

**STATE OF GEORGIA**

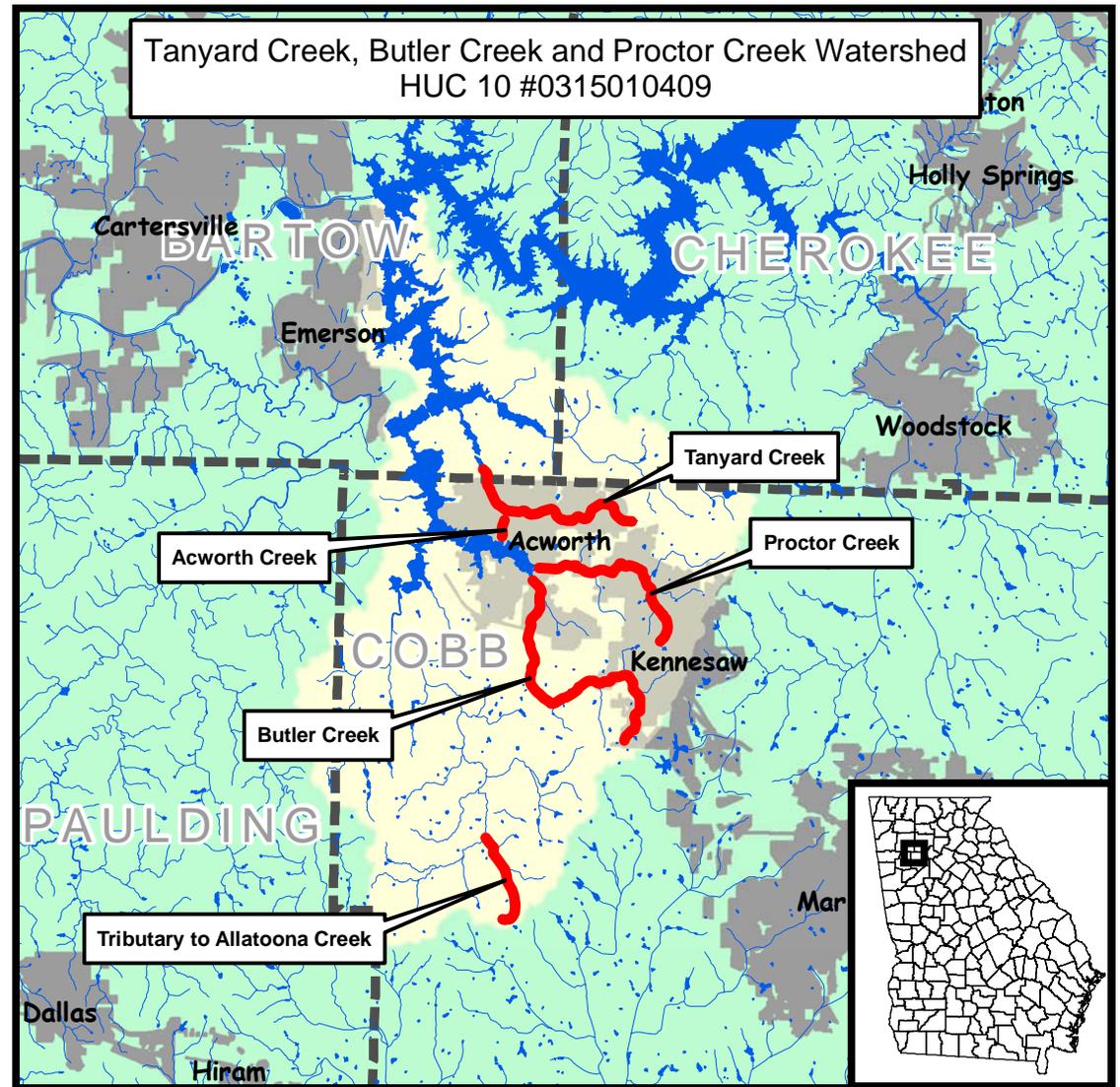
**TIER 2 TMDL IMPLEMENTATION PLAN – REVISION 1**

Acworth Creek (Tributary to Lake Acworth)  
 Butler Creek (Headwaters to Lake Acworth)  
 Tanyard Creek (White Lake to Lake Allatoona)  
 Tributary to Allatoona Creek (Cobb County)  
 Proctor Creek (Headwaters to Lake Acworth – Cobb Co.)  
 Coosa River Basin  
 April 28, 2006  
 Local Watershed Governments  
 Cobb County and the cities of Kennesaw and Acworth

**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	TMDL ID
Acworth Creek	Tributary to Lake Acworth	Fecal Coliform	CSA0000067
Butler Creek	Headwaters to Lake Acworth	Fecal Coliform	CSA0000106
Proctor Creek <sup>+</sup>	Headwaters to Lake Acworth (Cobb County) <sup>+</sup>	Fecal Coliform <sup>+</sup>	CSA0000006 <sup>+</sup>
Tanyard Creek	White Lake to Lake Allatoona	Fecal Coliform	CSA0000113
Tributary to Allatoona Creek	Cobb County	Fecal Coliform	CSA0000108

<sup>+</sup>RDC previously developed inventory for stream, which will be updated and used as plan

## II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC10 # 0315010409. 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 that 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 that could influence water quality. See the “Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan” for more information on what to include.

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The Tanyard Creek, Butler Creek and Proctor Creek Watersheds (HUC10 #0315010409) are located in the northwest portion of metro Atlanta in Bartow, Cherokee, Paulding and Cobb Counties. The land area for HUC10 #0315010409 is 51,706 acres. There is one major highway that crosses the northern portion of this HUC10; Interstate 75. Based on available ARC 2003 land cover data this area appears to be primarily residential. There are commercial areas scattered throughout this HUC10 with a concentration of commercial areas in the eastern portion of this HUC10. The forested areas of this HUC10 are located primarily in the western portion of the HUC10.

The stream segments identified on Georgia Environmental Protection Division’s 303(d) list in HUC10 #0315010409 for which ARC has developed an implementation plan include: Acworth Creek (Tributary to Lake Acworth), Butler Creek (Headwaters to Lake Acworth), Proctor Creek (Headwaters to Lake Acworth (Cobb County)), Tanyard Creek (White Lake to Lake Allatoona), and Tributary to Allatoona Creek (Cobb County). The 303 (d) listed stream segment of Acworth Creek (Tributary to Lake Acworth) is located entirely in the City of Acworth. The Butler Creek (Headwaters to Lake Acworth) segment begins in the City of Kennesaw, then flows through Cobb County and finally ends in the City of Acworth when it flows into Lake Acworth. The Proctor Creek (Headwaters to Lake Acworth (Cobb County)) stream segment also begins in the City of Kennesaw, then flows through Cobb County and finally ends in the City of Acworth when it flows into Lake Acworth. The Tanyard Creek (White Lake to Lake Allatoona) stream segment begins in Cobb County then flows through the City of Acworth and ends when it flows into Lake Allatoona. The Tributary to Allatoona Creek (Cobb County) stream segment is located entirely in Unincorporated Cobb County. The Acworth Creek (Tributary to Lake Acworth), Butler Creek (Headwaters to Lake Acworth), Proctor Creek (Headwaters to Lake Acworth (Cobb County)), Tanyard Creek (White Lake to Lake Allatoona), and Tributary to Allatoona Creek (Cobb County) stream segment watersheds all have smaller land areas than the entire HUC10 watershed that affect the actual TMDL stream segments. The local governments with interest in the Section 305(b) / Section 303(d) listed stream segments in HUC10 #0313000109 includes: Cobb County and the cities of Kennesaw and Acworth.

Included below are five tables that describe the land cover for each of the five TMDL stream segment watersheds. The land cover data used to develop these tables are data developed by the Atlanta Regional Commission in 2001 and 2003. These two years were included to illustrate land cover change during that time. As the five tables below indicate the land cover data has not changed significantly since 2001. The acreage totals found in the below tables reflect the watershed boundaries ARC has updated this year. The acreage totals found below differ from those found in the TMDLs because more accurate watershed delineations were made for each stream segment than those used for the development of the TMDLs. These updated TMDL stream segment watershed boundaries will be provided to GA EPD. An additional table has been added to the last page of this document that defines the Aggregated ARC Land Cover Codes.

**ARC 2003 Land Cover for Acworth Creek TMDL Segment Watershed**  
(2001 data was not shown because the land cover data is the same for both years)

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Commercial	38.08	59.89%	12, 15, 121
Medium Density Residential	23.71	37.29%	112
Forest/ Open Space	1.57	2.47%	40, 171, 172, 173
Water/ Wetlands	0.22	0.35%	51, 53, 60
<b>Total Acres</b>	<b>63.59</b>	<b>100.00%</b>	

**ARC 2001 & 2003 Land Cover for Butler Creek TMDL Segment Watershed**

<b>Land Cover Classification</b>	<b>Land Cover 2001</b>		<b>Land Cover 2003</b>		<b>Land Cover Difference</b>	
	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>
Medium Density Residential	3,100.89	51.18%	3,374.21	55.69%	273.32	4.51%
Forest/ Open Space	1,201.36	19.83%	930.54	15.36%	-270.82	-4.47%
Low Density Residential	814.14	13.44%	838.14	13.83%	24.00	0.40%
Commercial	414.42	6.84%	481.07	7.94%	66.64	1.10%
Transitional/ Extractive Lands	365.57	6.03%	251.68	4.15%	-113.89	-1.88%
High Density Residential	83.58	1.38%	104.68	1.73%	21.10	0.35%
Agricultural Lands	67.16	1.11%	66.83	1.10%	-0.33	-0.01%
Water/ Wetlands	11.43	0.19%	11.43	0.19%	0.00	0.00%
Transportation/ Utilities	0.34	0.01%	0.34	0.01%	0.00	0.00%
<b>Total Acres</b>	<b>6,059</b>	<b>100.00%</b>	<b>6,059</b>	<b>100.00%</b>		

**ARC 2001 & 2003 Land Cover for Proctor Creek TMDL Segment Watershed**

Land Cover Classification	Land Cover 2001		Land Cover 2003		Land Cover Difference	
	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area
Medium Density Residential	2,194.81	45.11%	2,323.05	47.74%	128.24	2.64%
Commercial	788.50	16.21%	894.42	18.38%	105.91	2.18%
Forest/ Open Space	736.91	15.15%	682.58	14.03%	-54.33	-1.12%
Transitional/ Extractive Lands	494.33	10.16%	336.17	6.91%	-158.16	-3.25%
Low Density Residential	231.35	4.75%	231.97	4.77%	0.62	0.01%
Agricultural Lands	168.44	3.46%	101.03	2.08%	-67.41	-1.39%
Transportation/ Utilities	115.91	2.38%	126.76	2.61%	10.85	0.22%
High Density Residential	93.79	1.93%	163.07	3.35%	69.28	1.42%
Industrial/ Institutional	34.98	0.72%	0.00	0.00%	-34.98	-0.72%
Water/ Wetlands	6.62	0.14%	6.62	0.14%	0.00	0.00%
<b>Total Acres</b>	<b>4,866</b>	<b>100.00%</b>	<b>4,866</b>	<b>100.00%</b>		

**ARC 2001 & 2003 Land Cover for Tanyard Creek TMDL Segment Watershed**

Land Cover Classification	Land Cover 2001		Land Cover 2003		Land Cover Difference	
	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area
Commercial	164.95	8.20%	183.94	9.15%	18.99	0.94%
Forest/ Open Space	320.41	15.93%	333.63	16.59%	13.21	0.66%
High Density Residential	98.78	4.91%	180.41	8.97%	81.63	4.06%
Low Density Residential	152.81	7.60%	152.81	7.60%	0.00	0.00%
Medium Density Residential	1,061.96	52.81%	1,023.42	50.90%	-38.55	-1.92%
Transitional/ Extractive Lands	185.63	9.23%	107.51	5.35%	-78.12	-3.89%
Transportation/ Utilities	19.45	0.97%	22.28	1.11%	2.83	0.14%
Water/ Wetlands	6.84	0.34%	6.84	0.34%	0.00	0.00%
<b>Total Acres</b>	<b>2,011</b>	<b>100.00%</b>	<b>2,011</b>	<b>100.00%</b>		

**ARC 2001 & 2003 Land Cover for Tributary to Allatoona Creek TMDL Segment Watershed**

Land Cover Classification	Land Cover 2001		Land Cover 2003		Land Cover Difference	
	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area
Low Density Residential	396.97	27.95%	389.23	27.40%	-7.75	-0.55%
Agricultural Lands	368.11	25.92%	350.15	24.65%	-17.96	-1.26%
Medium Density Residential	279.07	19.65%	304.77	21.46%	25.71	1.81%
Forest/ Open Space	246.49	17.35%	232.99	16.40%	-13.51	-0.95%
Commercial	97.69	6.88%	97.69	6.88%	0.00	0.00%
Transitional/ Extractive Lands	32.03	2.25%	45.54	3.21%	13.51	0.95%
<b>Total Acres</b>	<b>1,420</b>	<b>100.00%</b>	<b>1,420</b>	<b>100.00%</b>		

All five 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.

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 GA EPD developed a TMDL for these stream segments in January 2004 that shows a reduction in fecal coliform levels is needed. The required reductions in Fecal Coliform loads are as follows: 83% for Acworth Creek (Tributary to Lake Acworth), 55% for Butler Creek (Headwaters to Lake Acworth), 62% for Proctor Creek (Headwaters to Lake Acworth (Cobb County)), 56% for Tanyard Creek (White Lake to Lake Allatoona), and 33% for Tributary to Allatoona Creek (Cobb County).

Staff from Cobb County helped to identify the potential sources of fecal coliform in these segment watersheds. The following potential fecal coliform sources were identified for the stream segments in HUC10 #0315010409: urban runoff, wildlife, domestic animal waste, sanitary sewer leaks, septic systems, land disturbing, illegal dump/illicit connections, and illegal discharges.

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 Kennesaw and Acworth. The Atlanta Regional Commission coordinated the public meetings and the input received from local stakeholders and technical advisory staff. Stakeholder comments and requested revisions to the draft plan have been considered in developing this final draft implementation plan.

The monitoring section of this implementation plan recommends that GA EPD continue to monitor this listed stream segments as a part of the state-wide 303(d) monitoring program.

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 school age students. Cobb County and the cities of Acworth and Kennesaw all participate in the Clean Water Campaign ([www.cleanwatercampaign.com](http://www.cleanwatercampaign.com)). An active Adopt-A-Stream program operates in Cobb County. Storm Drain stenciling programs are also common throughout the watershed area.

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

### Acworth Creek

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Acworth Creek	Tributary to Lake Acworth	1 mile / 64 acres	Fishing	NS

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

After reviewing the TMDLs written for this stream, complete the following tables with the information found in the TMDLs. List each parameter for which the stream segment is impaired and the water quality standard not met. See the “Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan” for the water quality standards. Enter the needed reduction from the TMDL. Describe the sources and causes of each impairment 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)	Pages 16-29 of the Fecal Coliform TMDL document developed by GA EPD dated January 2004 list the following potential sources of fecal coliform: wastewater treatment facilities, Phase I & II MS4 storm water permit holders, confined animal feeding operations, wildlife, agricultural livestock, urban development, leaking septic systems, land application systems and landfills. The 303(d) list identifies the source of the fecal coliform problem as Urban Runoff (UR).	83%

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

INVESTIGATE AND EVALUATE the extent and relative contributions from causes or sources of the 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: 1) involvement of stakeholder group; 2) review of land cover data; 3) field surveys; and 4) other pertinent sources of information consulted.

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The Atlanta Regional Commission has taken steps to involve local stakeholders (Table 4 & Appendix A) in identifying possible pollution sources. In October 2005 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2004 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 reviewed the most recent landuse data available (year 2003) for the area and will be updating the watershed description found in the TMDLs. This process involved first verifying that the correct watershed was used in the development of the TMDL. ARC staff has updated watershed delineations and will provide the updated watershed boundaries to GA EPD.

ARC staff has conducted a visual field survey on this stream segment due to limited recent stream walk information. The visual field survey is attached. As a part of this visual field survey we reviewed existing point source data provided by GA EPD as well as reviewing 2004 aerial imagery. Using guidance documents provided by the State, a field assessment was conducted which included a windshield survey of the watershed and a foot survey where access permitted. The summary of findings for this visual field survey is as follows. There are no permitted point source discharges in the Acworth Creek (Tributary to Lake Acworth) watershed. The field survey identified nonpoint sources such as wildlife and urban runoff. Based on field observations, wildlife and urban runoff are probably contributing the most to the fecal coliform levels in this TMDL segment. The estimated extent of contribution from both sources is ranked as medium and the estimated portion of contribution is also ranked medium. Proposed management practices to address fecal coliform have been provided by local governments and are outlined in the 2006 Acworth Creek (Tributary to Lake Acworth) watershed TMDL implementation plan in tables 5A, 6 and 7.

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Combining information provided in the TMDL document, stakeholder knowledge, existing watershed assessments, and the watershed evaluation conducted for this plan, identify the potential sources or causes most likely to contribute to each identified impairment (parameter) in Table 3. If available information is inadequate to estimate the extent and relative contribution of significant potential sources or causes, recommend appropriate management actions (watershed assessments, monitoring, etc.) to determine the potential sources or causes and relative contributions. In Table 3, list the significant potential sources or causes of each impairment. Estimate the geographic extent of each potential source or cause as percent of the contributing watershed area, percent of stream miles affected, or number per square mile and enter the appropriate rating (from the following table) in the column entitled "Rating (A)". Estimate the relative contribution of each major source or cause to the pollutant causing the impairment and enter the appropriate rating (from the following table) in the column entitled "Rating (B)". Calculate a relative impact ratings for each source or cause by multiplying "Rating (A)" by "Rating (B)". Comments on the source of information used to determine the extent or contribution may be entered in the applicable columns in Table 3.

The following table provides guidance for rating the estimated extent and portion of the contribution from each potential source and cause.

<b>Estimated Geographic Extent of the Source or Cause in the Contributing Watershed</b> (Percent of area or stream miles)	<b>Estimated Contribution of the Source or Cause to the Pollutant Load Causing the Impairment</b> (Percent of load)	<b>Rating</b>
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	0.5
Scattered or low (approximately 5-20%)	Scattered or low (approximately 5-20%)	1
Medium (approximately 20-50%)	Medium (approximately 20-50%)	3
Widespread or high (approximately 50% or more)	Widespread or high (approximately 50% or more)	5
Unknown	Unknown	UNK

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

<b>POTENTIAL SOURCES OR CAUSES</b>	<b>ESTIMATED EXTENT OF CONTRIBUTION</b>		<b>ESTIMATED PORTION OF CONTRIBUTION</b>		<b>IMPACT RATING (A X B)</b>
	<b>Comments</b>	<b>Rating (A)</b>	<b>Comments</b>	<b>Rating (B)</b>	
Urban Runoff		3		3	9
Wildlife		3		3	9
Domestic Animal Waste		1		1	1
Sanitary Sewer Leaks		UNK		UNK	UNK
Septic Systems		UNK		UNK	UNK

## V. STAKEHOLDERS

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

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

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As a first step local government agencies were asked about possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The advisory group members 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. Permit holders and other major businesses were identified and invited to participate in the public meetings. A list of elected officials, parks & recreation departments, NRCS, and County Cooperative Extension Service representatives were also invited to the public meetings.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams/coosa.html](http://www.atlantaregional.com/cleanerstreams/coosa.html)). The website provided a variety of information and access opportunities to the TMDL Implementation Plan process. The website provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information were 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 next step in this process involved holding 2 initial public meetings in October 2005 to educate stakeholders about this process and solicit input. A total of 34 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, sending out numerous e-mails announcing the initial meetings and finally mailing out meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, elected officials, Parks & Recreation Departments, NRCS, and the County Cooperative Extension Services.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed that incorporated this input. This draft document was made available to all stakeholders for discussion and input at the 2 public meetings held in February 2006. A total of 22 persons attended the public meetings.

The input received during the four public meetings can be summarized as follows. Stakeholders most commonly asked programmatic type questions like what drives the TMDL process and how will these TMDL implementation plans be used. Stakeholders also asked questions about the water quality parameters for which the implementation plans were developed. Another common question asked was how can local governments and GA EPD tell if the problem is corrected. Other questions revolved around who were the stakeholders involved in the process and how were stakeholders identified for this project. The local stakeholders also wanted to know how stakeholders would be involved in the future. Stakeholders asked what was currently being done to educate the public on how to prevent water quality problems. These types of questions were answered in a discussion format at the public meetings with the help of GA EPD staff.

