a partner in our Stormwater Management Program	Austell, Local Businesses	Current	Both - 2002	Weak
Stormwater Utility	City of Austell – Stormwater Division	\$1.00 monthly fee charge to all residents to help offset the cost of controlling problems as they arise	Austell	Current	Both - 1998	Very
Stormwater Utility	City of Austell – Stormwater Division	Monthly fee based on amount of impervious surface	Austell	Proposed - 2005	In planning stages	
Business Inspection Program	City of Austell – Stormwater Division	Inspection of all area businesses to assure proper working order of drainage infrastructure and BMP's	Austell	Current	Both - 2004	Very
Phase I MS4 Permit GAS000125	City of Marietta	See Current Stormwater Management Plan	General Funds	ongoing		
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 NPDES	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
FC, Chlorine, Copper, Phenol, Detergents	City of Austell – Stormwater Division	Current	1994	Ongoing	Outfall Sampling. Annual sampling of 8 outfall sites
Sewage Leaks/Overflows	City of Austell – Sewer Division	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

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, 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 Austell, Atlanta Regional Commission	Clean Water Campaign	General Public	current
City of Austell – Stormwater Division	Curb Marker Program	General Public	current
City of Austell – Stormwater Division	Adopt-A-Stream program	General Public, School systems	2001 and future

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

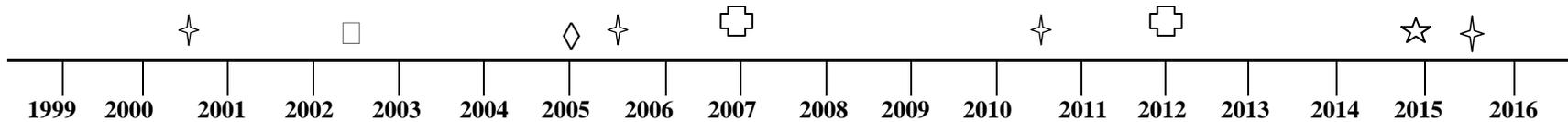
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring 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.

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Pet Waste Management Program	Cobb AAS, Keep Cobb Beautiful, Parks and Recreation	2003	2004	every restaurant inspected, prohibited discharge into septic tanks
Stream Monitoring (NPDES)	City of Austell – Stormwater Division	X - 2005		comprehensive bio and chem. include fecal
Nuisance Ordinance (septic tanks, removal of health hazards)	City of Austell, Cobb Board of Health		X - 1976	regulate and enforce septic tanks, remove improper waste
County Ordinances (illicit discharges, Erosion and Sediment Control, buffer)	City of Austell Stormwater Division		X – 2004 (updated)	City of Austell and County enforce water quality standards, maintain buffers, regulate
Clean Water Campaign	Atlanta Regional Commission, City of Austell		X – 1999	ads and literature concerning water quality, fecals
Wetland and Buffer Preservation, beaver removal	USDA Natural Resources Conservation Service, U.S. Army Corp of Engineers, City of Austell Stormwater Division		X Unsure of date	provide incentives for buffers restoration, fencing buffers, removing beavers
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

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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	
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	
Wayne McGary/ City of Marietta	205 Lawrence Street	Marietta	Ga	30060	770 794 8710	
Alice Champagne / Upper Chattahoochee Riverkeeper	916 Joseph Lowery Blvd	Atlanta	GA	30318	404-352-9828	achampagne@ucriverkeeper.org
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 Cresent 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
Michael Jones	1441 Buckner Road	Mableton	GA	30126	770-739-5191	mikejones@h-hinsurance.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.

Sweetwater 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
Sweetwater Creek	U/S Pine Valley Rd. to Noses Creek (Paulding/Cobb Co.)	10 miles / 101,296 acres	Fishing	NS

Sweetwater Creek, located in the southwest portion of the county, is the largest stream in Cobb. Powder Springs, Noses, Olley, and Buttermilk are tributaries to Sweetwater Creek. The stream leaves Cobb County and enters Douglas County before joining the Chattahoochee River. Surrounding land use in the watershed is low to medium residential and much of the land is undeveloped pasture and forest. Sweetwater is a Piedmont stream but it exhibits many glide pool characteristics such as deep, slow water, muddy bottom, woody debris, and undercut banks with root habitat. The stream has a large flood plain and many wetlands associated with it. High flows during much of the year makes walking the stream reaches and biological sampling within Sweetwater difficult.

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)	40%

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 Sweetwater Creek TMDL segment is populated with overlapping visual inspection fields at its sanitary pipe creek crossings and manhole covers, except where there is no sanitary sewer service in the area along the creek west of where Powder Springs Creek discharges into Sweetwater Creek to the Paulding County line. However, Cobb Stream Monitoring maintains sites all along the segment, and Cobb's GIS program delineates septic tank serviced subdivisions in the area west of Powder Springs Creek for inspection by Stream Monitoring. The basin is sanitary sewer inspected every 18-24 months, and Cobb Stream Monitoring samples every quarter.

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

11. 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 all major streams every quarter at 143 sites. Cobb Water's Adopt-A-Stream program has volunteers on sections of Sweetwater 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.
12. Monitoring for sanitary sewer leaks is by the aforementioned Cobb Water Stream Monitoring program and by Cobb Water's Inflow and Infiltration department at sewer crossings of streams and at 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.
13. Monitoring for illicit connections and illegal dumping is by Cobb's Stream Monitoring program as they test for all parameters throughout the watershed. Cobb County's and the City of Austell's Illicit Discharge ordinances prohibit illicit/illegal discharges to the storm drainage system with monitoring by all sections of the water system.
14. Animal waste from farm animals, birds, 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 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.

15. 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)	Limited	negligible	regulated by City of Austell within city limits, otherwise regulated by the 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.

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) 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). 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. Workshops, public events, and the distribution of literature are activities utilized by several stakeholders. Cobb County Government agencies, City of Austell, NRCS, 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 put together. The following list of Committee members is proposed 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	
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	
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	
Duane Demeritt/City of Austell	5000 Austell-Powder Springs Rd Suite 101	Austell	GA	30106	(770)944-4325	duane@austell.org
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	
City of Powder Springs / Rodger Swaim	3006 Springs Industrial Drive	Powder Springs	GA	30127	770-943-8010	pubwkdir@cityofpowdersprings.org

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
City Ordinances	City of Austell – Stormwater Division	Adopted suite of 6 ordinances, Stormwater Management Ordinances, Erosion and Sediment Control Ordinances	Austell	Current	Both - 2004	Very
Clean Water Campaign	Atlanta Regional Commission, City of Austell – Stormwater Division	Public outreach on the importance of improving water quality	Austell	Current	Both – 1999	Moderate
Preventive Maintenance	City of Austell – Sewer Division	Routine inspections to pump stations, line cleaning, televising	Austell	Current	Both - 1977	Very
Emergency Response	City of Austell – Sewer Division	On call staff responds to sewer spill within one hour of receiving report	Austell	Current	Both - 1977	Very
GIS	City of Austell – Stormwater Division	Stormwater infrastructure mapping	Austell	Current	Both - 2000	Moderate
Storm Drain Curb Marking Program	City of Austell – Stormwater Division	Storm drain curb marker application	Austell	Current	Both - 2002	Weak