**Table 4. STAKEHOLDER ADVISORY GROUP MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
GA EPD, Water Protection Branch	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1751	
GA Adopt-A-Stream	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1636	
Georgia Soil and Water Conservation Commission	1500 Klondike Road Suite A109	Conyers	GA	30094	770-761-3020	
City of Acworth, City Manager (Brian Bulthuis)	4375 Senator Russell Square	Acworth	GA	30101	(770) 974-3112	<a href="mailto:bulthuis@acworth.org">bulthuis@acworth.org</a>
City of Acworth Public Works (Mark Hipp)	4402 Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
City of Acworth Public Works (Amanda Blowers)	4402 Acworth Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:ablowers@acworth.org">ablowers@acworth.org</a>
Bill Higgins/Cobb Water	680 South Cobb Drive	Marietta	Ga	30060	770 419 6435	<a href="mailto:William.Higgins@cobbcounty.org">William.Higgins@cobbcounty.org</a>
Rob Hosack/Cobb Community Development	191 Lawrence Street	Marietta	Ga.	30090	770 528 2125	
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	
Jennifer McCoy/Cobb County Adopt-A-Stream	662 South Cobb Drive	Marietta	GA	30060	(770)528-1480	<a href="mailto:Jennifer.McCoy@cobbcounty.org">Jennifer.McCoy@cobbcounty.org</a>
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, as described in Project Task #1 of the Scope of Services.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Identify and list in Table 5A the significant management measures or activities which have or will be taken in the contributing watershed to address sources or causes of the impairment(s). List significant management measures and activities in Column 1 and responsible organizations in Column 2. Describe the measure or activity in Column 3 and sources of funding or resources in Column 4 (you may wish to adapt the generic language included in the “Standard Language for Management Measures and Activities” to local applications) In Column 5, enter one of the following codes describing the status of the measure or activity: (A) installed and active; (AE) active and **will be** enhanced or expanded; (R) required in the future by law, regulation or permit conditions; (P) currently proposed, but not required; and (N/R) **additional new recommended** or (N/E) **recommended enhanced** management measures and activities. In Column 6 enter the rating of the estimated existing or proposed extent of application of the measure or activity or percentage of individual sources to which the management actions have or will be applied (see the following table). In Column 7 enter a rating of the estimated effectiveness of the management measures and activities (see following table). Effectiveness may be estimated by local experts or derived from tables included in the “Standard Language for Management Measures and Activities”.

The following table provides guidance for rating the estimated extent and portion of the contribution for each significant potential source and cause.

Estimated Extent of Application or Percentage of Individual Sources to Which the Management Measure or Activity Has or Will be Applied in the Contributing Watershed	Estimated Effectiveness or Percent Removal of Constituent (Percent of load)	Rating
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	.5
Scattered or low (approximately 5-20%)	Low to medium (approximately 5-25%)	1
Medium (approximately 20-50%)	Medium to High (approximately 25-75%)	3
Widespread or high (approximately 50% or more)	High (approximately 75% or more)	5
Unknown	Unknown	UNK

**Table 5A. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCES OF FUNDING & RESOURCES	STATUS CODE	TARGET DATE	EXTENT RATING (Area, #)	EFFECT. RATING (Reduction)
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	The congressional objective of the CWA “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 305 (the <i>National Water Quality Inventory</i> ) requires states to report progress in restoring impaired waters to EPA on a biennial basis. Section 303(d) requires states to identify ‘impaired’ waters, submit a list to EPA every two years, and develop TMDLs for these waters.	Federal, State	current	In place, ongoing		
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Law prohibiting discharge of excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats. Law authorizing Georgia EPD to control water pollution, eliminate phosphate detergents and regulate sludge	Federal, State, Local/County Governments	Current	in place, ongoing		

		disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit siltation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.					
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	River Basin Management Plans describe strategies and measures necessary for local governments, businesses, and citizen groups to educate the general public on matters involving the environmental and ecological concerns specific to the river basin; improve water quality and reduce pollution at the source; improve aquatic habitat and reestablish native species of fish; restore and protect wildlife habitat; and provide recreational benefits.	State, Local/County Government	Completed	1998		
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	General storm water discharge permit for manufacturing facilities; mining, oil & gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage sludge treatment. Requires implementation of Storm Water Pollution Prevention Plan. May require storm water monitoring program targeting discharges into/near 303(d) listed waters.	State	Active and will be enhanced or expanded	2006		
Buffer Incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	5	1
Soil Erosion Ordinance	City of Acworth	Required by State Erosion and Sedimentation Act. State approved erosion control plans for all development 1.1 acres and up. 50-ft. minimum stream buffer, expanding on State minimums.	General Fund	Enforced	1975, 8/04	5	1
Stormwater Ordinance	City of Acworth	Stormwater detention required for all new development.	General Fund	Enforced	4/05	5	1
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Comprehensive stormwater program, including public education & participation, illicit discharge detection & elimination, construction & post-construction runoff control, pollution prevention, permitting & reporting and program implementation plans. Includes dry weather outfall screening twice yearly.	General Fund	Active	1/05	5	3
Street Sweeping Program	City of Acworth	Street sweeping route through the City to help reduce debris in runoff.	General Fund	Active	1/00	5	3
Stormwater Management	City of Acworth	Protects streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity,	General Fund	Enforced	04/2005	5	3

Ordinance (Ordinance # 2005-21)		managing stormwater system.					
Residential Subdivisions Ordinance (Ordinance # 2006-06 – Zoning Ordinance)	City of Acworth	This is an ordinance to regulate and control the development of residential subdivisions. Section 30 – Development Regulations – (Sanitary Sewers) requires that “each lot or other site in a subdivision shall be connected to a public sanitary sewage system by lines of sufficient size to accommodate the anticipated sewage load.” This section also states that when sewer is not available septic systems may be installed but the minimum lot size for septic use is 1 acre with 100 feet of frontage. This large minimum lot size for septic systems will be beneficial in the long term management of septic systems in the city limits.	General Fund	Enforced	April 15, 1993	5	3
Tree Protection and Landscaping Ordinance (within the Zoning Ordinance)-	City of Acworth	Requires a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.	General Fund	Enforced	1983	5	1
Animal Control (City of Acworth Code 1983 § 4-10)	City of Acworth	This city ordinance states that it is “...the duty of the owner to maintain in a clean and sanitary condition and free from extreme and unreasonably objectionable odor all structures, pens, yards and adjacent areas wherein any animal is kept.”	General Fund	Enforced	1983	5	1
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	This city ordinance prohibits cattle in the corporate limits of the city.	General Fund	Enforced	1983	5	1
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	This city ordinance authorizes the city manager to have signs erected in any city park or city cemetery prohibiting the feeding of ducks, birds, and fowl. When such signs are posted feeding ducks, birds, or fowl is prohibited.	General Fund	Enforced	9-17-1992	5	1

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. These ordinances have been adopted by the City of Acworth	Local Funds	Ongoing	2004 & 2005	5	3
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	5	To Be 3

The purpose of Table 5B is to initiate and guide a “first-cut” evaluation of the capacity of existing, currently proposed, and future required management measures and activities to achieve the load reductions specified in the TMDL (and meet water quality goals) and where needed, identify potential feasible and effective measures and practices which could be encouraged and supported to further reduce pollutant loadings from significant potential sources. Though completely voluntary, such recommendations would provide an effective local guide to effective management actions to achieve local water quality goals, establish priorities for grant or loan programs (Section 319 (h), EQUIP, SRF), establish eligibility for grants for Tier plans and implementation, and identify priorities for local watershed assessments and protection plans.

In Columns 1 and 2 of Table 5B, enter each significant potential source and its’ corresponding impact ratings from Table 3. Review Table 5A and list significant management practices and activities applicable to each significant cause or source. Evaluate and compare the estimated extent and relative contribution of each significant cause or source with the extent and effectiveness of the applicable management measures and in conjunction with appropriate local stakeholders or organizations, make a best current determination of whether the existing or proposed management practices would achieve the load reductions needed to achieve the TMDL. Summarize conclusions and rationale in Column 4. If more information is needed to adequately determine the significant sources or causes and their relative contributions so note and recommend management actions needed to adequately identify sources such as monitoring, watershed assessments, or Tier 1 implementation plans in the last column. If the current, proposed and required management measures are judged inadequate to achieve the needed load reductions for significant sources, recommend, in consultation with the advisory groups, additional management activities, programs, and measures which would effectively reduce pollutant loads from the source. List such measures in the final column and list as a recommended activity in the milestones (Table 8).

**TABLE 5B: EVALUATION OF MANAGEMENT MEASURES AND ACTIVITIES APPLIED TO SPECIFIC SOURCES OR CAUSES**

SIGNIFICANT POTENTIAL SOURCE (S) OR CAUSE(S) (From Table 3)	IMPACT RATING (From Table 3)	EXISTING, CURRENTLY PROPOSED, OR REQUIRED MANAGEMENT MEASURES OR ENHANCEMENTS APPLICABLE TO EACH SIGNIFICANT SOURCE (From Table 5A)	EVALUATION: WILL THE ESTIMATED EXTENT OF APPLICATION AND EFFECTIVENESS OF EXISTING, CURRENTLY PROPOSED, AND REQUIRED MANAGEMENT MEASURES BE ADEQUATE TO ACHIEVE THE SOURCE REDUCTION SPECIFIED BY THE TMDL?	IF MANAGEMENT MEASURES ARE ESTIMATED TO BE INSUFFICIENT, RECOMMEND ADDITIONAL MANAGEMENT MEASURES AND ACTIVITIES WHICH COULD EFFECTIVELY REDUCE LOADS FROM SIGNIFICANT SOURCES
Urban Runoff	9	Stormwater Management Ordinance (Ordinance # 2005-21 City of Acworth) NPDES Phase I MS-4 Permit # GAS000101 (City of Acworth) Street Sweeping Program (City of Acworth) Soil Erosion Ordinance (City of Acworth) Tree Ordinance (Section 98-31 – 98- (City of Acworth) District-Wide Watershed Management Plan Federal Clean Water Act, Section 305(b) and 303(d) Georgia Water Quality Control Act (OCGA 12-5-20) Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521 Industrial Storm Water Discharge NPDES Permit	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
Wildlife	9	None	Management of wild animal wastes in wooded areas and urban stream corridors may not be feasible, but there are several management practices that may be applied to control waterfowl and domestic animal wastes.	Further monitoring is recommended. Should study show that contributions from non-human sources occasionally exceed 200/100ml (geometric mean), submit data to EPD requesting a change in the fecal coliform standard to levels compliant with “natural conditions” for the segment. Should waterfowl be a significant contributor, consider measures to discourage waterfowl occupancy.
Domestic Animal Waste	1	Animal Control (City of Acworth Code 1983 § 4-10) Animal Control (City of Acworth Code 1983 § 4-29) City of Acworth Ordinance # 92-040-A, § 1 Buffer Incentives	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
Sanitary Sewer Leaks	UNK	Long-Term Wastewater Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	

Septic Systems	UNK	Residential Subdivisions Ordinance (Ordinance # 93-077) (City of Acworth)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Long-Term Wastewater Management Plan		

## VII. MONITORING PLAN

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

**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	2006	2007	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
	Acworth NPDES Phase I MS-4 Municipal Stormwater Permit	Current	Twice a year	Ongoing	Dry weather screening.
FC	City of Acworth Fecal Coliform Analysis	Current	May-September	Ongoing	Recreational monitoring for beach and swimming safety.

## VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities, including those described in the Scope of Services that will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
ARC, & Acworth in Regional Coalition	Clean Water Campaign - Educate the public on the sources, causes and prevention of stormwater pollution, including fecal coliform.	General Public	9/01

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

This table will be used to periodically track and report progress of significant management practices and activities identified or recommended in Tables 5A, 5B, and other sections of this plan, including outreach, additional monitoring and assessments, and the enhancement or installation of management measures and activities. Identify and list significant planned or recommended activities and the target date of accomplishment. Provide room to 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.

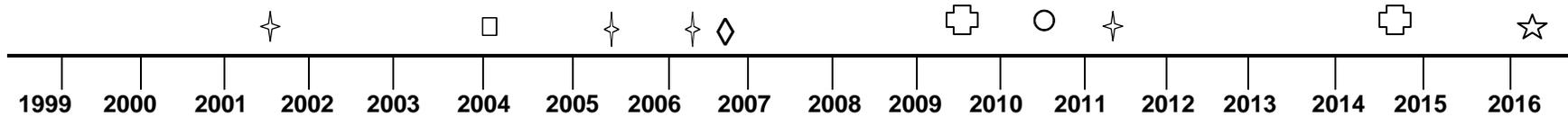
**Table 8. MILESTONES**

MANAGEMENT MEASURE OR ACTIVITY	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	current	In place, ongoing	
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Current	in place, ongoing	
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	Completed	1998	
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	Active and will be enhanced or expanded	2006	
Buffer Incentives	USDA/NRCS	current	1996	
Soil Erosion Ordinance	City of Acworth	Enforced	1975, 4/01	Continue requiring approved erosion control plans for all development 1.1 acres and up. This includes enforcement of a 50-ft. minimum stream buffer,
Stormwater Ordinance	City of Acworth	Enforced	1/96	Continue requiring stormwater detention for all new developments.
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Active	1/96	Refer to annual report
Street Sweeping Program	City of Acworth	Active	1/00	Continue street sweeping route through the City.
Stormwater Management Ordinance (Ordinance # 2000-41)	City of Acworth	Enforced	12/7/2000	Continue enforcing ordinance to protect streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity, managing stormwater system.
Residential Subdivisions Ordinance (Ordinance # 93-077)	City of Acworth	Enforced	April 15, 1993	Continue to enforce this ordinance through development plan review.
Tree Ordinance (Section 98-31 – 98-	City of Acworth	Enforced	1983	Continue to require a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.

Animal Control (City of Acworth Code 1983 § 4-10)	City of Acworth	Enforced	1983	Continue to enforce this ordinance.
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	Enforced	1983	Continue to enforce this ordinance.
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	Enforced	9-17-1992	Continue to enforce this ordinance.
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area		2004 & 2005	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		2005	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 □
- Revised TMDL Implementation Plan Accepted ◇
- Plan Status Evaluation Report ⊕
- Plan Update or Revision, if Necessary ○
- Project Attainment for Plans Prepared in 2006 ☆

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 of the Federal Water Pollution Control Act, as amended.

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Date Submitted to EPD:	March 31, 2006	Revision:	#1

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
Acworth Lake Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		
Acworth Downtown Development Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		<a href="http://www.acworthmainstreet.org">http://www.acworthmainstreet.org</a>
Acworth Area Convention And Visitors Bureau Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		<a href="http://www.acworthtourism.org">http://www.acworthtourism.org</a>
A & B Poultry Co.	1020 Scenic View Drive	Jasper	GA	30143		
American Sports & Rec	3939 Royal Drive, NW, Suite 101	Kennesaw	GA	30144		
Anderson, W B Feed & Poultry	8650 Main Street	Woodstock	GA	30188		
Angi Bruton / Bay Marine, Inc	2394 North Cobb Parkway	Kennesaw	GA	30152	770-427-3578	<a href="mailto:angi@baymarineboats.com">angi@baymarineboats.com</a>
April Ingle / Georgia River Network	126 S. Milledge Ave., Suite E3	Athens	GA	30601	706-549-4508	<a href="mailto:ingle@garivers.org">ingle@garivers.org</a>
Aris Georgakakos / Georgia Water Resources Institute, Georgia Tech	790 Atlantic Drive	Atlanta	GA	30332-0355	404-894-2240	<a href="mailto:ageorgak@ce.gatech.edu">ageorgak@ce.gatech.edu</a>
Bill Higgins / Cobb County Water System, Stormwater Management	680 South Cobb Drive	Marietta	GA	30066	770-419-6434	<a href="mailto:bhiggins@cobbcounty.org">bhiggins@cobbcounty.org</a>
Bingham Trading, Inc	2627 Sandy Plains Road	Marietta	GA	30066		
Bob Sutton / LAPA	194 Evelyn Street	Marietta	GA	30064	770-422-3094	<a href="mailto:RSU194@aol.com">RSU194@aol.com</a>
Bradshaw Farms Golf Course	3030 Bradshaw Club Drive	Woodstock	GA	30188		
Brown Poultry Farms	4494 Conns Creek Road	Ball Ground	GA	30107		
Buchanan Livestock, Inc	1168 S. Main Street	Jasper	GA	30143		
Burt's Cattle Poultry	3553 Sweetwater Juno Road	Dawsonville	GA	30534		
Candace Stoughton /	1330 West Peachtree Street,	Atlanta	GA	30309	404-253-7250	<a href="mailto:cstoughton@tnc.org">cstoughton@tnc.org</a>

Nature Conservancy	Suite 410					
Canterbury Golf Club	500 Cambridge Drive	Marietta	GA	30066-2512		
Cherokee Golf Center	635 Molly Lane	Woodstock	GA	30189		
Cherokee Recreation and Parks Authority	7545 Main Street, Building 200	Woodstock	GA	30188	770-924-7768	
Conagra Poultry	1335 Canton Road	Marietta	GA	30066		
Crooked Creek Golf Club	3430 Highway 9 North	Alpharetta	GA	30004		
Curt Gervich / UGA Etowah HCP	PO Box 287	Acworth	GA	30101	678-758-0781	<a href="mailto:curt@etowahhcp.org">curt@etowahhcp.org</a>
David Kubala / CCWSA	PO Box 5000	Canton	GA	30114	770-479-1813	<a href="mailto:dkubala@earthlink.net">dkubala@earthlink.net</a>
David Radcliffe / UGA	Crop & Soil Sciences Dept., UGA	Athens	GA	30602	706-542-0897	<a href="mailto:dradclif@uga.edu">dradclif@uga.edu</a>
Diane Minick / Env. Impact Assessment & Upper Etowah River Alliance – Chair	317 N. Brook Drive	Canton	GA	30114	678-493-9574	<a href="mailto:dianeminick@msn.com">dianeminick@msn.com</a>
Dobson Poultry Farms	6295 Yellow Creek Road	Ball Ground	GA	30107		
Don Stevens / CCWSA	391 West Main Street	Canton	GA	30114	770-479-9302	
Duncan Cottrell / Upper Etowah River Alliance	171 Meridian Street	Canton	GA	30114	770-720-6269	<a href="mailto:duncancottrell@yahoo.com">duncancottrell@yahoo.com</a>
Eagle Watch Golf Course	3055 Eagle Watch Drive	Woodstock	GA	30189		
Ed Mullinax / LAPA, City of Catersville Water	PO Box 1671	Cartersville	GA	30120	770-607-6296	<a href="mailto:emullinax@cityofcatersville.org">emullinax@cityofcatersville.org</a>
Gene Cornelison / Cherokee County	1712 Hornage Road	Ball Ground	GA	30107	770-735-3387	
Geoff Morton / Cherokee County	130 East Main Street, Suite 106	Canton	GA	30114	678-493-6057	<a href="mailto:gmorton@cherokeega.com">gmorton@cherokeega.com</a>
Geoffrey Sarra / City of Alpharetta	1790 Upper Hembree Road	Alpharetta	GA	30004	678-297-6200	<a href="mailto:gsarra@alpharetta.ga.us">gsarra@alpharetta.ga.us</a>
Hilda Hatzell / Interested Citizen	98 Brookhaven Drive	Marietta	GA	30066		
Jeff Riley / CCWSA	1979 Hammond Woods Circle	Marietta	GA	30008	404-932-0745	<a href="mailto:jeffriley191@hotmail.com">jeffriley191@hotmail.com</a>
Jim Lanier / Aquascape Environmental	605 B. Mauldin	Woodstock	GA	30188	678-445-0077	<a href="mailto:muddog@mindspring.com">muddog@mindspring.com</a>
Jimmy Gisi / Cobb County PRCA	1792 County Services Pkwy	Marietta	GA	30008		
John Seafert / Georgia Adopt-A-Stream	430 Morgan Falls Chaseq	Canton	GA	30114	770-592-0942	<a href="mailto:jseufert@adelphia.net">jseufert@adelphia.net</a>
Jonathon Davis / US Army Corp of Engineers	PO Box 487	Cartersville	GA	30120-0487		
Jose Anez / City of Woodstock	103 Arnold Mill Road	Woodstock	GA	30188	678-409-4335	<a href="mailto:janez@ci.woodstock.ga.us">janez@ci.woodstock.ga.us</a>