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Program Partnership	City of Austell – Stormwater Division	To involve local businesses as a partner in our Stormwater Management Program	Austell, Local Businesses	Current	Both - 2002	Weak
Stormwater Utility	City of Austell – Stormwater Division	\$1.00 monthly fee charge to all residents to help offset the cost of controlling problems as they arise	Austell	Current	Both - 1998	Very
Stormwater Utility	City of Austell – Stormwater Division	Monthly fee based on amount of impervious surface	Austell	Proposed - 2005	In planning stages	
Business Inspection Program	City of Austell – Stormwater Division	Inspection of all area businesses to assure proper working order of drainage infrastructure and BMP's	Austell	Current	Both - 2004	Very
NPDES Phase I Permit # GAS000129	City of Powder Springs	MS4 Permit: The State of GA has issued the City of Powder Springs 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.	Powder Springs	Enforced	Both	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 / Monitoring data for Georgia's 305(b)/303(d) List
Fecal Coliform/Water Quality parameters	Cobb Water System (Stream Monitoring and Water Quality Section)	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
FC, Chlorine, Copper, Phenol, Detergents	City of Austell – Stormwater Division	Current	1994	Ongoing	Outfall Sampling. Annual sampling of 8 outfall sites
FC, Chlorine, Copper, Phenol, Detergents	City of Austell – Stormwater Division	Current	1994	Ongoing	Periodic monitoring of Sweetwater Creek for water quality
Sewage Leaks/Overflows	City of Austell – Sewer Division	Current	1988	On-going	Inspect and repair infrastructure and stop any leaks discovered
FC	City of Powder Springs	Current	2001	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, City of Austell, Atlanta Regional Commission	Clean Water Campaign	General Public	current
Cobb Water System	Adopt-A-Stream program	General Public, School systems	2001 and future

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 Austell, Atlanta Regional Commission	Clean Water Campaign	General Public	current
City of Austell – Stormwater Division	Curb Marker Program	General Public	current
City of Austell – Stormwater Division	Adopt-A-Stream program	General Public, School systems	2001 and future
City of Powder Springs	Provide educational brochures on stormwater issues	General Public	2001

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

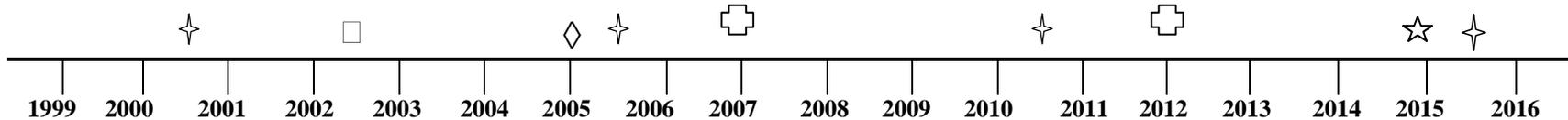
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stream Monitoring Program	Cobb Water System: Stream Monitoring, Water Quality Section	1976	1976	aforementioned comprehensive bio and chem. monitoring including fecals and walks once a quarter
NPDES Fecal Coliform Monitoring 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

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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
Stream Monitoring (NPDES)	City of Austell – Stormwater Division	X - 2005		comprehensive bio and chem. include fecal
Nuisance Ordinance (septic tanks, removal of health hazards)	City of Austell, Cobb Board of Health		X - 1976	regulate and enforce septic tanks, remove improper waste
County Ordinances (illicit discharges, Erosion and Sediment Control, buffer)	City of Austell Stormwater Division		X – 2004 (updated)	City of Austell and County enforce water quality standards, maintain buffers, regulate
Clean Water Campaign	Atlanta Regional Commission, City of Austell		X – 1999	ads and literature concerning water quality, fecals
Wetland and Buffer Preservation, beaver removal	USDA Natural Resources Conservation Service, U.S. Army Corp of Engineers, City of Austell Stormwater Division		X Unsure of date	provide incentives for buffers restoration, fencing buffers, removing beavers
NPDES Phase I Permit # GAS000129	City of Powder Springs			Refer to Annual Report
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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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	
Jennifer McCoy/Cobb County Adopt-A-Stream	662 South Cobb Drive	Marietta	GA	30060	(770)528-1480	
Valerie Pickard/USDA Natural Resources Conservation Service	678 South Cobb Drive	Marietta	GA	30060		
Rusty Simpson/Cobb County Parks and Recreation	1792 County Services Parkway	Marietta	GA	30080	(770)528-8840	
Duane Demeritt/City of Austell	2716 Broad Street	Austell	GA	30106	770 944 4325	
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
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

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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
Michael Jones	1441 Buckner Road	Mableton	GA	30126	770-739-5191	mikejones@h-hinsurance.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@jgg.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
City of Villa Rica	571 W Bankhead Hwy	Villa Rica	GA	30180	678-785-1016	
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.

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

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