Katie Knowles / Corp of Engineers – Allatoona Lake	1138 State Route Spur 20, SE	Cartersville	GA	30121	678-721-6738	
Katie Owens / Coosa River Basin Initiative	408 Broad Street	Rome	GA	30161	706-232-2724	<a href="mailto:keady@coosa.org">keady@coosa.org</a>
Kimberly Sanders / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8035	<a href="mailto:Kimberly.sanders@co.fulton.ga.us">Kimberly.sanders@co.fulton.ga.us</a>
L & W Poultry Farms	476 Alpine Farm	Talking Rock	GA	30175		
Little River Grill	6979 Bells Ferry Road	Canton	GA	30114		
Little River Landing	6986 Bells Ferry Road	Canton	GA	30114		
Lori Forrester / CCWSA	1957 Authority Drive	Woodstock	GA	30188	770-591-7156	<a href="mailto:brenaucrew@hotmail.com">brenaucrew@hotmail.com</a>
M & H Poultry	155 Marsha Drive	Canton	GA	30014		
Manor Golf & Country Club	16000 Hopewell Road	Alpharetta	GA	30004		
Mark Hipp / City of Acworth	4402 Acworth Industrial Drive	Acworth	GA	30101	770-975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
Martha Kent	1642 Scott Road	Canton	GA	30115		
Martin Poultry, Inc	4710 McCoy Circle	Cumming	GA	30028		
Marty Williams / Georgia Lakes Society	171 Sumter Drive	Marietta	GA	30066		<a href="mailto:gls@georgialakes.org">gls@georgialakes.org</a>
Mary Gazaway / GA EPD	2 Martin Luther King Jr. Drive, Suite 1152 East Tower	Atlanta	GA	30334	404-675-1745	
Mike Tuller / Cobb County	191 Lawrence Street	Marietta	GA	30060	770-528-2199	<a href="mailto:Michael.tuller@cobbcounty.org">Michael.tuller@cobbcounty.org</a>
Nanette Nelson / UGA WQ Training	Ecology UGA	Athens	GA	30602	706-542-4329	<a href="mailto:nanette@uga.edu">nanette@uga.edu</a>
Nick Ammons / Fulton County	141 Pryor Street	Atlanta	GA	30303	404-730-4000	
Phyllis Lea / Lake Sovereign HOA	571 East Shore Drive	Canton	GA	30114	770-345-4904	<a href="mailto:pplea@comcast.net">pplea@comcast.net</a>
Pilgrim Poultry	654 Univeter Road	Canton	GA	30115		
Richard Rogers / City Canton	151 Elizabeth Street	Canton	GA	30114	770-704-1500	<a href="mailto:richard.rogers@canton-georgia.com">richard.rogers@canton-georgia.com</a>
Ron Papaleoni / LAPA	4793 Cooks Ct	Acworth	GA	30101	678-776-6331	<a href="mailto:rpapaleoni@acworthcable.net">rpapaleoni@acworthcable.net</a>
Roy Taylor / Cherokee Homeowners	360 E. Marietta Street	Canton	GA	30114	770-720-4669	<a href="mailto:wrldeas@mindspring.com">wrldeas@mindspring.com</a>
Rusty Simpson / Cobb County Parks	1792 County Services Pkwy	Marietta	GA	30008	770-528-8840	<a href="mailto:rusty.simpson@cobbcounty.org">rusty.simpson@cobbcounty.org</a>
Shadburn Poultry Farm	3495 Hurt Bridge Road	Cumming	GA	30040		
Sharon Smith / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8006	<a href="mailto:sharon.smith@co.fulton.ga.us">sharon.smith@co.fulton.ga.us</a>
Smith A C	28 Alan Thomas Road	Cumming	GA	30028		

Stan Hall / Cherokee County	470 Blalock Road	Canton	GA	30115	770-517-7650	<a href="mailto:recycling@cherokeega.com">recycling@cherokeega.com</a>
Steve Turner / City of Kennesaw	Moon Station Road	Kennesaw	GA		404-392-1156	<a href="mailto:sturner@kennesaw-ga.us">sturner@kennesaw-ga.us</a>
Teresa Crisp / Parsons	5390 Triangle Pkwy, Suite 100	Norcross	GA	30092	678-969-2462	<a href="mailto:teresa.crisp@parsons.com">teresa.crisp@parsons.com</a>
Three Kings Golf Center	4190 Jiles Road, NW	Kennesaw	GA	30144		
Toni Pelliccia / CDM	2030 Powers Ferry Road, Suite 325	Atlanta	GA	30339	770-952-8643	<a href="mailto:PellicciaA@cdm.com">PellicciaA@cdm.com</a>
Towne Lake Hills Golf Club	1003 Towne Lake Hills East	Woodstock	GA	30189		
Trophy Club of Atlanta	15135 Hopewell Road	Alpharetta	GA	30004		
Tyson Foods, Inc.	169 Highway 9 S	Dawsonville	GA	30534		
United Poultry Corp.	2320 Old North Lane	Alpharetta	GA	30004		
Valerie Pickard / USDA-NRCS	678 S. Cobb Drive, Suite 150	Marietta	GA	30066	770-792-0594	<a href="mailto:valerie.pickard@ga.usda.gov">valerie.pickard@ga.usda.gov</a>
Vic Jones / CH2M Hill	115 Perimeter Ctr. NE Suite 700	Atlanta	GA	30346	770-604-9281	<a href="mailto:Vjones2@ch2m.com">Vjones2@ch2m.com</a>
Vulcan Materials Company – Southeast Division	1272 Duncan Road, NW	Kennesaw	GA	30144		
White Columns Golf Club	300 White Columns Drive	Alpharetta	GA	30004		
Woodmont Golf Club	3105 Gaddis Road	Canton	GA	30115		
Woody McFarlin / City of Kennesaw	3080 Moon Station Road	Kennesaw	GA	30114	770-421-8582	<a href="mailto:wmcfarlin@kennesaw-ga.gov">wmcfarlin@kennesaw-ga.gov</a>
Yellow Creek Poultry Farm	4745 Hurt Bridge Road	Cumming	GA	30040		

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

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

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**APPENDIX C**  
**VISUAL FIELD SURVEY**  
**For**  
**Acworth Creek TMDL Segment**  
**(Tributary to Lake Acworth)**  
**In the**  
**Coosa River Basin**  
**March 1, 2006**

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**Visual Field Survey**  
**For**  
**Acworth Creek TMDL Segment**  
**(Tributary to Lake Acworth)**  
**In the**  
**Coosa River Basin**

**March 1, 2006**

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

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

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## 1.0 INTRODUCTION

### 1.1 Location

The Acworth Creek TMDL stream segment is located in the northern portion of the Atlanta Metropolitan region in Cobb County. The stream segment is listed for not meeting the State water quality standards for fecal coliform. The listed portion of the stream is 1 mile long. Acworth Creek is a tributary to Lake Acworth. As shown in Figure 1, the TMDL segment begins near the Russell Square stream crossing and flows south into Lake Acworth.

### 1.2 Watershed Description

The Acworth Creek TMDL segment watershed is comprised of 63.59 acres of land. The Acworth Creek watershed is located within HUC 10 – 0315010409. Mapping of the watershed and review of ARC's 2003 LandPro data shows that land cover within the watershed is predominantly commercial and medium density residential, which accounts for 59.89% and 37.29% of the area, respectively. ARC land cover data from 2001 and 2003 were compared and the data showed no change in the watershed's land cover between 2001 and 2003. ARC land cover data from 2003 is presented in Table 1. Table 2 outlines ARC's land cover codes that have been aggregated into the categories used for this project. A map showing land cover in the watershed is included as Figure 2A.

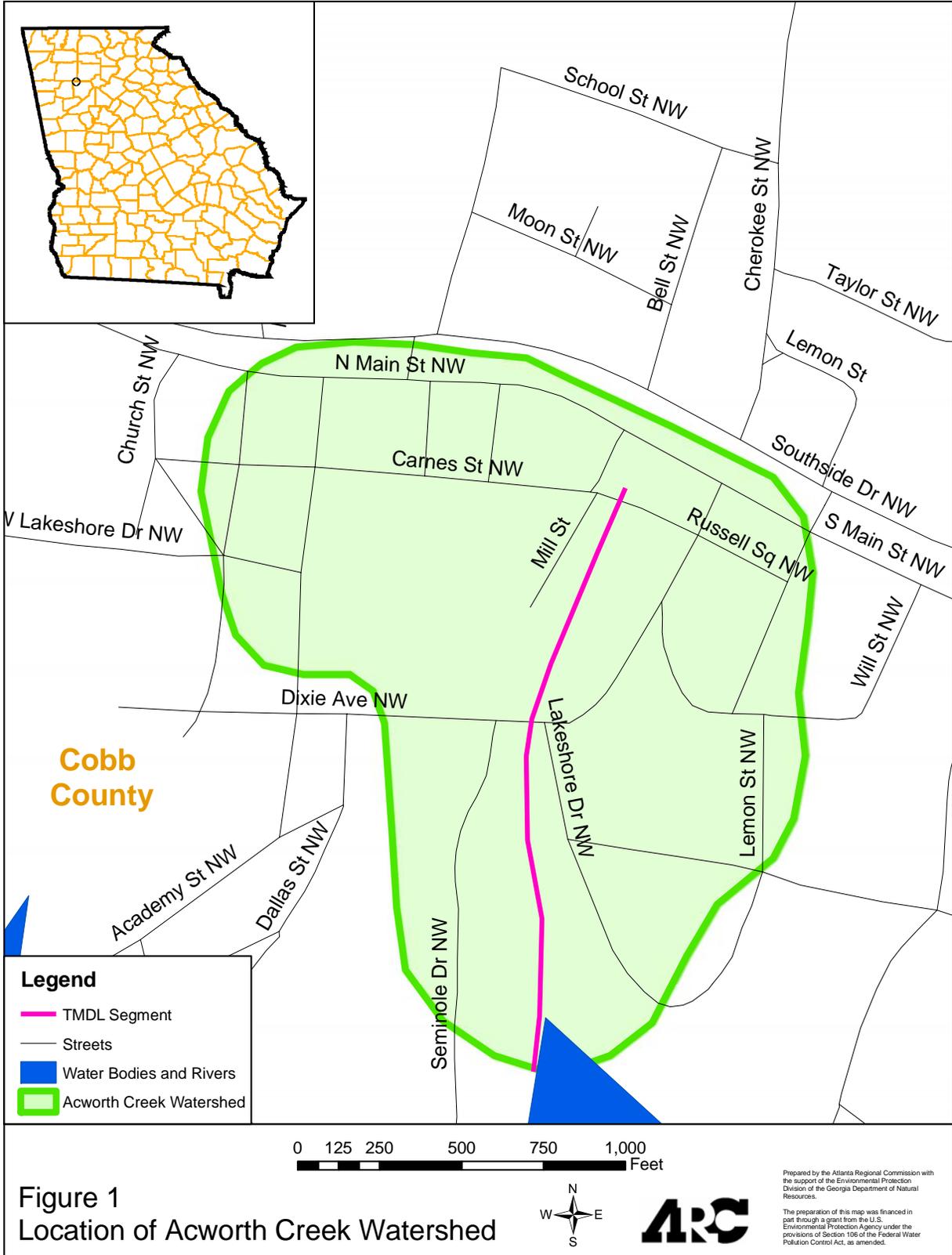
The ARC's land cover data shows the entire upper portion of the watershed as commercial only. The reason for this general land cover description is because ARC's minimum mapping unit for the land cover data is 5 acres. In general terms, if there is an area of commercial with a 4 acre block of residential in the middle of it the land cover data will only reflect the commercial area. Aerial photography is included in Figure 2B to further illustrate the watershed's land cover.

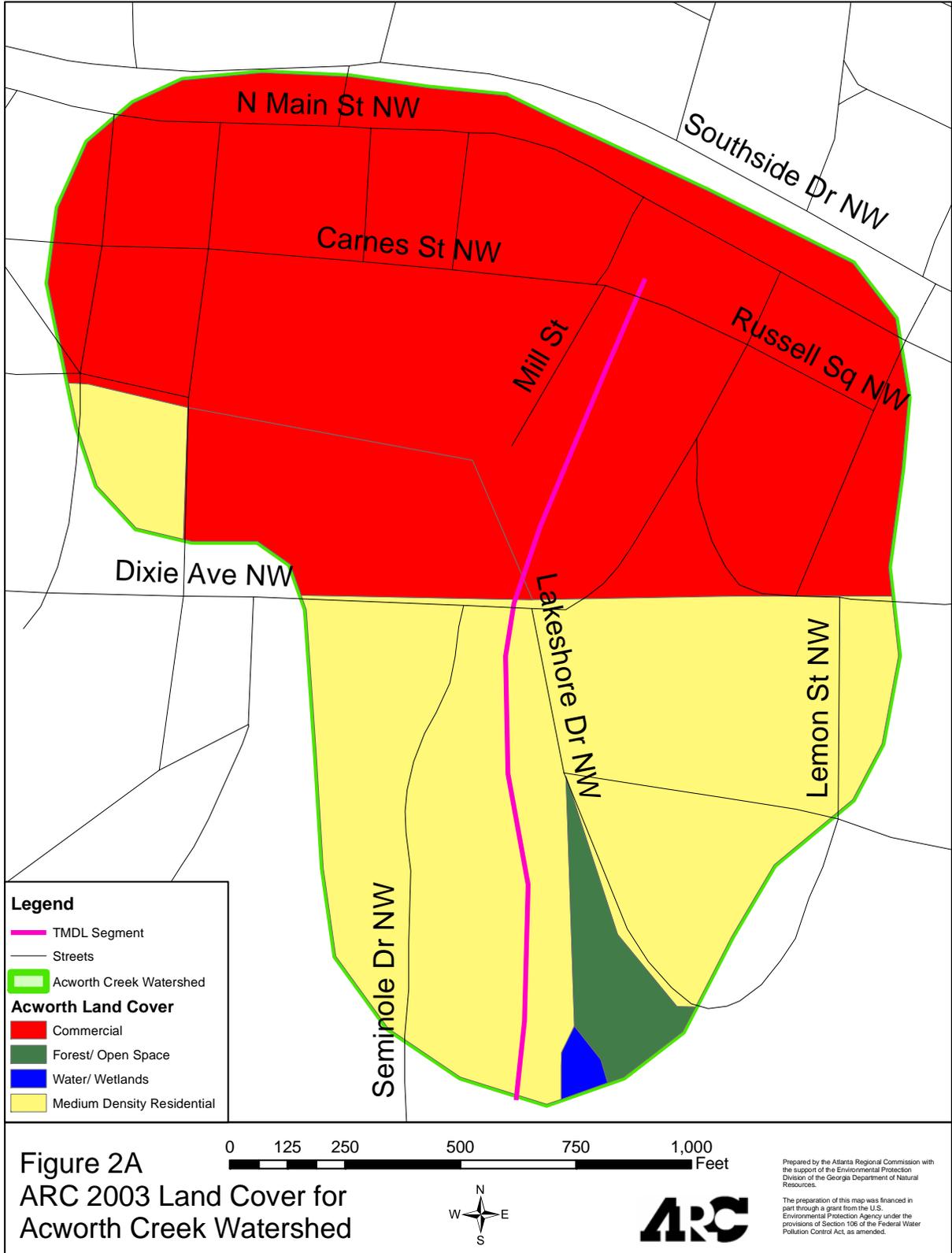
**Table 1. Watershed Land Cover (Source: ARC 2003 LandPro Data)**

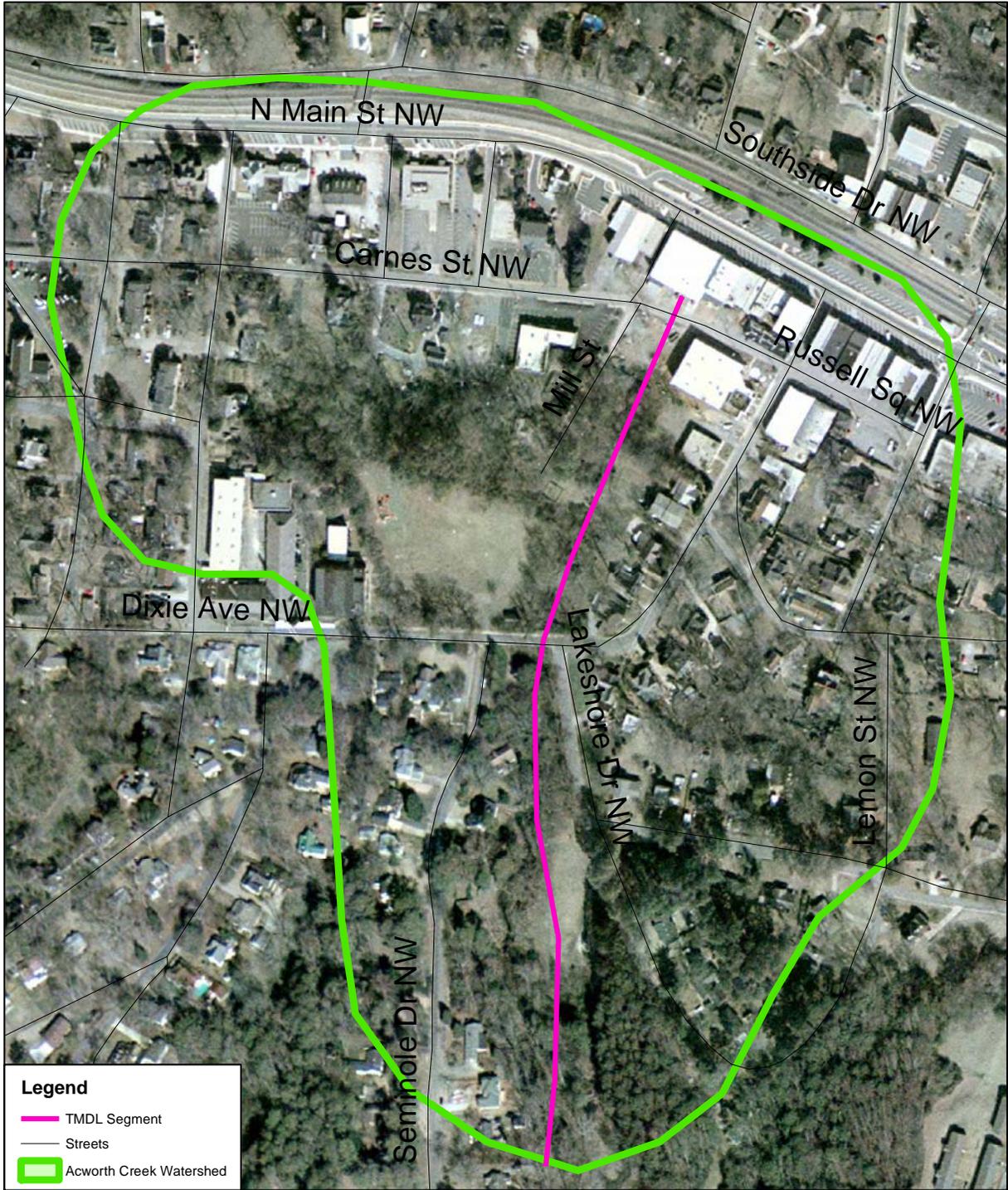
<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Total Area</b>	<b>Aggregated ARC Land Cover Codes</b>
Commercial	38.08	59.89%	12, 15, 121
Medium Density Residential	23.71	37.29%	112
Forest/ Open Space	1.57	2.47%	40, 171, 172, 173
Water/ Wetlands	0.22	0.35%	51, 53, 60
<b>Total Acres</b>	<b>63.59</b>	<b>100.00%</b>	

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

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







**Figure 2B**  
**ARC 2004 Aerial for**  
**Acworth Creek Watershed**

Prepared by the Atlanta Regional Commission with the support of the Environmental Protection Division of the Georgia Department of Natural Resources.  
 The preparation of this map was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 of the Federal Water Pollution Control Act, as amended.



## **2.0 METHODOLOGY**

Prior to beginning the field study, data from the 2001 ARC Source Water Assessment Project as well as data provided by GAEPD were studied to determine the locations of any known point sources and potential individual sources of pollution in relation to the area of interest. Additionally, 2004 aerial photos were reviewed and used to further evaluate land use along the stream prior to the beginning of field observations.

Using guidance documents provided by the state, a field assessment of the watershed was conducted on June 15, 2005. The initial step was a windshield survey of the watershed. The land cover in the area was verified in addition to careful observations of the current conditions.

Following completion of the windshield survey, a foot survey of the stream segment was performed where access permitted. The purpose of the stream segment walk was to identify and observe possible sources of pollution. Observations were documented and captured in photographs of the stream channel and its surroundings. A map of included images taken during the visual field survey is shown as Figure 3.

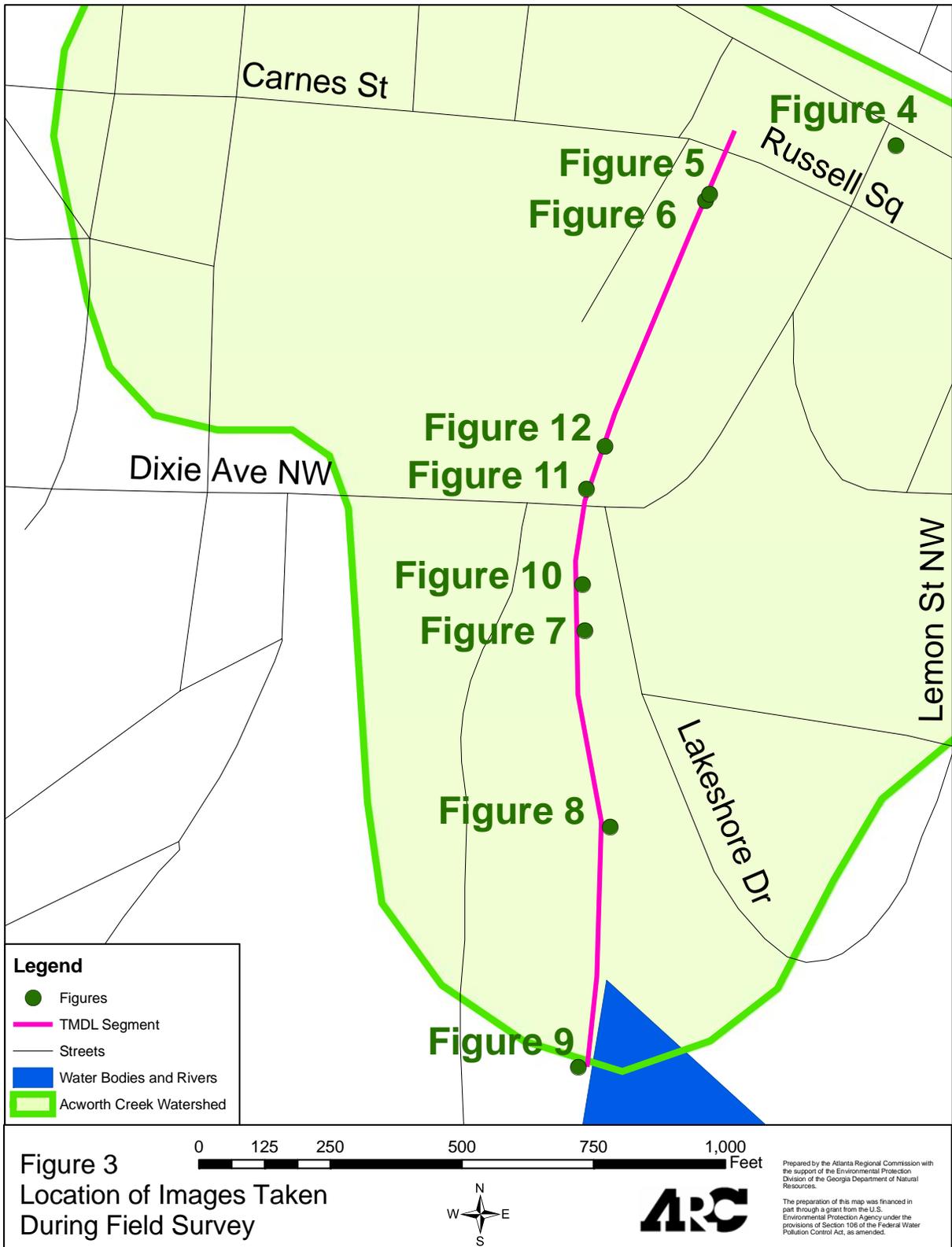
## **3.0 FIELD FINDINGS**

### **3.1 General Characteristics**

The field findings discussed here are the results of the visual survey performed throughout the designated segment. The upper portion of the stream segment watershed is a commercial area typical of a small town's main street (Figure 4). Several residential properties are interspersed throughout the area behind Main Street.

Driving through the southern portion of the watershed revealed medium density residential neighborhoods with forested areas scattered throughout. There was also a new school being built (McCall Primary School) off of Dixie Ave NE adjacent to the stream segment.

The headwaters for Acworth Creek is located beneath a commercial area. The headwaters flow beneath a street and a parking lot prior to surfacing (Figure 5). From the edge of the parking lot looking down there is a riprap lined portion of the stream segment followed by thick brush (Figure 6). Downstream of the parking lot the stream is bordered by a vegetative buffer of thick brush. The brush is found along the entire stream segment of the creek except the area adjacent to a small park (Figure 7). The stream slightly widens and the creek bed becomes sandy (Figure 8) as the creek nears its confluence with Acworth Lake (Figure 9).





**Figure 4. Typical business on Main Street in Acworth**



**Figure 5. Acworth Creek headwaters flow beneath this parking lot (looking upstream).**



**Figure 6. Looking down from the parking lot at the Acworth Creek headwaters flowing out of a pipe coming from under the parking lot (looking downstream)**



**Figure 7. Acworth Creek has a vegetative buffer to the right and a grassy field in a small park to the left (looking downstream).**



**Figure 8. Acworth Creek widens north of its confluence with Lake Acworth (looking downstream).**



**Figure 9. South of Acworth Creek's confluence with Lake Acworth (looking upstream).**

There are occasional areas of erosion within the stream channel. It appears that portions of the stream bank in the past were stabilized by the placement of riprap (Figures 6 and 10), which is found near the headwaters and in the northern section of the park. There are also signs of recent stream bank erosion on the south end of the park.



**Figure 10. Riprap looking downstream from the north end of the park.**

During the fieldwork, the following observations were made along the stream segment: two road crossings, one elementary school adjacent to the stream and one pipe crossing over the stream. The stream flows under the first road crossing prior to flowing out from under the parking lot and the second road crossing features a bridge over the water. McCall Primary School is located adjacent to the creek north of Dixie Avenue. Construction on the new elementary school has recently been completed.

The stream bed and banks are littered occasionally with small pieces of trash such as cans and bottles, as well as an occasional large piece of trash such as a shopping cart. The pipe across the stream is located north of Dixie Avenue where the majority of the litter was observed. The pipe does not seem to be leaking; however, there is debris and litter piled up against it (Figure 11).



**Figure 11. Debris and trash blockage north of Dixie Avenue (looking upstream)**

The water appeared clear consistently throughout the stream segment. Potential sources affecting the overall health of Acworth Creek are discussed in the following Point Source and Non-point Source sections.

### **3.2 Point Sources**

There are no permitted point source discharges in the Acworth Creek TMDL segment watershed. Sewer spill data was obtained from GAEPD for 2002 - 2005. There were no reported sewer spills in the watershed during that time.

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

The visual field survey revealed potential non-point sources of pollutants that may affect Acworth Creek. Cobb County's sewer line map was obtained and reviewed and while the majority of the watershed appears to be sewered, there are probably some homes still served by septic systems. Signs of wildlife were observed in and near the streambed. There were raccoon tracks just north of the Dixie Avenue stream crossing (Figure 12). People were observed walking their dogs along the Dixie Avenue near the Acworth Creek crossing. Pet waste was also located along Dixie Avenue at the stream crossing.



**Figure 12. Raccoon tracks located south of Dixie Road.**

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

2001 ARC Source Water Assessment Project data was reviewed and showed no potential individual sources of pollution in the Acworth Creek watershed.

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

Based on field observations, wildlife and urban runoff are probably contributing the most to the fecal coliform levels in this TMDL segment. The magnitudes of both sources are ranked as moderate and the entire segment is affected.

### **5.0 SUMMARY OF FINDINGS**

There are no permitted point source discharges in the Acworth Creek watershed. The field survey identified nonpoint sources such as wildlife and urban runoff. Proposed management practices to address fecal coliform will be provided by local governments and are outlined in the 2006 Acworth Creek TMDL implementation plan.

### **6.0 STAKEHOLDER INVOLVEMENT**

Results have been made available and discussed with local government representatives. Also, two stakeholder meetings were held on October 11<sup>th</sup> at R.T. Jones Memorial Library in Canton, Georgia and at Gritters Library in Marietta, Georgia. Commentary about the field study reports was requested from stakeholders; however, no feedback was received.

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## Butler Creek

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Butler Creek	Headwaters to Lake Acworth	6 miles / 6059 acres	Fishing	NS

Cobb County personnel have prepared the following description of the creek: Butler Creek possesses good water quality and adequate habitat diversity. Most monitoring sites consist of riffles of gravel to cobble sized stones and bedrock, roots, woody debris, and deep pools. Bank erosion is severe in some areas, and increasing sedimentation is evident. The surrounding watershed is rapidly developing. Still, Butler Creek supports a good diversity and abundance of macroinvertebrates and sensitive fish species.

### 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 not met. See the “Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan” for the water quality standards. Enter the needed reduction from the TMDL. Describe the sources and causes of each impairment 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)	Pages 16-29 of the Fecal Coliform TMDL document developed by GA EPD dated January 2004 list the following potential sources of fecal coliform: wastewater treatment facilities, Phase I & II MS4 storm water permit holders, confined animal feeding operations, wildlife, agricultural livestock, urban development, leaking septic systems, land application systems and landfills. The 303(d) list identifies the source of the fecal coliform problem as Urban Runoff (UR).	55%

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

INVESTIGATE AND EVALUATE the extent and relative contributions from causes or sources of the 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: 1) involvement of stakeholder group; 2) review of land cover data; 3) field surveys; and 4) other pertinent sources of information consulted.

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The Atlanta Regional Commission has taken steps to involve local stakeholders (Table 4 & Appendix A) in identifying possible pollution sources. In October 2005 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2004 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 reviewed the most recent landuse data available (year 2003) 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. In addition to the steps taken by the Atlanta Regional Commission, Cobb County also conducts the following to identify possible sources of pollution.

The Butler Creek TMDL segment has manhole covers and sanitary pipe creek crossings at regular enough intervals to ensure overlapping visual field inspections 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.

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 93 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 addressed through 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' contribution is addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMPs and buffer ordinance as well as the NRCS buffer incentives.

Combining information provided in the TMDL document, stakeholder knowledge, existing watershed assessments, and the watershed evaluation conducted for this plan, identify the potential sources or causes most likely to contribute to each identified impairment (parameter) in Table 3. If available information is inadequate to estimate the extent and relative contribution of significant potential sources or causes, recommend appropriate management actions (watershed assessments, monitoring, etc.) to determine the potential sources or causes and relative contributions. In Table 3, list the significant potential sources or causes of each impairment. Estimate the geographic extent of each potential source or cause as percent of the contributing watershed area, percent of stream miles affected, or number per square mile and enter the appropriate rating (from the following table) in the column entitled "Rating (A)". Estimate the relative contribution of each major source or cause to the pollutant causing the impairment and enter the appropriate rating (from the following table) in the column entitled "Rating (B)". Calculate a relative impact ratings for each source or cause by multiplying "Rating (A)" by "Rating (B)". Comments on the source of information used to determine the extent or contribution may be entered in the applicable columns in Table 3.

The following table provides guidance for rating the estimated extent and portion of the contribution from each potential source and cause.

<b>Estimated Geographic Extent of the Source or Cause in the Contributing Watershed</b> (Percent of area or stream miles)	<b>Estimated Contribution of the Source or Cause to the Pollutant Load Causing the Impairment</b> (Percent of load)	<b>Rating</b>
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	0.5
Scattered or low (approximately 5-20%)	Scattered or low (approximately 5-20%)	1
Medium (approximately 20-50%)	Medium (approximately 20-50%)	3
Widespread or high (approximately 50% or more)	Widespread or high (approximately 50% or more)	5
Unknown	Unknown	UNK

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

<b>POTENTIAL SOURCES OR CAUSES</b>	<b>ESTIMATED EXTENT OF CONTRIBUTION</b>		<b>ESTIMATED PORTION OF CONTRIBUTION</b>		<b>IMPACT RATING (A X B)</b>
	<b>Comments</b>	<b>Rating (A)</b>	<b>Comments</b>	<b>Rating (B)</b>	
Urban Runoff		5		3	15
Animal Waste		1		1	1
Land Disturbing		0.5		1	0.5
Septic Systems		UNK		UNK	UNK
Sanitary Sewer Leaks		UNK		UNK	UNK
Illegal dump/Illicit connections		UNK		UNK	UNK

## 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 local government agencies were asked about possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The advisory group members 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. Permit holders and other major businesses were identified and invited to participate in the public meetings. A list of elected officials, parks & recreation departments, NRCS, and County Cooperative Extension Service representatives were also invited to the public meetings.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams/coosa.html](http://www.atlantaregional.com/cleanerstreams/coosa.html)). The website provided a variety of information and access opportunities to the TMDL Implementation Plan process. The website provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information were 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 next step in this process involved holding 2 initial public meetings in October 2005 to educate stakeholders about this process and solicit input. A total of 34 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, sending out numerous e-mails announcing the initial meetings and finally mailing out meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, elected officials, Parks & Recreation Departments, NRCS, and the County Cooperative Extension Services.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed that incorporated this input. This draft document was made available to all stakeholders for discussion and input at the 2 public meetings held in February 2006. A total of 22 persons attended the public meetings.

The input received during the four public meetings can be summarized as follows. Stakeholders most commonly asked programmatic type questions like what drives the TMDL process and how will these TMDL implementation plans be used. Stakeholders also asked questions about the water quality parameters for which the implementation plans were developed. Another common question asked was how can local governments and GA EPD tell if the problem is corrected. Other questions revolved around who were the stakeholders involved in the process and how were stakeholders identified for this project. The local stakeholders also wanted to know how stakeholders would be involved in the future. Stakeholders asked what was currently being done to educate the public on how to prevent water quality problems. These types of questions were answered in a discussion format at the public meetings with the help of GA EPD staff.

**Table 4. STAKEHOLDER ADVISORY GROUP MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
GA EPD, Water Protection Branch	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1751	
GA Adopt-A-Stream	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1636	
Georgia Soil and Water Conservation Commission	1500 Klondike Road Suite A109	Conyers	GA	30094	770-761-3020	
City of Acworth, City Manager (Brian Bulthuis)	4375 Senator Russell Square	Acworth	GA	30101	(770) 974-3112	<a href="mailto:bulthuis@acworth.org">bulthuis@acworth.org</a>
City of Acworth Public Works (Mark Hipp)	4402 Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
City of Acworth Public Works (Amanda Blowers)	4402 Acworth Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:ablowers@acworth.org">ablowers@acworth.org</a>
Bill Higgins/Cobb Water	680 South Cobb Drive	Marietta	Ga	30060	770 419 6435	<a href="mailto:William.Higgins@cobbcounty.org">William.Higgins@cobbcounty.org</a>
Rob Hosack/Cobb Community Development	191 Lawrence Street	Marietta	Ga.	30090	770 528 2125	
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	
Jennifer McCoy/Cobb County Adopt-A-Stream	662 South Cobb Drive	Marietta	GA	30060	(770)528-1480	<a href="mailto:Jennifer.McCoy@cobbcounty.org">Jennifer.McCoy@cobbcounty.org</a>
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	
City of Kennesaw Public Works (Steve Turner)	3080 Moon Station Road	Kennesaw	GA	30144	(770) 421-8582	<a href="mailto:sturner@kennesaw-ga.gov">sturner@kennesaw-ga.gov</a>
City of Kennesaw, Public Works Director (Woodson L. McFarlin Jr.)	3080 Moon Station Road	Kennesaw	GA	30144	(770) 421-8582	<a href="mailto:wmcfarlin@kennesaw-ga.gov">wmcfarlin@kennesaw-ga.gov</a>

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, as described in Project Task #1 of the Scope of Services.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Identify and list in Table 5A the significant management measures or activities which have or will be taken in the contributing watershed to address sources or causes of the impairment(s). List significant management measures and activities in Column 1 and responsible organizations in Column 2. Describe the measure or activity in Column 3 and sources of funding or resources in Column 4 (you may wish to adapt the generic language included in the “Standard Language for Management Measures and Activities” to local applications) In Column 5, enter one of the following codes describing the status of the measure or activity: (A) installed and active; (AE) active and **will be** enhanced or expanded; (R) required in the future by law, regulation or permit conditions; (P) currently proposed, but not required; and (N/R) **additional new recommended** or (N/E) **recommended enhanced** management measures and activities. In Column 6 enter the rating of the estimated existing or proposed extent of application of the measure or activity or percentage of individual sources to which the management actions have or will be applied (see the following table). In Column 7 enter a rating of the estimated effectiveness of the management measures and activities (see following table). Effectiveness may be estimated by local experts or derived from tables included in the “Standard Language for Management Measures and Activities”.

The following table provides guidance for rating the estimated extent and portion of the contribution for each significant potential source and cause.

Estimated Extent of Application or Percentage of Individual Sources to Which the Management Measure or Activity Has or Will be Applied in the Contributing Watershed	Estimated Effectiveness or Percent Removal of Constituent (Percent of load)	Rating
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	.5
Scattered or low (approximately 5-20%)	Low to medium (approximately 5-25%)	1
Medium (approximately 20-50%)	Medium to High (approximately 25-75%)	3
Widespread or high (approximately 50% or more)	High (approximately 75% or more)	5
Unknown	Unknown	UNK

**Table 5A. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCES OF FUNDING & RESOURCES	STATUS CODE	TARGET DATE	EXTENT RATING (Area, #)	EFFECT. RATING (Reduction)
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	The congressional objective of the CWA “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 305 (the <i>National Water Quality Inventory</i> ) requires states to report progress in restoring impaired waters to EPA on a biennial basis. Section 303(d) requires states to identify ‘impaired’ waters, submit a list to EPA every two years, and develop TMDLs for these waters.	Federal, State	current	In place, ongoing		
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Law prohibiting discharge of excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats. Law authorizing Georgia EPD to control water	Federal, State, Local/County Governments	Current	in place, ongoing		

		pollution, eliminate phosphate detergents and regulate sludge disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit siltation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.					
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	River Basin Management Plans describe strategies and measures necessary for local governments, businesses, and citizen groups to educate the general public on matters involving the environmental and ecological concerns specific to the river basin; improve water quality and reduce pollution at the source; improve aquatic habitat and reestablish native species of fish; restore and protect wildlife habitat; and provide recreational benefits.	State, Local/County Government	Completed	1998		
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	General storm water discharge permit for manufacturing facilities; mining, oil & gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage sludge treatment. Requires implementation of Storm Water Pollution Prevention Plan. May require storm water monitoring program targeting discharges into/near 303(d) listed waters.	State	Active and will be enhanced or expanded	2006		
Soil Erosion Ordinance	City of Acworth	Required by State Erosion and Sedimentation Act. State approved erosion control plans for all development 1.1 acres and up. 50-ft. minimum stream buffer, expanding on State minimums.	General Fund	Enforced	1975, 8/04	0.5	1
Stormwater Ordinance	City of Acworth	Stormwater detention required for all new development.	General Fund	Enforced	4/05	0.5	1
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Comprehensive stormwater program, including public education & participation, illicit discharge detection & elimination, construction & post-construction runoff control, pollution prevention, permitting & reporting and program implementation plans. Includes dry weather outfall screening twice yearly.	General Fund	Active	1/05	0.5	3
Street Sweeping Program	City of Acworth	Street sweeping route through the City to help reduce debris in runoff.	General Fund	Active	1/00	0.5	3
Stormwater Management Ordinance	City of Acworth	Protects streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity, managing stormwater system.	General Fund	Enforced	04/2005	0.5	3

(Ordinance # 2005-21)							
Residential Subdivisions Ordinance (Ordinance # 2006-06 – Zoning Ordinance)	City of Acworth	This is an ordinance to regulate and control the development of residential subdivisions. Section 30 – Development Regulations – (Sanitary Sewers) requires that “each lot or other site in a subdivision shall be connected to a public sanitary sewage system by lines of sufficient size to accommodate the anticipated sewage load.” This section also states that when sewer is not available septic systems may be installed but the minimum lot size for septic use is 1 acre with 100 feet of frontage. This large minimum lot size for septic systems will be beneficial in the long term management of septic systems in the city limits.	General Fund	Enforced	April 15, 1993	0.5	3
Tree Protection and Landscaping Ordinance (within the Zoning Ordinance)-	City of Acworth	Requires a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.	General Fund	Enforced	1983	0.5	1
Animal Control (City of Acworth Code 1983 § 4-10)	City of Acworth	This city ordinance states that it is “...the duty of the owner to maintain in a clean and sanitary condition and free from extreme and unreasonably objectionable odor all structures, pens, yards and adjacent areas wherein any animal is kept.”	General Fund	Enforced	1983	0.5	1
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	This city ordinance prohibits cattle in the corporate limits of the city.	General Fund	Enforced	1983	0.5	1
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	This city ordinance authorizes the city manager to have signs erected in any city park or city cemetery prohibiting the feeding of ducks, birds, and fowl. When such signs are posted feeding ducks, birds, or fowl is prohibited.	General Fund	Enforced	9-17-1992	0.5	1
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, dry weather screening, NPDES fecal sites	Cobb	current	1976	5	3
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	5	3
Pet Waste	Cobb Water, Cobb	Measures to control pet waste from being washed into	Cobb	propose	Pending	5	3

Management Program	Parks and Recreation, Keep Cobb Beautiful	creeks at County Park locations		d			
Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	5	3
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	5	3
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	5	3
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	5	1
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	5	3
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	5	1
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	5	1
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	5	3
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	5	3
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	5	3
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	5	3
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	5	3
CMOM Program	EPD, Cobb Water	CMOM Program -- (Capacity, Management,	Cobb Water	current	2003	5	3

	System (System Maintenance)	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.	System				
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	5	3
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	5	3
NPDES Phase I MS-4 Program	City of Kennesaw	Wet weather screening, stream monitoring, SIC inspections, new outfalls, spill monitoring. Outfall testing done once per year.	General Fund	Active	1992	1	3
Erosion & Sedimentation Ordinances	City of Kennesaw	Required by State Erosion and Sedimentation Act. Requires approved erosion control for construction, & 25-ft buffers on State waters.	General Fund	Enforced	1975, 2000	1	1
Stormwater Ordinance	City of Kennesaw	Requires new development to have approved stormwater detention facilities.	General Fund	Active	1998	1	3
Stream Buffer Regulation	City of Kennesaw	50-ft. minimum stream buffer.	General Fund	Enforced	2000	1	3
Tree Preservation Ordinance	City of Kennesaw	Preserves existing trees and provides for planting of new trees in new development.	General Fund	Enforced	7/99	1	1

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. These ordinances have been adopted by the City of Acworth.	Local Funds	Ongoing	2004 & 2005	5	3
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	5	3

The purpose of Table 5B is to initiate and guide a “first-cut” evaluation of the capacity of existing, currently proposed, and future required management measures and activities to achieve the load reductions specified in the TMDL (and meet water quality goals) and where needed, identify potential feasible and effective measures and practices which could be encouraged and supported to further reduce pollutant loadings from significant potential sources. Though completely voluntary, such recommendations would provide an effective local guide to effective management actions to achieve local water quality goals, establish priorities for grant or loan programs (Section 319 (h), EQUIP, SRF), establish eligibility for grants for Tier plans and implementation, and identify priorities for local watershed assessments and protection plans.

In Columns 1 and 2 of Table 5B, enter each significant potential source and its’ corresponding impact ratings from Table 3. Review Table 5A and list significant management practices and activities applicable to each significant cause or source. Evaluate and compare the estimated extent and relative contribution of each significant cause or source with the extent and effectiveness of the applicable management measures and in conjunction with appropriate local stakeholders or organizations, make a best current determination of whether the existing or proposed management practices would achieve the load reductions needed to achieve the TMDL. Summarize conclusions and rationale in Column 4. If more information is needed to adequately determine the significant sources or causes and their relative contributions so note and recommend management actions needed to adequately identify sources such as monitoring, watershed assessments, or Tier 1 implementation plans in the last column. If the current, proposed and required management measures are judged inadequate to achieve the needed load reductions for significant sources, recommend, in consultation with the advisory groups, additional management activities, programs, and measures which would effectively reduce pollutant loads from the source. List such measures in the final column and list as a recommended activity in the milestones (Table 8).

**TABLE 5B: EVALUATION OF MANAGEMENT MEASURES AND ACTIVITIES APPLIED TO SPECIFIC SOURCES OR CAUSES**

SIGNIFICANT POTENTIAL SOURCE (S) OR CAUSE(S) (From Table 3)	IMPACT RATING (From Table 3)	EXISTING, CURRENTLY PROPOSED, OR REQUIRED MANAGEMENT MEASURES OR ENHANCEMENTS APPLICABLE TO EACH SIGNIFICANT SOURCE (From Table 5A)	EVALUATION: WILL THE ESTIMATED EXTENT OF APPLICATION AND EFFECTIVENESS OF EXISTING, CURRENTLY PROPOSED, AND REQUIRED MANAGEMENT MEASURES BE ADEQUATE TO ACHIEVE THE SOURCE REDUCTION SPECIFIED BY THE TMDL?	IF MANAGEMENT MEASURES ARE ESTIMATED TO BE INSUFFICIENT, RECOMMEND ADDITIONAL MANAGEMENT MEASURES AND ACTIVITIES WHICH COULD EFFECTIVELY REDUCE LOADS FROM SIGNIFICANT SOURCES
Urban Runoff	15	Stormwater Management Ordinance (Ordinance # 2005-21 City of Acworth)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		NPDES Phase I MS-4 Permit # GAS000101 (City of Acworth)		
		Street Sweeping Program (City of Acworth)		
		Soil Erosion Ordinance (City of Acworth)		
		Tree Ordinance (Section 98-31 – 98- (City of Acworth)		
		District-Wide Watershed Management Plan		
		Fecal Coliform Monitoring Program (Cobb County)		
		County Ordinances (Cobb County)		
		Nuisance Ordinance (Cobb County)		
		Clean Water Campaign (Cobb County)		
		Adopt A Stream (Cobb County)		
		Chattahoochee Tunnel Project (Cobb County)		
		buffer incentives (Cobb County)		
		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		foam root control (Cobb County)		
		beaver control (Cobb County)		
		streambank stabilization program (Cobb County)		
		NPDES Phase I MS-4 Program (City of Kennesaw)		
		Erosion & Sedimentation Ordinances (City of Kennesaw)		
		Stormwater Ordinance (City of Kennesaw)		
		Stream Buffer Regulation (City of Kennesaw)		
		Tree Preservation Ordinance (City of Kennesaw)		
		Federal Clean Water Act, Section 305(b) and 303(d)		
Georgia Water Quality Control Act (OCGA 12-5-20)				
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521				
Industrial Storm Water Discharge NPDES Permit				

Animal Waste	1	Animal Control (City of Acworth Code 1983 § 4-10)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Animal Control (City of Acworth Code 1983 § 4-29)		
		City of Acworth Ordinance # 92-040-A, § 1		
		Pet Waste Management Program (Cobb County)		
		beaver control (Cobb County)		
		buffer incentives (Cobb County)		
Land Disturbing	0.5	District-Wide Watershed Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Streambank stabilization program (Cobb County)		
Septic Systems	UNK	Residential Subdivisions Ordinance (Ordinance # 93-077) (City of Acworth)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Long-Term Wastewater Management Plan		
Sanitary Sewer Leaks	UNK	Long-Term Wastewater Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Inflow and Infiltration stream walks (Cobb County)		
		Chattahoochee Tunnel Project (Cobb County)		
		foam root control (Cobb County)		
		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		CMOM Program (Cobb County)		
		Preventative Maintenance (Cobb County)		
		Emergency Response Policy (Cobb County)		
		streambank stabilization program (Cobb County)		
		Long-Term Wastewater Management Plan		
Illegal dump/Illicit connections	UNK	Stream Monitoring/Dry Weather Screening (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		District-Wide Watershed Management Plan		

**VII. MONITORING PLAN**

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

**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	2006	2007	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
	Acworth NPDES Phase I MS-4 Municipal Stormwater Permit		Twice a year	Ongoing	Dry weather screening.
	City of Acworth Fecal Coliform Analysis		May-September	Ongoing	Recreational monitoring for beach and swimming safety.
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 : Stream 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
Fecal and chemical	Kennesaw NPDES Phase I MS-4 Municipal Stormwater Permit		Once a year	Ongoing	Wet weather screening, stream monitoring, SIC inspections, new outfalls, spill monitoring. Outfall testing.

**VIII. PLANNED OUTREACH FOR IMPLEMENTATION**

List and describe outreach activities, including those described in the Scope of Services that 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	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
ARC, Cobb County, Acworth, Kennesaw in Regional Coalition	Clean Water Campaign - Educate the public on the sources, causes and prevention of stormwater pollution, including fecal coliform.	General Public	9/01

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

This table will be used to periodically track and report progress of significant management practices and activities identified or recommended in Tables 5A, 5B, and other sections of this plan, including outreach, additional monitoring and assessments, and the enhancement or installation of management measures and activities. Identify and list significant planned or recommended activities and the target date of accomplishment. Provide room to 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**

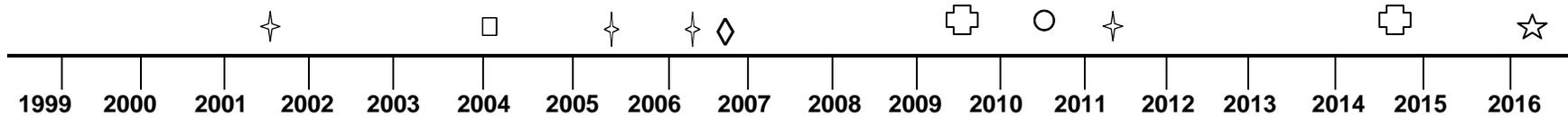
MANAGEMENT MEASURE OR ACTIVITY	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	current	In place, ongoing	
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Current	in place, ongoing	
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	Completed	1998	
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	Active and will be enhanced or expanded	2006	
Buffer Incentives	USDA/NRCS	current	1996	
Soil Erosion Ordinance	City of Acworth	Enforced	1975, 4/01	Continue requiring approved erosion control plans for all development 1.1 acres and up. This includes enforcement of a 50-ft. minimum stream buffer,
Stormwater Ordinance	City of Acworth	Enforced	1/96	Continue requiring stormwater detention for all new developments.
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Active	1/96	Refer to annual report
Street Sweeping Program	City of Acworth	Active	1/00	Continue street sweeping route through the City.
Stormwater Management Ordinance (Ordinance # 2000-41)	City of Acworth	Enforced	12/7/2000	Continue enforcing ordinance to protect streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity, managing stormwater system.
Residential Subdivisions Ordinance (Ordinance # 93-077)	City of Acworth	Enforced	April 15, 1993	Continue to enforce this ordinance through development plan review.
Tree Ordinance (Section 98-31 – 98-	City of Acworth	Enforced	1983	Continue to require a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.
Animal Control (City of Acworth Code 1983	City of Acworth	Enforced	1983	Continue to enforce this ordinance.

§ 4-10)				
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	Enforced	1983	Continue to enforce this ordinance.
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	Enforced	9-17-1992	Continue to enforce this ordinance.
NPDES Phase I MS-4 Program	City of Kennesaw	Active	1992	Refer to Annual Report
Erosion & Sedimentation Ordinances	City of Kennesaw	Enforced	1975, 2000	Continue requiring approved erosion control for construction, & 25-ft buffers on State waters.
Stormwater Ordinance	City of Kennesaw	Active	1998	Require new development to have approved stormwater detention facilities.
Stream Buffer Regulation	City of Kennesaw	Enforced	2000	Continue enforcing 50-ft. minimum stream buffer.
Tree Preservation Ordinance	City of Kennesaw	Enforced	7/99	Require preservation of existing trees and planting of new trees in new development.
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area		2004 & 2005	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		2005	Refer to the Long-Term Wastewater Management Plan
Dry Weather Screening Program	Cobb County Water System: Water Quality Section	2005	2006	implemented into the program for 2006
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	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	1996, 1998	1996, 1998	incentives for buffer restoration, fencing off and wetland protection

	Engineers, USDA/Stormwater			
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	Control pet waste in parks

## 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 □
- Revised TMDL Implementation Plan Accepted ◇
- Plan Status Evaluation Report ☒
- Plan Update or Revision, if Necessary ○
- Project Attainment for Plans Prepared in 2006 ☆

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Date Submitted to EPD:	March 31, 2006	Revision:#1	

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
Acworth Lake Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		
Acworth Downtown Development Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		<a href="http://www.acworthmainstreet.org">http://www.acworthmainstreet.org</a>
Acworth Area Convention And Visitors Bureau Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		<a href="http://www.acworthtourism.org">http://www.acworthtourism.org</a>
A & B Poultry Co.	1020 Scenic View Drive	Jasper	GA	30143		
American Sports & Rec	3939 Royal Drive, NW, Suite 101	Kennesaw	GA	30144		
Anderson, W B Feed & Poultry	8650 Main Street	Woodstock	GA	30188		
Angi Bruton / Bay Marine, Inc	2394 North Cobb Parkway	Kennesaw	GA	30152	770-427-3578	<a href="mailto:angi@baymarineboats.com">angi@baymarineboats.com</a>
April Ingle / Georgia River Network	126 S. Milledge Ave., Suite E3	Athens	GA	30601	706-549-4508	<a href="mailto:ingle@garivers.org">ingle@garivers.org</a>
Aris Georgakakos / Georgia Water Resources Institute, Georgia Tech	790 Atlantic Drive	Atlanta	GA	30332-0355	404-894-2240	<a href="mailto:ageorgak@ce.gatech.edu">ageorgak@ce.gatech.edu</a>
Bill Higgins / Cobb County Water System, Stormwater Management	680 South Cobb Drive	Marietta	GA	30066	770-419-6434	<a href="mailto:bhiggins@cobbcounty.org">bhiggins@cobbcounty.org</a>
Bingham Trading, Inc	2627 Sandy Plains Road	Marietta	GA	30066		
Bob Sutton / LAPA	194 Evelyn Street	Marietta	GA	30064	770-422-3094	<a href="mailto:RSU194@aol.com">RSU194@aol.com</a>
Bradshaw Farms Golf Course	3030 Bradshaw Club Drive	Woodstock	GA	30188		
Brown Poultry Farms	4494 Conns Creek Road	Ball Ground	GA	30107		
Buchanan Livestock, Inc	1168 S. Main Street	Jasper	GA	30143		
Burt's Cattle Poultry	3553 Sweetwater Juno Road	Dawsonville	GA	30534		
Candace Stoughton /	1330 West Peachtree Street,	Atlanta	GA	30309	404-253-7250	<a href="mailto:cstoughton@tnc.org">cstoughton@tnc.org</a>

Nature Conservancy	Suite 410					
Canterbury Golf Club	500 Cambridge Drive	Marietta	GA	30066-2512		
Cherokee Golf Center	635 Molly Lane	Woodstock	GA	30189		
Cherokee Recreation and Parks Authority	7545 Main Street, Building 200	Woodstock	GA	30188	770-924-7768	
Conagra Poultry	1335 Canton Road	Marietta	GA	30066		
Crooked Creek Golf Club	3430 Highway 9 North	Alpharetta	GA	30004		
Curt Gervich / UGA Etowah HCP	PO Box 287	Acworth	GA	30101	678-758-0781	<a href="mailto:curt@etowahhcp.org">curt@etowahhcp.org</a>
David Kubala / CCWSA	PO Box 5000	Canton	GA	30114	770-479-1813	<a href="mailto:dkubala@earthlink.net">dkubala@earthlink.net</a>
David Radcliffe / UGA	Crop & Soil Sciences Dept., UGA	Athens	GA	30602	706-542-0897	<a href="mailto:dradclif@uga.edu">dradclif@uga.edu</a>
Diane Minick / Env. Impact Assessment & Upper Etowah River Alliance – Chair	317 N. Brook Drive	Canton	GA	30114	678-493-9574	<a href="mailto:dianeminick@msn.com">dianeminick@msn.com</a>
Dobson Poultry Farms	6295 Yellow Creek Road	Ball Ground	GA	30107		
Don Stevens / CCWSA	391 West Main Street	Canton	GA	30114	770-479-9302	
Duncan Cottrell / Upper Etowah River Alliance	171 Meridian Street	Canton	GA	30114	770-720-6269	<a href="mailto:duncancottrell@yahoo.com">duncancottrell@yahoo.com</a>
Eagle Watch Golf Course	3055 Eagle Watch Drive	Woodstock	GA	30189		
Ed Mullinax / LAPA, City of Catersville Water	PO Box 1671	Cartersville	GA	30120	770-607-6296	<a href="mailto:emullinax@cityofcatersville.org">emullinax@cityofcatersville.org</a>
Gene Cornelison / Cherokee County	1712 Hornage Road	Ball Ground	GA	30107	770-735-3387	
Geoff Morton / Cherokee County	130 East Main Street, Suite 106	Canton	GA	30114	678-493-6057	<a href="mailto:gmorton@cherokeega.com">gmorton@cherokeega.com</a>
Geoffrey Sarra / City of Alpharetta	1790 Upper Hembree Road	Alpharetta	GA	30004	678-297-6200	<a href="mailto:gsarra@alpharetta.ga.us">gsarra@alpharetta.ga.us</a>
Hilda Hatzell / Interested Citizen	98 Brookhaven Drive	Marietta	GA	30066		
Jeff Riley / CCWSA	1979 Hammond Woods Circle	Marietta	GA	30008	404-932-0745	<a href="mailto:jeffriley191@hotmail.com">jeffriley191@hotmail.com</a>
Jim Lanier / Aquascape Environmental	605 B. Mauldin	Woodstock	GA	30188	678-445-0077	<a href="mailto:muddog@mindspring.com">muddog@mindspring.com</a>
Jimmy Gisi / Cobb County PRCA	1792 County Services Pkwy	Marietta	GA	30008		
John Seafert / Georgia Adopt-A-Stream	430 Morgan Falls Chaseq	Canton	GA	30114	770-592-0942	<a href="mailto:jseufert@adelphia.net">jseufert@adelphia.net</a>
Jonathon Davis / US Army Corp of Engineers	PO Box 487	Cartersville	GA	30120-0487		
Jose Anez / City of Woodstock	103 Arnold Mill Road	Woodstock	GA	30188	678-409-4335	<a href="mailto:janez@ci.woodstock.ga.us">janez@ci.woodstock.ga.us</a>

Katie Knowles / Corp of Engineers – Allatoona Lake	1138 State Route Spur 20, SE	Cartersville	GA	30121	678-721-6738	
Katie Owens / Coosa River Basin Initiative	408 Broad Street	Rome	GA	30161	706-232-2724	<a href="mailto:keady@coosa.org">keady@coosa.org</a>
Kimberly Sanders / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8035	<a href="mailto:Kimberly.sanders@co.fulton.ga.us">Kimberly.sanders@co.fulton.ga.us</a>
L & W Poultry Farms	476 Alpine Farm	Talking Rock	GA	30175		
Little River Grill	6979 Bells Ferry Road	Canton	GA	30114		
Little River Landing	6986 Bells Ferry Road	Canton	GA	30114		
Lori Forrester / CCWSA	1957 Authority Drive	Woodstock	GA	30188	770-591-7156	<a href="mailto:brenaucrew@hotmail.com">brenaucrew@hotmail.com</a>
M & H Poultry	155 Marsha Drive	Canton	GA	30014		
Manor Golf & Country Club	16000 Hopewell Road	Alpharetta	GA	30004		
Mark Hipp / City of Acworth	4402 Acworth Industrial Drive	Acworth	GA	30101	770-975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
Martha Kent	1642 Scott Road	Canton	GA	30115		
Martin Poultry, Inc	4710 McCoy Circle	Cumming	GA	30028		
Marty Williams / Georgia Lakes Society	171 Sumter Drive	Marietta	GA	30066		<a href="mailto:gls@georgialakes.org">gls@georgialakes.org</a>
Mary Gazaway / GA EPD	2 Martin Luther King Jr. Drive, Suite 1152 East Tower	Atlanta	GA	30334	404-675-1745	
Mike Tuller / Cobb County	191 Lawrence Street	Marietta	GA	30060	770-528-2199	<a href="mailto:Michael.tuller@cobbcounty.org">Michael.tuller@cobbcounty.org</a>
Nanette Nelson / UGA WQ Training	Ecology UGA	Athens	GA	30602	706-542-4329	<a href="mailto:nanette@uga.edu">nanette@uga.edu</a>
Nick Ammons / Fulton County	141 Pryor Street	Atlanta	GA	30303	404-730-4000	
Phyllis Lea / Lake Sovereign HOA	571 East Shore Drive	Canton	GA	30114	770-345-4904	<a href="mailto:pplea@comcast.net">pplea@comcast.net</a>
Pilgrim Poultry	654 Univeter Road	Canton	GA	30115		
Richard Rogers / City Canton	151 Elizabeth Street	Canton	GA	30114	770-704-1500	<a href="mailto:richard.rogers@canton-georgia.com">richard.rogers@canton-georgia.com</a>
Ron Papaleoni / LAPA	4793 Cooks Ct	Acworth	GA	30101	678-776-6331	<a href="mailto:rpapaleoni@acworthcable.net">rpapaleoni@acworthcable.net</a>
Roy Taylor / Cherokee Homeowners	360 E. Marietta Street	Canton	GA	30114	770-720-4669	<a href="mailto:wrldeas@mindspring.com">wrldeas@mindspring.com</a>
Rusty Simpson / Cobb County Parks	1792 County Services Pkwy	Marietta	GA	30008	770-528-8840	<a href="mailto:rusty.simpson@cobbcounty.org">rusty.simpson@cobbcounty.org</a>
Shadburn Poultry Farm	3495 Hurt Bridge Road	Cumming	GA	30040		
Sharon Smith / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8006	<a href="mailto:sharon.smith@co.fulton.ga.us">sharon.smith@co.fulton.ga.us</a>
Smith A C	28 Alan Thomas Road	Cumming	GA	30028		

Stan Hall / Cherokee County	470 Blalock Road	Canton	GA	30115	770-517-7650	<a href="mailto:recycling@cherokeega.com">recycling@cherokeega.com</a>
Steve Turner / City of Kennesaw	Moon Station Road	Kennesaw	GA		404-392-1156	<a href="mailto:sturner@kennesaw-ga.us">sturner@kennesaw-ga.us</a>
Teresa Crisp / Parsons	5390 Triangle Pkwy, Suite 100	Norcross	GA	30092	678-969-2462	<a href="mailto:teresa.crisp@parsons.com">teresa.crisp@parsons.com</a>
Three Kings Golf Center	4190 Jiles Road, NW	Kennesaw	GA	30144		
Toni Pelliccia / CDM	2030 Powers Ferry Road, Suite 325	Atlanta	GA	30339	770-952-8643	<a href="mailto:PellicciaA@cdm.com">PellicciaA@cdm.com</a>
Towne Lake Hills Golf Club	1003 Towne Lake Hills East	Woodstock	GA	30189		
Trophy Club of Atlanta	15135 Hopewell Road	Alpharetta	GA	30004		
Tyson Foods, Inc.	169 Highway 9 S	Dawsonville	GA	30534		
United Poultry Corp.	2320 Old North Lane	Alpharetta	GA	30004		
Valerie Pickard / USDA-NRCS	678 S. Cobb Drive, Suite 150	Marietta	GA	30066	770-792-0594	<a href="mailto:valerie.pickard@ga.usda.gov">valerie.pickard@ga.usda.gov</a>
Vic Jones / CH2M Hill	115 Perimeter Ctr. NE Suite 700	Atlanta	GA	30346	770-604-9281	<a href="mailto:Vjones2@ch2m.com">Vjones2@ch2m.com</a>
Vulcan Materials Company – Southeast Division	1272 Duncan Road, NW	Kennesaw	GA	30144		
White Columns Golf Club	300 White Columns Drive	Alpharetta	GA	30004		
Woodmont Golf Club	3105 Gaddis Road	Canton	GA	30115		
Woody McFarlin / City of Kennesaw	3080 Moon Station Road	Kennesaw	GA	30114	770-421-8582	<a href="mailto:wmcfarlin@kennesaw-ga.gov">wmcfarlin@kennesaw-ga.gov</a>
Yellow Creek Poultry Farm	4745 Hurt Bridge Road	Cumming	GA	30040		

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

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

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## Tanyard Creek

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Tanyard Creek	White Lake to Lake Allatoona	4 miles / 2011 acres	Fishing	NS

Cobb County personnel have prepared the following description of the creek: Tanyard Creek, located along the northern border of Cobb County in the City of Acworth, is a tributary to Lake Allatoona and the Etowah/Coosa River system. The headwaters flow through established residential areas. All monitoring stations on Tanyard Creek are on the main channel.

### 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 not met. See the “Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan” for the water quality standards. Enter the needed reduction from the TMDL. Describe the sources and causes of each impairment 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)	Pages 16-29 of the Fecal Coliform TMDL document developed by GA EPD dated January 2004 list the following potential sources of fecal coliform: wastewater treatment facilities, Phase I & II MS4 storm water permit holders, confined animal feeding operations, wildlife, agricultural livestock, urban development, leaking septic systems, land application systems and landfills. The 303(d) list identifies the source of the fecal coliform problem as Urban Runoff (UR).	56%

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

INVESTIGATE AND EVALUATE the extent and relative contributions from causes or sources of the 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: 1) involvement of stakeholder group; 2) review of land cover data; 3) field surveys; and 4) other pertinent sources of information consulted.

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The Atlanta Regional Commission has taken steps to involve local stakeholders (Table 4 & Appendix A) in identifying possible pollution sources. In October 2005 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2004 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 reviewed the most recent landuse data available (year 2003) 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. In addition to the steps taken by the Atlanta Regional Commission, Cobb County also conducts the following to identify possible sources of pollution.

The Tanyard Creek TMDL segment has manhole covers and sanitary pipe creek crossings at regular enough intervals to ensure overlapping visual field inspections 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.

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 93 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 addressed through 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' contribution is addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMPs and buffer ordinance as well as the NRCS buffer incentives.

Combining information provided in the TMDL document, stakeholder knowledge, existing watershed assessments, and the watershed evaluation conducted for this plan, identify the potential sources or causes most likely to contribute to each identified impairment (parameter) in Table 3. If available information is inadequate to estimate the extent and relative contribution of significant potential sources or causes, recommend appropriate management actions (watershed assessments, monitoring, etc.) to determine the potential sources or causes and relative contributions. In Table 3, list the significant potential sources or causes of each impairment. Estimate the geographic extent of each potential source or cause as percent of the contributing watershed area, percent of stream miles affected, or number per square mile and enter the appropriate rating (from the following table) in the column entitled "Rating (A)". Estimate the relative contribution of each major source or cause to the pollutant causing the impairment and enter the appropriate rating (from the following table) in the column entitled "Rating (B)". Calculate a relative impact ratings for each source or cause by multiplying "Rating (A)" by "Rating (B)". Comments on the source of information used to determine the extent or contribution may be entered in the applicable columns in Table 3.

The following table provides guidance for rating the estimated extent and portion of the contribution from each potential source and cause.

<b>Estimated Geographic Extent of the Source or Cause in the Contributing Watershed</b> (Percent of area or stream miles)	<b>Estimated Contribution of the Source or Cause to the Pollutant Load Causing the Impairment</b> (Percent of load)	<b>Rating</b>
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	0.5
Scattered or low (approximately 5-20%)	Scattered or low (approximately 5-20%)	1
Medium (approximately 20-50%)	Medium (approximately 20-50%)	3
Widespread or high (approximately 50% or more)	Widespread or high (approximately 50% or more)	5
Unknown	Unknown	UNK

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

<b>POTENTIAL SOURCES OR CAUSES</b>	<b>ESTIMATED EXTENT OF CONTRIBUTION</b>		<b>ESTIMATED PORTION OF CONTRIBUTION</b>		<b>IMPACT RATING (A X B)</b>
	<b>Comments</b>	<b>Rating (A)</b>	<b>Comments</b>	<b>Rating (B)</b>	
Urban Runoff		5		3	15
Animal Waste		1		1	1
Land Disturbing		1		1	1
Septic Systems		UNK		UNK	UNK
Sanitary Sewer Leaks		UNK		UNK	UNK
Illegal dump/Illicit connections		UNK		UNK	UNK

## V. STAKEHOLDERS

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

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

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As a first step local government agencies were asked about possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The advisory group members 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. Permit holders and other major businesses were identified and invited to participate in the public meetings. A list of elected officials, parks & recreation departments, NRCS, and County Cooperative Extension Service representatives were also invited to the public meetings.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams/coosa.html](http://www.atlantaregional.com/cleanerstreams/coosa.html)). The website provided a variety of information and access opportunities to the TMDL Implementation Plan process. The website provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information were 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 next step in this process involved holding 2 initial public meetings in October 2005 to educate stakeholders about this process and solicit input. A total of 34 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, sending out numerous e-mails announcing the initial meetings and finally mailing out meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, elected officials, Parks & Recreation Departments, NRCS, and the County Cooperative Extension Services.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed that incorporated this input. This draft document was made available to all stakeholders for discussion and input at the 2 public meetings held in February 2006. A total of 22 persons attended the public meetings.

The input received during the four public meetings can be summarized as follows. Stakeholders most commonly asked programmatic type questions like what drives the TMDL process and how will these TMDL implementation plans be used. Stakeholders also asked questions about the water quality parameters for which the implementation plans were developed. Another common question asked was how can local governments and GA EPD tell if the problem is corrected. Other questions revolved around who were the stakeholders involved in the process and how were stakeholders identified for this project. The local stakeholders also wanted to know how stakeholders would be involved in the future. Stakeholders asked what was currently being done to educate the public on how to prevent water quality problems. These types of questions were answered in a discussion format at the public meetings with the help of GA EPD staff.

**Table 4. STAKEHOLDER ADVISORY GROUP MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
GA EPD, Water Protection Branch	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1751	
GA Adopt-A-Stream	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1636	
Georgia Soil and Water Conservation Commission	1500 Klondike Road Suite A109	Conyers	GA	30094	770-761-3020	
City of Acworth, City Manager (Brian Bulthuis)	4375 Senator Russell Square	Acworth	GA	30101	(770) 974-3112	<a href="mailto:bbulthuis@acworth.org">bbulthuis@acworth.org</a>
City of Acworth Public Works (Mark Hipp)	4402 Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
City of Acworth Public Works (Amanda Blowers)	4402 Acworth Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:ablowers@acworth.org">ablowers@acworth.org</a>
Bill Higgins/Cobb Water	680 South Cobb Drive	Marietta	Ga	30060	770 419 6435	<a href="mailto:William.Higgins@cobbcounty.org">William.Higgins@cobbcounty.org</a>
Rob Hosack/Cobb Community Development	191 Lawrence Street	Marietta	Ga.	30090	770 528 2125	
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	<a href="mailto:Jennifer.McCoy@cobbcounty.org">Jennifer.McCoy@cobbcounty.org</a>
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, as described in Project Task #1 of the Scope of Services.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Identify and list in Table 5A the significant management measures or activities which have or will be taken in the contributing watershed to address sources or causes of the impairment(s). List significant management measures and activities in Column 1 and responsible organizations in Column 2. Describe the measure or activity in Column 3 and sources of funding or resources in Column 4 (you may wish to adapt the generic language included in the “Standard Language for Management Measures and Activities” to local applications) In Column 5, enter one of the following codes describing the status of the measure or activity: (A) installed and active; (AE) active and **will be** enhanced or expanded; (R) required in the future by law, regulation or permit conditions; (P) currently proposed, but not required; and (N/R) **additional new recommended** or (N/E) **recommended enhanced** management measures and activities. In Column 6 enter the rating of the estimated existing or proposed extent of application of the measure or activity or percentage of individual sources to which the management actions have or will be applied (see the following table). In Column 7 enter a rating of the estimated effectiveness of the management measures and activities (see following table). Effectiveness may be estimated by local experts or derived from tables included in the “Standard Language for Management Measures and Activities”.

The following table provides guidance for rating the estimated extent and portion of the contribution for each significant potential source and cause.

Estimated Extent of Application or Percentage of Individual Sources to Which the Management Measure or Activity Has or Will be Applied in the Contributing Watershed	Estimated Effectiveness or Percent Removal of Constituent (Percent of load)	Rating
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	.5
Scattered or low (approximately 5-20%)	Low to medium (approximately 5-25%)	1
Medium (approximately 20-50%)	Medium to High (approximately 25-75%)	3
Widespread or high (approximately 50% or more)	High (approximately 75% or more)	5
Unknown	Unknown	UNK

**Table 5A. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCES OF FUNDING & RESOURCES	STATUS CODE	TARGET DATE	EXTENT RATING (Area, #)	EFFECT. RATING (Reduction)
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	The congressional objective of the CWA “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 305 (the <i>National Water Quality Inventory</i> ) requires states to report progress in restoring impaired waters to EPA on a biennial basis. Section 303(d) requires states to identify ‘impaired’ waters, submit a list to EPA every two years, and develop TMDLs for these waters.	Federal, State	current	In place, ongoing		
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Law prohibiting discharge of excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats. Law authorizing Georgia EPD to control water pollution, eliminate phosphate detergents and regulate sludge	Federal, State, Local/County Governments	Current	in place, ongoing		

		disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit siltation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.					
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	River Basin Management Plans describe strategies and measures necessary for local governments, businesses, and citizen groups to educate the general public on matters involving the environmental and ecological concerns specific to the river basin; improve water quality and reduce pollution at the source; improve aquatic habitat and reestablish native species of fish; restore and protect wildlife habitat; and provide recreational benefits.	State, Local/County Government	Completed	1998		
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	General storm water discharge permit for manufacturing facilities; mining, oil & gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage sludge treatment. Requires implementation of Storm Water Pollution Prevention Plan. May require storm water monitoring program targeting discharges into/near 303(d) listed waters.	State	Active and will be enhanced or expanded	2006		
Soil Erosion Ordinance	City of Acworth	Required by State Erosion and Sedimentation Act. State approved erosion control plans for all development 1.1 acres and up. 50-ft. minimum stream buffer, expanding on State minimums.	General Fund	Enforced	1975, 8/04	3	1
Stormwater Ordinance	City of Acworth	Stormwater detention required for all new development.	General Fund	Enforced	4/05	3	1
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Comprehensive stormwater program, including public education & participation, illicit discharge detection & elimination, construction & post-construction runoff control, pollution prevention, permitting & reporting and program implementation plans. Includes dry weather outfall screening twice yearly.	General Fund	Active	1/05	3	3
Street Sweeping Program	City of Acworth	Street sweeping route through the City to help reduce debris in runoff.	General Fund	Active	1/00	3	3
Stormwater Management Ordinance (Ordinance #	City of Acworth	Protects streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity, managing stormwater system.	General Fund	Enforced	04/2005	3	3

2005-21)							
Residential Subdivisions Ordinance (Ordinance # 2006-06 – Zoning Ordinance)	City of Acworth	This is an ordinance to regulate and control the development of residential subdivisions. Section 30 – Development Regulations – (Sanitary Sewers) requires that “each lot or other site in a subdivision shall be connected to a public sanitary sewage system by lines of sufficient size to accommodate the anticipated sewage load.” This section also states that when sewer is not available septic systems may be installed but the minimum lot size for septic use is 1 acre with 100 feet of frontage. This large minimum lot size for septic systems will be beneficial in the long term management of septic systems in the city limits.	General Fund	Enforced	April 15, 1993	3	3
Tree Protection and Landscaping Ordinance (within the Zoning Ordinance)-	City of Acworth	Requires a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.	General Fund	Enforced	1983	3	1
Animal Control (City of Acworth Code 1983 § 4-10)	City of Acworth	This city ordinance states that it is “...the duty of the owner to maintain in a clean and sanitary condition and free from extreme and unreasonably objectionable odor all structures, pens, yards and adjacent areas wherein any animal is kept.”	General Fund	Enforced	1983	3	1
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	This city ordinance prohibits cattle in the corporate limits of the city.	General Fund	Enforced	1983	3	1
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	This city ordinance authorizes the city manager to have signs erected in any city park or city cemetery prohibiting the feeding of ducks, birds, and fowl. When such signs are posted feeding ducks, birds, or fowl is prohibited.	General Fund	Enforced	9-17-1992	3	1
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, dry weather screening, NPDES fecal sites	Cobb	current	1976	3	3
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	3	3
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	3	3

Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	3	3
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	3	3
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	3	3
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	3	1
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	3	3
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	3	1
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	3	1
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	3	3
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	3	3
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	3	3
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	3	3
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	3	3
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	Cobb Water System	current	2003	3	3

		Capital Improvement Plan that ensures funding for sewage system improvements.					
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	3	3
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	3	3
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. These ordinances have been adopted by the City of Acworth.	Local Funds	Ongoing	2004 & 2005	5	3
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	5	3

The purpose of Table 5B is to initiate and guide a “first-cut” evaluation of the capacity of existing, currently proposed, and future required management measures and activities to achieve the load reductions specified in the TMDL (and meet water quality goals) and where needed, identify potential feasible and effective measures and practices which could be encouraged and supported to further reduce pollutant loadings from significant potential sources. Though completely voluntary, such recommendations would provide an effective local guide to effective management actions to achieve local water quality goals, establish priorities for grant or loan programs (Section 319 (h), EQUIP, SRF), establish eligibility for grants for Tier plans and implementation, and identify priorities for local watershed assessments and protection plans.

In Columns 1 and 2 of Table 5B, enter each significant potential source and its’ corresponding impact ratings from Table 3. Review Table 5A and list significant management practices and activities applicable to each significant cause or source. Evaluate and compare the estimated extent and relative contribution of each significant cause or source with the extent and effectiveness of the applicable management measures and in conjunction with appropriate local stakeholders or organizations, make a best current determination of whether the existing or proposed management practices would achieve the load reductions needed to achieve the TMDL. Summarize conclusions and rationale in Column 4. If more information is needed to adequately determine the significant sources or causes and their relative contributions so note and recommend management actions needed to adequately identify sources such as monitoring, watershed assessments, or Tier 1 implementation plans in the last column. If the current, proposed and required management measures are judged inadequate to achieve the needed load reductions for significant sources, recommend, in consultation with the advisory groups, additional management activities, programs, and measures which would effectively reduce pollutant loads from the source. List such measures in the final column and list as a recommended activity in the milestones (Table 8).

**TABLE 5B: EVALUATION OF MANAGEMENT MEASURES AND ACTIVITIES APPLIED TO SPECIFIC SOURCES OR CAUSES**

SIGNIFICANT POTENTIAL SOURCE (S) OR CAUSE(S) (From Table 3)	IMPACT RATING (From Table 3)	EXISTING, CURRENTLY PROPOSED, OR REQUIRED MANAGEMENT MEASURES OR ENHANCEMENTS APPLICABLE TO EACH SIGNIFICANT SOURCE (From Table 5A)	EVALUATION: WILL THE ESTIMATED EXTENT OF APPLICATION AND EFFECTIVENESS OF EXISTING, CURRENTLY PROPOSED, AND REQUIRED MANAGEMENT MEASURES BE ADEQUATE TO ACHIEVE THE SOURCE REDUCTION SPECIFIED BY THE TMDL?	IF MANAGEMENT MEASURES ARE ESTIMATED TO BE INSUFFICIENT, RECOMMEND ADDITIONAL MANAGEMENT MEASURES AND ACTIVITIES WHICH COULD EFFECTIVELY REDUCE LOADS FROM SIGNIFICANT SOURCES
Urban Runoff	15	Stormwater Management Ordinance (Ordinance # 2005-21 City of Acworth) NPDES Phase I MS-4 Permit # GAS000101 (City of Acworth) Street Sweeping Program (City of Acworth) Soil Erosion Ordinance (City of Acworth) Tree Ordinance (Section 98-31 – 98- (City of Acworth) District-Wide Watershed Management Plan Fecal Coliform Monitoring Program (Cobb County) County Ordinances (Cobb County) Nuisance Ordinance (Cobb County) Clean Water Campaign (Cobb County) Adopt A Stream (Cobb County) Chattahoochee Tunnel Project (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	

		buffer incentives (Cobb County)		
		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		foam root control (Cobb County)		
		beaver control (Cobb County)		
		streambank stabilization program (Cobb County)		
		Federal Clean Water Act, Section 305(b) and 303(d)		
		Georgia Water Quality Control Act (OCGA 12-5-20)		
		Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521		
		Industrial Storm Water Discharge NPDES Permit		
Animal Waste	1	Animal Control (City of Acworth Code 1983 § 4-10)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Animal Control (City of Acworth Code 1983 § 4-29)		
		City of Acworth Ordinance # 92-040-A, § 1		
		Pet Waste Management Program (Cobb County)		
		beaver control (Cobb County)		
		buffer incentives (Cobb County)		
Land Disturbing	1	District-Wide Watershed Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Streambank stabilization program (Cobb County)		
Septic Systems	UNK	Residential Subdivisions Ordinance (Ordinance # 93-077) (City of Acworth)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Long-Term Wastewater Management Plan		
Sanitary Sewer Leaks	UNK	Inflow and Infiltration stream walks (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Chattahoochee Tunnel Project (Cobb County)		
		foam root control (Cobb County)		
		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		CMOM Program (Cobb County)		
		Preventative Maintenance (Cobb County)		
		Emergency Response Policy (Cobb County)		
		streambank stabilization program (Cobb County)		
		Long-Term Wastewater Management Plan		
Illegal dump/Illicit connections	UNK	Stream Monitoring/Dry Weather Screening (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		District-Wide Watershed Management Plan		

**VII. MONITORING PLAN**

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

**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	2006	2007	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
	Acworth NPDES Phase I MS-4 Municipal Stormwater Permit		Twice a year	Ongoing	Dry weather screening.
	City of Acworth Fecal Coliform Analysis		May-September	Ongoing	Recreational monitoring for beach and swimming safety.
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 : Stream 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

**VIII. PLANNED OUTREACH FOR IMPLEMENTATION**

List and describe outreach activities, including those described in the Scope of Services that 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 Acworth	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

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

This table will be used to periodically track and report progress of significant management practices and activities identified or recommended in Tables 5A, 5B, and other sections of this plan, including outreach, additional monitoring and assessments, and the enhancement or installation of management measures and activities. Identify and list significant planned or recommended activities and the target date of accomplishment. Provide room to 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.

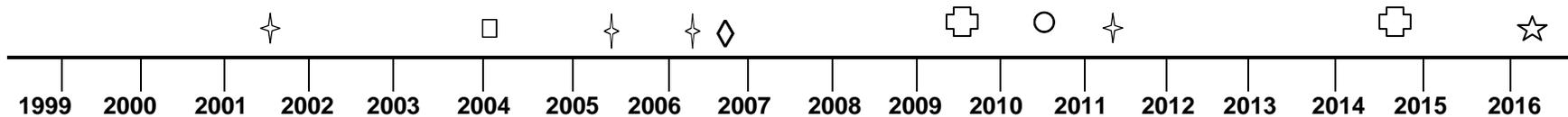
**Table 8. MILESTONES**

MANAGEMENT MEASURE OR ACTIVITY	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	current	In place, ongoing	
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Current	in place, ongoing	
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	Completed	1998	
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	Active and will be enhanced or expanded	2006	
Buffer Incentives	USDA/NRCS	current	1996	
Soil Erosion Ordinance	City of Acworth	Enforced	1975, 4/01	Continue requiring approved erosion control plans for all development 1.1 acres and up. This includes enforcement of a 50-ft. minimum stream buffer,
Stormwater Ordinance	City of Acworth	Enforced	1/96	Continue requiring stormwater detention for all new developments.
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Active	1/96	Refer to annual report
Street Sweeping Program	City of Acworth	Active	1/00	Continue street sweeping route through the City.
Stormwater Management Ordinance (Ordinance # 2000-41)	City of Acworth	Enforced	12/7/2000	Continue enforcing ordinance to protect streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity, managing stormwater system.
Residential Subdivisions Ordinance (Ordinance # 93-077)	City of Acworth	Enforced	April 15, 1993	Continue to enforce this ordinance through development plan review.
Tree Ordinance (Section 98-31 – 98-	City of Acworth	Enforced	1983	Continue to require a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.

Animal Control (City of Acworth Code 1983 § 4-10)	City of Acworth	Enforced	1983	Continue to enforce this ordinance.
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	Enforced	1983	Continue to enforce this ordinance.
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	Enforced	9-17-1992	Continue to enforce this ordinance.
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area		2004 & 2005	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		2005	Refer to the Long-Term Wastewater Management Plan
Dry Weather Screening Program	Cobb County Water System: Water Quality Section	2005	2006	implemented into the program for 2006
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	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	Control pet waste in parks

## 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 □
- Revised TMDL Implementation Plan Accepted ◇
- Plan Status Evaluation Report ⊕
- Plan Update or Revision, if Necessary ○
- Project Attainment for Plans Prepared in 2006 ☆

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Date Submitted to EPD:	March 31, 2006	Revision:#1	

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
A & B Poultry Co.	1020 Scenic View Drive	Jasper	GA	30143		
American Sports & Rec	3939 Royal Drive, NW, Suite 101	Kennesaw	GA	30144		
Anderson, W B Feed & Poultry	8650 Main Street	Woodstock	GA	30188		
Angi Bruton / Bay Marine, Inc	2394 North Cobb Parkway	Kennesaw	GA	30152	770-427-3578	<a href="mailto:angi@baymarineboats.com">angi@baymarineboats.com</a>
April Ingle / Georgia River Network	126 S. Milledge Ave., Suite E3	Athens	GA	30601	706-549-4508	<a href="mailto:ingle@garivers.org">ingle@garivers.org</a>
Aris Georgakakos / Georgia Water Resources Institute, Georgia Tech	790 Atlantic Drive	Atlanta	GA	30332-0355	404-894-2240	<a href="mailto:ageorgak@ce.gatech.edu">ageorgak@ce.gatech.edu</a>
Bill Higgins / Cobb County Water System, Stormwater Management	680 South Cobb Drive	Marietta	GA	30066	770-419-6434	<a href="mailto:bhiggins@cobbcounty.org">bhiggins@cobbcounty.org</a>
Bingham Trading, Inc	2627 Sandy Plains Road	Marietta	GA	30066		
Bob Sutton / LAPA	194 Evelyn Street	Marietta	GA	30064	770-422-3094	<a href="mailto:RSU194@aol.com">RSU194@aol.com</a>
Bradshaw Farms Golf Course	3030 Bradshaw Club Drive	Woodstock	GA	30188		
Brown Poultry Farms	4494 Conns Creek Road	Ball Ground	GA	30107		
Buchanan Livestock, Inc	1168 S. Main Street	Jasper	GA	30143		
Burt's Cattle Poultry	3553 Sweetwater Juno Road	Dawsonville	GA	30534		
Candace Stoughton / Nature Conservancy	1330 West Peachtree Street, Suite 410	Atlanta	GA	30309	404-253-7250	<a href="mailto:cstoughton@tnc.org">cstoughton@tnc.org</a>
Canterbury Golf Club	500 Cambridge Drive	Marietta	GA	30066-2512		
Cherokee Golf Center	635 Molly Lane	Woodstock	GA	30189		
Cherokee Recreation and Parks Authority	7545 Main Street, Building 200	Woodstock	GA	30188	770-924-7768	
Conagra Poultry	1335 Canton Road	Marietta	GA	30066		
Crooked Creek Golf Club	3430 Highway 9 North	Alpharetta	GA	30004		

Curt Gervich / UGA Etowah HCP	PO Box 287	Acworth	GA	30101	678-758-0781	<a href="mailto:curt@etowahhcp.org">curt@etowahhcp.org</a>
David Kubala / CCWSA	PO Box 5000	Canton	GA	30114	770-479-1813	<a href="mailto:dkubala@earthlink.net">dkubala@earthlink.net</a>
David Radcliffe / UGA	Crop & Soil Sciences Dept., UGA	Athens	GA	30602	706-542-0897	<a href="mailto:dradclif@uga.edu">dradclif@uga.edu</a>
Diane Minick / Env. Impact Assessment & Upper Etowah River Alliance – Chair	317 N. Brook Drive	Canton	GA	30114	678-493-9574	<a href="mailto:dianeminick@msn.com">dianeminick@msn.com</a>
Dobson Poultry Farms	6295 Yellow Creek Road	Ball Ground	GA	30107		
Don Stevens / CCWSA	391 West Main Street	Canton	GA	30114	770-479-9302	
Duncan Cottrell / Upper Etowah River Alliance	171 Meridian Street	Canton	GA	30114	770-720-6269	<a href="mailto:duncancottrell@yahoo.com">duncancottrell@yahoo.com</a>
Eagle Watch Golf Course	3055 Eagle Watch Drive	Woodstock	GA	30189		
Ed Mullinax / LAPA, City of Catersville Water	PO Box 1671	Cartersville	GA	30120	770-607-6296	<a href="mailto:emullinax@cityofcatersville.org">emullinax@cityofcatersville.org</a>
Gene Cornelison / Cherokee County	1712 Hornage Road	Ball Ground	GA	30107	770-735-3387	
Geoff Morton / Cherokee County	130 East Main Street, Suite 106	Canton	GA	30114	678-493-6057	<a href="mailto:gmorton@cherokeega.com">gmorton@cherokeega.com</a>
Geoffrey Sarra / City of Alpharetta	1790 Upper Hembree Road	Alpharetta	GA	30004	678-297-6200	<a href="mailto:gsarra@alpharetta.ga.us">gsarra@alpharetta.ga.us</a>
Hilda Hatzell / Interested Citizen	98 Brookhaven Drive	Marietta	GA	30066		
Jeff Riley / CCWSA	1979 Hammond Woods Circle	Marietta	GA	30008	404-932-0745	<a href="mailto:jeffriley191@hotmail.com">jeffriley191@hotmail.com</a>
Jim Lanier / Aquascape Environmental	605 B. Mauldin	Woodstock	GA	30188	678-445-0077	<a href="mailto:muddog@mindspring.com">muddog@mindspring.com</a>
Jimmy Gisi / Cobb County PRCA	1792 County Services Pkwy	Marietta	GA	30008		
John Seafert / Georgia Adopt-A-Stream	430 Morgan Falls Chaseq	Canton	GA	30114	770-592-0942	<a href="mailto:jseufert@adelphia.net">jseufert@adelphia.net</a>
Jonathon Davis / US Army Corp of Engineers	PO Box 487	Cartersville	GA	30120-0487		
Jose Anez / City of Woodstock	103 Arnold Mill Road	Woodstock	GA	30188	678-409-4335	<a href="mailto:janez@ci.woodstock.ga.us">janez@ci.woodstock.ga.us</a>
Katie Knowles / Corp of Engineers – Allatoona Lake	1138 State Route Spur 20, SE	Cartersville	GA	30121	678-721-6738	
Katie Owens / Coosa River Basin Initiative	408 Broad Street	Rome	GA	30161	706-232-2724	<a href="mailto:keady@coosa.org">keady@coosa.org</a>
Kimberly Sanders / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8035	<a href="mailto:Kimberly.sanders@co.fulton.ga.us">Kimberly.sanders@co.fulton.ga.us</a>

L & W Poultry Farms	476 Alpine Farm	Talking Rock	GA	30175		
Little River Grill	6979 Bells Ferry Road	Canton	GA	30114		
Little River Landing	6986 Bells Ferry Road	Canton	GA	30114		
Lori Forrester / CCWSA	1957 Authority Drive	Woodstock	GA	30188	770-591-7156	<a href="mailto:brenaucrew@hotmail.com">brenaucrew@hotmail.com</a>
M & H Poultry	155 Marsha Drive	Canton	GA	30014		
Manor Golf & Country Club	16000 Hopewell Road	Alpharetta	GA	30004		
Mark Hipp / City of Acworth	4402 Acworth Industrial Drive	Acworth	GA	30101	770-975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
Martha Kent	1642 Scott Road	Canton	GA	30115		
Martin Poultry, Inc	4710 McCoy Circle	Cumming	GA	30028		
Marty Williams / Georgia Lakes Society	171 Sumter Drive	Marietta	GA	30066		<a href="mailto:gls@georgialakes.org">gls@georgialakes.org</a>
Mary Gazaway / GA EPD	2 Martin Luther King Jr. Drive, Suite 1152 East Tower	Atlanta	GA	30334	404-675-1745	
Mike Tuller / Cobb County	191 Lawrence Street	Marietta	GA	30060	770-528-2199	<a href="mailto:Michael.tuller@cobbcounty.org">Michael.tuller@cobbcounty.org</a>
Nanette Nelson / UGA WQ Training	Ecology UGA	Athens	GA	30602	706-542-4329	<a href="mailto:nanette@uga.edu">nanette@uga.edu</a>
Nick Ammons / Fulton County	141 Pryor Street	Atlanta	GA	30303	404-730-4000	
Phyllis Lea / Lake Sovereign HOA	571 East Shore Drive	Canton	GA	30114	770-345-4904	<a href="mailto:pplea@comcast.net">pplea@comcast.net</a>
Pilgrim Poultry	654 Univeter Road	Canton	GA	30115		
Richard Rogers / City Canton	151 Elizabeth Street	Canton	GA	30114	770-704-1500	<a href="mailto:richard.rogers@canton-georgia.com">richard.rogers@canton-georgia.com</a>
Ron Papaleoni / LAPA	4793 Cooks Ct	Acworth	GA	30101	678-776-6331	<a href="mailto:rpapaleoni@acworthcable.net">rpapaleoni@acworthcable.net</a>
Roy Taylor / Cherokee Homeowners	360 E. Marietta Street	Canton	GA	30114	770-720-4669	<a href="mailto:wrldeas@mindspring.com">wrldeas@mindspring.com</a>
Rusty Simpson / Cobb County Parks	1792 County Services Pkwy	Marietta	GA	30008	770-528-8840	<a href="mailto:rusty..simpson@cobbcounty.org">rusty..simpson@cobbcounty.org</a>
Shadburn Poultry Farm	3495 Hurt Bridge Road	Cumming	GA	30040		
Sharon Smith / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8006	<a href="mailto:sharon.smith@co.fulton.ga.us">sharon.smith@co.fulton.ga.us</a>
Smith A C	28 Alan Thomas Road	Cumming	GA	30028		
Stan Hall / Cherokee County	470 Blalock Road	Canton	GA	30115	770-517-7650	<a href="mailto:recycling@cherokeega.com">recycling@cherokeega.com</a>
Steve Turner / City of Kennesaw	Moon Station Road	Kennesaw	GA		404-392-1156	<a href="mailto:sturner@kennesaw-ga.us">sturner@kennesaw-ga.us</a>
Teresa Crisp / Parsons	5390 Triangle Pkwy, Suite 100	Norcross	GA	30092	678-969-2462	<a href="mailto:teresa.crisp@parsons.com">teresa.crisp@parsons.com</a>
Three Kings Golf Center	4190 Jiles Road, NW	Kennesaw	GA	30144		

Toni Pelliccia / CDM	2030 Powers Ferry Road, Suite 325	Atlanta	GA	30339	770-952-8643	<a href="mailto:PellicciaA@cdm.com">PellicciaA@cdm.com</a>
Towne Lake Hills Golf Club	1003 Towne Lake Hills East	Woodstock	GA	30189		
Trophy Club of Atlanta	15135 Hopewell Road	Alpharetta	GA	30004		
Tyson Foods, Inc.	169 Highway 9 S	Dawsonville	GA	30534		
United Poultry Corp.	2320 Old North Lane	Alpharetta	GA	30004		
Valerie Pickard / USDA-NRCS	678 S. Cobb Drive, Suite 150	Marietta	GA	30066	770-792-0594	<a href="mailto:valerie.pickard@ga.usda.gov">valerie.pickard@ga.usda.gov</a>
Vic Jones / CH2M Hill	115 Perimeter Ctr. NE Suite 700	Atlanta	GA	30346	770-604-9281	<a href="mailto:Vjones2@ch2m.com">Vjones2@ch2m.com</a>
Vulcan Materials Company – Southeast Division	1272 Duncan Road, NW	Kennesaw	GA	30144		
White Columns Golf Club	300 White Columns Drive	Alpharetta	GA	30004		
Woodmont Golf Club	3105 Gaddis Road	Canton	GA	30115		
Woody McFarlin / City of Kennesaw	3080 Moon Station Road	Kennesaw	GA	30114	770-421-8582	<a href="mailto:wmcfarlin@kennesaw-ga.gov">wmcfarlin@kennesaw-ga.gov</a>
Yellow Creek Poultry Farm	4745 Hurt Bridge Road	Cumming	GA	30040		

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

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

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### Tributary to Allatoona Creek

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Tributary to Allatoona Creek	Cobb County	2 miles / 1420 acres	Fishing	NS

Cobb County personnel have prepared the following description of the creek: Allatoona Creek is one of the most superior streams in Cobb County, in terms of water quality and macroinvertebrate diversity. This stream also supports a wide variety and great number of fish, including several very sensitive species. Habitat quality is good in the stream. This can be credited to the undeveloped, partially forested watershed surrounding the area. This allows for the unhampered existence of critical habitat, including an abundance of gravel to cobble sized riffles, which are free of sand and silt. However, the watershed is being rapidly developed. One area of concern is the tributary entering on the left bank of the site at Stilesboro Road (AL3). This tributary has been observed with a high turbidity days after a heavy rain. The banks are severely eroded and there is a sand plume extending into Allatoona Creek at the confluence. Investigations have never yielded a specific source of the sediment.

### 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 not met. See the “Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan” for the water quality standards. Enter the needed reduction from the TMDL. Describe the sources and causes of each impairment 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)	Pages 16-29 of the Fecal Coliform TMDL document developed by GA EPD dated January 2004 list the following potential sources of fecal coliform: wastewater treatment facilities, Phase I & II MS4 storm water permit holders, confined animal feeding operations, wildlife, agricultural livestock, urban development, leaking septic systems, land application systems and landfills. The 303(d) list identifies the source of the fecal coliform problem as Urban Runoff (UR).	33%

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

INVESTIGATE AND EVALUATE the extent and relative contributions from causes or sources of the 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: 1) involvement of stakeholder group; 2) review of land cover data; 3) field surveys; and 4) other pertinent sources of information consulted.

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The Atlanta Regional Commission has taken steps to involve local stakeholders (Table 4 & Appendix A) in identifying possible pollution sources. In October 2005 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2004 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 reviewed the most recent landuse data available (year 2003) 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. In addition to the steps taken by the Atlanta Regional Commission, Cobb County also conducts the following to identify possible sources of pollution.

The Tributary to Allatoona Creek TMDL segment has manhole covers and sanitary pipe creek crossings at regular enough intervals to ensure overlapping visual field inspections 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.

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 **93** 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 addressed through 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' contribution is addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMPs and buffer ordinance as well as the NRCS buffer incentives.

Combining information provided in the TMDL document, stakeholder knowledge, existing watershed assessments, and the watershed evaluation conducted for this plan, identify the potential sources or causes most likely to contribute to each identified impairment (parameter) in Table 3. If available information is inadequate to estimate the extent and relative contribution of significant potential sources or causes, recommend appropriate management actions (watershed assessments, monitoring, etc.) to determine the potential sources or causes and relative contributions. In Table 3, list the significant potential sources or causes of each impairment. Estimate the geographic extent of each potential source or cause as percent of the contributing watershed area, percent of stream miles affected, or number per square mile and enter the appropriate rating (from the following table) in the column entitled "Rating (A)". Estimate the relative contribution of each major source or cause to the pollutant causing the impairment and enter the appropriate rating (from the following table) in the column entitled "Rating (B)". Calculate a relative impact ratings for each source or cause by multiplying "Rating (A)" by "Rating (B)". Comments on the source of information used to determine the extent or contribution may be entered in the applicable columns in Table 3.

The following table provides guidance for rating the estimated extent and portion of the contribution from each potential source and cause.

<b>Estimated Geographic Extent of the Source or Cause in the Contributing Watershed</b> (Percent of area or stream miles)	<b>Estimated Contribution of the Source or Cause to the Pollutant Load Causing the Impairment</b> (Percent of load)	<b>Rating</b>
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	0.5
Scattered or low (approximately 5-20%)	Scattered or low (approximately 5-20%)	1
Medium (approximately 20-50%)	Medium (approximately 20-50%)	3
Widespread or high (approximately 50% or more)	Widespread or high (approximately 50% or more)	5
Unknown	Unknown	UNK

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

<b>POTENTIAL SOURCES OR CAUSES</b>	<b>ESTIMATED EXTENT OF CONTRIBUTION</b>		<b>ESTIMATED PORTION OF CONTRIBUTION</b>		<b>IMPACT RATING (A X B)</b>
	<b>Comments</b>	<b>Rating (A)</b>	<b>Comments</b>	<b>Rating (B)</b>	
Urban Runoff		5		3	15
Animal Waste		3		3	9
Land Disturbing		0.5		1	0.5
Septic Systems		UNK		UNK	UNK
Sanitary Sewer Leaks		UNK		UNK	UNK
Illegal dump/Illicit connections		UNK		UNK	UNK

## V. STAKEHOLDERS

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

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

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As a first step local government agencies were asked about possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The advisory group members 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. Permit holders and other major businesses were identified and invited to participate in the public meetings. A list of elected officials, parks & recreation departments, NRCS, and County Cooperative Extension Service representatives were also invited to the public meetings.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams/coosa.html](http://www.atlantaregional.com/cleanerstreams/coosa.html)). The website provided a variety of information and access opportunities to the TMDL Implementation Plan process. The website provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information were 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 next step in this process involved holding 2 initial public meetings in October 2005 to educate stakeholders about this process and solicit input. A total of 34 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, sending out numerous e-mails announcing the initial meetings and finally mailing out meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, elected officials, Parks & Recreation Departments, NRCS, and the County Cooperative Extension Services.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed that incorporated this input. This draft document was made available to all stakeholders for discussion and input at the 2 public meetings held in February 2006. A total of 22 persons attended the public meetings.

The input received during the four public meetings can be summarized as follows. Stakeholders most commonly asked programmatic type questions like what drives the TMDL process and how will these TMDL implementation plans be used. Stakeholders also asked questions about the water quality parameters for which the implementation plans were developed. Another common question asked was how can local governments and GA EPD tell if the problem is corrected. Other questions revolved around who were the stakeholders involved in the process and how were stakeholders identified for this project. The local stakeholders also wanted to know how stakeholders would be involved in the future. Stakeholders asked what was currently being done to educate the public on how to prevent water quality problems. These types of questions were answered in a discussion format at the public meetings with the help of GA EPD staff.

**Table 4. STAKEHOLDER ADVISORY GROUP MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
GA EPD, Water Protection Branch	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1751	
GA Adopt-A-Stream	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1636	
Georgia Soil and Water Conservation Commission	1500 Klondike Road Suite A109	Conyers	GA	30094	770-761-3020	
Bill Higgins/Cobb Water	680 South Cobb Drive	Marietta	Ga	30060	770 419 6435	<a href="mailto:William.Higgins@cobbcounty.org">William.Higgins@cobbcounty.org</a>
Rob Hosack/Cobb Community Development	191 Lawrence Street	Marietta	Ga.	30090	770 528 2125	
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	<a href="mailto:Jennifer.McCoy@cobbcounty.org">Jennifer.McCoy@cobbcounty.org</a>
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, as described in Project Task #1 of the Scope of Services.

**VI. MANAGEMENT MEASURES AND ACTIVITIES**

Identify and list in Table 5A the significant management measures or activities which have or will be taken in the contributing watershed to address sources or causes of the impairment(s). List significant management measures and activities in Column 1 and responsible organizations in Column 2. Describe the measure or activity in Column 3 and sources of funding or resources in Column 4 (you may wish to adapt the generic language included in the “Standard Language for Management Measures and Activities” to local applications) In Column 5, enter one of the following codes describing the status of the measure or activity: (A) installed and active; (AE) active and **will be** enhanced or expanded; (R) required in the future by law, regulation or permit conditions; (P) currently proposed, but not required; and (N/R) **additional new recommended** or (N/E) **recommended enhanced** management measures and activities. In Column 6 enter the rating of the estimated existing or proposed extent of application of the measure or activity or percentage of individual sources to which the management actions have or will be applied (see the following table). In Column 7 enter a rating of the estimated effectiveness of the management measures and activities (see following table). Effectiveness may be estimated by local experts or derived from tables included in the “Standard Language for Management Measures and Activities”.

The following table provides guidance for rating the estimated extent and portion of the contribution for each significant potential source and cause.

Estimated Extent of Application or Percentage of Individual Sources to Which the Management Measure or Activity Has or Will be Applied in the Contributing Watershed	Estimated Effectiveness or Percent Removal of Constituent (Percent of load)	Rating
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	.5
Scattered or low (approximately 5-20%)	Low to medium (approximately 5-25%)	1
Medium (approximately 20-50%)	Medium to High (approximately 25-75%)	3
Widespread or high (approximately 50% or more)	High (approximately 75% or more)	5
Unknown	Unknown	UNK

**Table 5A. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCES OF FUNDING & RESOURCES	STATUS CODE	TARGET DATE	EXTENT RATING (Area, #)	EFFECT. RATING (Reduction)
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	The congressional objective of the CWA “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 305 (the <i>National Water Quality Inventory</i> ) requires states to report progress in restoring impaired waters to EPA on a biennial basis. Section 303(d) requires states to identify ‘impaired’ waters, submit a list to EPA every two years, and develop TMDLs for these waters.	Federal, State	current	In place, ongoing		
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Law prohibiting discharge of excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats. Law authorizing Georgia EPD to control water pollution, eliminate phosphate detergents and regulate sludge	Federal, State, Local/County Governments	Current	in place, ongoing		

		disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit siltation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.					
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	River Basin Management Plans describe strategies and measures necessary for local governments, businesses, and citizen groups to educate the general public on matters involving the environmental and ecological concerns specific to the river basin; improve water quality and reduce pollution at the source; improve aquatic habitat and reestablish native species of fish; restore and protect wildlife habitat; and provide recreational benefits.	State, Local/County Government	Completed	1998		
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	General storm water discharge permit for manufacturing facilities; mining, oil & gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage sludge treatment. Requires implementation of Storm Water Pollution Prevention Plan. May require storm water monitoring program targeting discharges into/near 303(d) listed waters.	State	Active and will be enhanced or expanded	2006		
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, dry weather screening, NPDES fecal sites	Cobb	current	1976	5	3
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	5	3
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	5	3
Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	5	3
County Ordinances	Cobb Community Development	Ordinances to protect stream bank buffers, control erosion, stop illicit discharges	Cobb	current	1977-illicit discharge, 1999-	5	3

					stream buffer, 1990- erosion control		
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	5	3
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	5	1
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	5	3
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	5	1
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	5	1
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	5	3
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	5	3
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	5	3
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	5	3
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	5	3
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	5	3
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	5	3

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	5	3
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	5	3
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	5	3

The purpose of Table 5B is to initiate and guide a “first-cut” evaluation of the capacity of existing, currently proposed, and future required management measures and activities to achieve the load reductions specified in the TMDL (and meet water quality goals) and where needed, identify potential feasible and effective measures and practices which could be encouraged and supported to further reduce pollutant loadings from significant potential sources. Though completely voluntary, such recommendations would provide an effective local guide to effective management actions to achieve local water quality goals, establish priorities for grant or loan programs (Section 319 (h), EQUIP, SRF), establish eligibility for grants for Tier plans and implementation, and identify priorities for local watershed assessments and protection plans.

In Columns 1 and 2 of Table 5B, enter each significant potential source and its' corresponding impact ratings from Table 3. Review Table 5A and list significant management practices and activities applicable to each significant cause or source. Evaluate and compare the estimated extent and relative contribution of each significant cause or source with the extent and effectiveness of the applicable management measures and in conjunction with appropriate local stakeholders or organizations, make a best current determination of whether the existing or proposed management practices would achieve the load reductions needed to achieve the TMDL. Summarize conclusions and rationale in Column 4. If more information is needed to adequately determine the significant sources or causes and their relative contributions so note and recommend management actions needed to adequately identify sources such as monitoring, watershed assessments, or Tier 1 implementation plans in the last column. If the current, proposed and required management measures are judged inadequate to achieve the needed load reductions for significant sources, recommend, in consultation with the advisory groups, additional management activities, programs, and measures which would effectively reduce pollutant loads from the source. List such measures in the final column and list as a recommended activity in the milestones (Table 8).

**TABLE 5B: EVALUATION OF MANAGEMENT MEASURES AND ACTIVITIES APPLIED TO SPECIFIC SOURCES OR CAUSES**

SIGNIFICANT POTENTIAL SOURCE (S) OR CAUSE(S) (From Table 3)	IMPACT RATING (From Table 3)	EXISTING, CURRENTLY PROPOSED, OR REQUIRED MANAGEMENT MEASURES OR ENHANCEMENTS APPLICABLE TO EACH SIGNIFICANT SOURCE (From Table 5A)	EVALUATION: WILL THE ESTIMATED EXTENT OF APPLICATION AND EFFECTIVENESS OF EXISTING, CURRENTLY PROPOSED, AND REQUIRED MANAGEMENT MEASURES BE ADEQUATE TO ACHIEVE THE SOURCE REDUCTION SPECIFIED BY THE TMDL?	IF MANAGEMENT MEASURES ARE ESTIMATED TO BE INSUFFICIENT, RECOMMEND ADDITIONAL MANAGEMENT MEASURES AND ACTIVITIES WHICH COULD EFFECTIVELY REDUCE LOADS FROM SIGNIFICANT SOURCES
Urban Runoff	15	Fecal Coliform Monitoring Program (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		County Ordinances (Cobb County)		
		Nuisance Ordinance (Cobb County)		
		Clean Water Campaign (Cobb County)		
		Adopt A Stream (Cobb County)		
		Chattahoochee Tunnel Project (Cobb County)		
		buffer incentives (Cobb County)		
		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		foam root control (Cobb County)		
		beaver control (Cobb County)		
		streambank stabilization program (Cobb County)		
		District-Wide Watershed Management Plan		
		Federal Clean Water Act, Section 305(b) and 303(d)		
Georgia Water Quality Control Act (OCGA 12-5-20)				
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521				
Animal Waste	9	Pet Waste Management Program (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		beaver control (Cobb County)		
		buffer incentives (Cobb County)		
Land Disturbing	0.5	District-Wide Watershed Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Streambank stabilization program (Cobb County)		
Septic Systems	UNK	Long-Term Wastewater Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
Sanitary Sewer Leaks	UNK	Inflow and Infiltration stream walks (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Chattahoochee Tunnel Project (Cobb County)		
		foam root control (Cobb County)		
		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		CMOM Program (Cobb County)		
Preventative Maintenance (Cobb County)				

		Emergency Response Policy (Cobb County)		
		streambank stabilization program (Cobb County)		
		Long-Term Wastewater Management Plan		
Illegal dump/Illicit connections	UNK	Stream Monitoring/Dry Weather Screening (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		District-Wide Watershed Management Plan		

**VII. MONITORING PLAN**

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

**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	2006	2007	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 : Stream 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

**VIII. PLANNED OUTREACH FOR IMPLEMENTATION**

List and describe outreach activities, including those described in the Scope of Services that 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	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

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

This table will be used to periodically track and report progress of significant management practices and activities identified or recommended in Tables 5A, 5B, and other sections of this plan, including outreach, additional monitoring and assessments, and the enhancement or installation of management measures and activities. Identify and list significant planned or recommended activities and the target date of accomplishment. Provide room to 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.

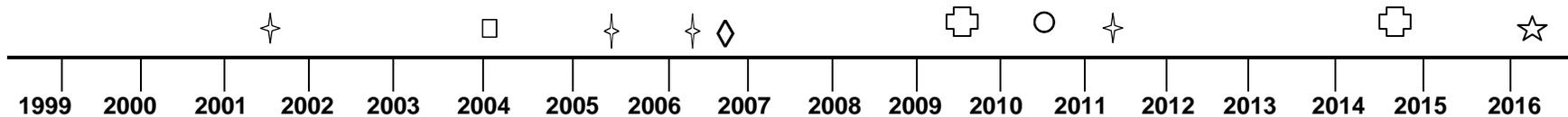
**Table 8. MILESTONES**

MANAGEMENT MEASURE OR ACTIVITY	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	current	In place, ongoing	
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Current	in place, ongoing	
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	Completed	1998	
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	Active and will be enhanced or expanded	2006	
Dry Weather Screening Program	Cobb County Water System: Water Quality Section	2005	2006	implemented into the program for 2006
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	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	Control pet waste in parks
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area		2004 & 2005	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		2005	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 □
- Revised TMDL Implementation Plan Accepted ◇
- Plan Status Evaluation Report ⊕
- Plan Update or Revision, if Necessary ○
- Project Attainment for Plans Prepared in 2006 ☆

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Date Submitted to EPD:	March 31, 2006	Revision:#1	

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
A & B Poultry Co.	1020 Scenic View Drive	Jasper	GA	30143		
American Sports & Rec	3939 Royal Drive, NW, Suite 101	Kennesaw	GA	30144		
Anderson, W B Feed & Poultry	8650 Main Street	Woodstock	GA	30188		
Angi Bruton / Bay Marine, Inc	2394 North Cobb Parkway	Kennesaw	GA	30152	770-427-3578	<a href="mailto:angi@baymarineboats.com">angi@baymarineboats.com</a>
April Ingle / Georgia River Network	126 S. Milledge Ave., Suite E3	Athens	GA	30601	706-549-4508	<a href="mailto:ingle@garivers.org">ingle@garivers.org</a>
Aris Georgakakos / Georgia Water Resources Institute, Georgia Tech	790 Atlantic Drive	Atlanta	GA	30332-0355	404-894-2240	<a href="mailto:ageorgak@ce.gatech.edu">ageorgak@ce.gatech.edu</a>
Bill Higgins / Cobb County Water System, Stormwater Management	680 South Cobb Drive	Marietta	GA	30066	770-419-6434	<a href="mailto:bhiggins@cobbcounty.org">bhiggins@cobbcounty.org</a>
Bingham Trading, Inc	2627 Sandy Plains Road	Marietta	GA	30066		
Bob Sutton / LAPA	194 Evelyn Street	Marietta	GA	30064	770-422-3094	<a href="mailto:RSU194@aol.com">RSU194@aol.com</a>
Bradshaw Farms Golf Course	3030 Bradshaw Club Drive	Woodstock	GA	30188		
Brown Poultry Farms	4494 Conns Creek Road	Ball Ground	GA	30107		
Buchanan Livestock, Inc	1168 S. Main Street	Jasper	GA	30143		
Burt's Cattle Poultry	3553 Sweetwater Juno Road	Dawsonville	GA	30534		
Candace Stoughton / Nature Conservancy	1330 West Peachtree Street, Suite 410	Atlanta	GA	30309	404-253-7250	<a href="mailto:cstoughton@tnc.org">cstoughton@tnc.org</a>
Canterbury Golf Club	500 Cambridge Drive	Marietta	GA	30066-2512		
Cherokee Golf Center	635 Molly Lane	Woodstock	GA	30189		
Cherokee Recreation and Parks Authority	7545 Main Street, Building 200	Woodstock	GA	30188	770-924-7768	
Conagra Poultry	1335 Canton Road	Marietta	GA	30066		
Crooked Creek Golf Club	3430 Highway 9 North	Alpharetta	GA	30004		
Curt Gervich / UGA	PO Box 287	Acworth	GA	30101	678-758-0781	<a href="mailto:curt@etowahhcp.org">curt@etowahhcp.org</a>

Etowah HCP						
David Kubala / CCWSA	PO Box 5000	Canton	GA	30114	770-479-1813	<a href="mailto:dkubala@earthlink.net">dkubala@earthlink.net</a>
David Radcliffe / UGA	Crop & Soil Sciences Dept., UGA	Athens	GA	30602	706-542-0897	<a href="mailto:dradclif@uga.edu">dradclif@uga.edu</a>
Diane Minick / Env. Impact Assessment & Upper Etowah River Alliance – Chair	317 N. Brook Drive	Canton	GA	30114	678-493-9574	<a href="mailto:dianeminick@msn.com">dianeminick@msn.com</a>
Dobson Poultry Farms	6295 Yellow Creek Road	Ball Ground	GA	30107		
Don Stevens / CCWSA	391 West Main Street	Canton	GA	30114	770-479-9302	
Duncan Cottrell / Upper Etowah River Alliance	171 Meridian Street	Canton	GA	30114	770-720-6269	<a href="mailto:duncancottrell@yahoo.com">duncancottrell@yahoo.com</a>
Eagle Watch Golf Course	3055 Eagle Watch Drive	Woodstock	GA	30189		
Ed Mullinax / LAPA, City of Catersville Water	PO Box 1671	Cartersville	GA	30120	770-607-6296	<a href="mailto:emullinax@cityofcatersville.org">emullinax@cityofcatersville.org</a>
Gene Cornelison / Cherokee County	1712 Hornage Road	Ball Ground	GA	30107	770-735-3387	
Geoff Morton / Cherokee County	130 East Main Street, Suite 106	Canton	GA	30114	678-493-6057	<a href="mailto:gmorton@cherokeega.com">gmorton@cherokeega.com</a>
Geoffrey Sarra / City of Alpharetta	1790 Upper Hembree Road	Alpharetta	GA	30004	678-297-6200	<a href="mailto:gsarra@alpharetta.ga.us">gsarra@alpharetta.ga.us</a>
Hilda Hatzell / Interested Citizen	98 Brookhaven Drive	Marietta	GA	30066		
Jeff Riley / CCWSA	1979 Hammond Woods Circle	Marietta	GA	30008	404-932-0745	<a href="mailto:jeffriley191@hotmail.com">jeffriley191@hotmail.com</a>
Jim Lanier / Aquascape Environmental	605 B. Mauldin	Woodstock	GA	30188	678-445-0077	<a href="mailto:muddog@mindspring.com">muddog@mindspring.com</a>
Jimmy Gisi / Cobb County PRCA	1792 County Services Pkwy	Marietta	GA	30008		
John Seafert / Georgia Adopt-A-Stream	430 Morgan Falls Chaseq	Canton	GA	30114	770-592-0942	<a href="mailto:jseufert@adelphia.net">jseufert@adelphia.net</a>
Jonathon Davis / US Army Corp of Engineers	PO Box 487	Cartersville	GA	30120-0487		
Jose Anez / City of Woodstock	103 Arnold Mill Road	Woodstock	GA	30188	678-409-4335	<a href="mailto:janez@ci.woodstock.ga.us">janez@ci.woodstock.ga.us</a>
Katie Knowles / Corp of Engineers – Allatoona Lake	1138 State Route Spur 20, SE	Cartersville	GA	30121	678-721-6738	
Katie Owens / Coosa River Basin Initiative	408 Broad Street	Rome	GA	30161	706-232-2724	<a href="mailto:keady@coosa.org">keady@coosa.org</a>
Kimberly Sanders / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8035	<a href="mailto:Kimberly.sanders@co.fulton.ga.us">Kimberly.sanders@co.fulton.ga.us</a>
L & W Poultry Farms	476 Alpine Farm	Talking Rock	GA	30175		
Little River Grill	6979 Bells Ferry Road	Canton	GA	30114		

Little River Landing	6986 Bells Ferry Road	Canton	GA	30114		
Lori Forrester / CCWSA	1957 Authority Drive	Woodstock	GA	30188	770-591-7156	<a href="mailto:brenaucrew@hotmail.com">brenaucrew@hotmail.com</a>
M & H Poultry	155 Marsha Drive	Canton	GA	30014		
Manor Golf & Country Club	16000 Hopewell Road	Alpharetta	GA	30004		
Mark Hipp / City of Acworth	4402 Acworth Industrial Drive	Acworth	GA	30101	770-975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
Martha Kent	1642 Scott Road	Canton	GA	30115		
Martin Poultry, Inc	4710 McCoy Circle	Cumming	GA	30028		
Marty Williams / Georgia Lakes Society	171 Sumter Drive	Marietta	GA	30066		<a href="mailto:glsl@georgialakes.org">glsl@georgialakes.org</a>
Mary Gazaway / GA EPD	2 Martin Luther King Jr. Drive, Suite 1152 East Tower	Atlanta	GA	30334	404-675-1745	
Mike Tuller / Cobb County	191 Lawrence Street	Marietta	GA	30060	770-528-2199	<a href="mailto:Michael.tuller@cobbcounty.org">Michael.tuller@cobbcounty.org</a>
Nanette Nelson / UGA WQ Training	Ecology UGA	Athens	GA	30602	706-542-4329	<a href="mailto:nanette@uga.edu">nanette@uga.edu</a>
Nick Ammons / Fulton County	141 Pryor Street	Atlanta	GA	30303	404-730-4000	
Phyllis Lea / Lake Sovereign HOA	571 East Shore Drive	Canton	GA	30114	770-345-4904	<a href="mailto:pplea@comcast.net">pplea@comcast.net</a>
Pilgrim Poultry	654 Univeter Road	Canton	GA	30115		
Richard Rogers / City Canton	151 Elizabeth Street	Canton	GA	30114	770-704-1500	<a href="mailto:richard.rogers@canton-georgia.com">richard.rogers@canton-georgia.com</a>
Ron Papaleoni / LAPA	4793 Cooks Ct	Acworth	GA	30101	678-776-6331	<a href="mailto:rpapaleoni@acworthcable.net">rpapaleoni@acworthcable.net</a>
Roy Taylor / Cherokee Homeowners	360 E. Marietta Street	Canton	GA	30114	770-720-4669	<a href="mailto:wrlpeas@mindspring.com">wrlpeas@mindspring.com</a>
Rusty Simpson / Cobb County Parks	1792 County Services Pkwy	Marietta	GA	30008	770-528-8840	<a href="mailto:rusty..simpson@cobbcounty.org">rusty..simpson@cobbcounty.org</a>
Shadburn Poultry Farm	3495 Hurt Bridge Road	Cumming	GA	30040		
Sharon Smith / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8006	<a href="mailto:sharon.smith@co.fulton.ga.us">sharon.smith@co.fulton.ga.us</a>
Smith A C	28 Alan Thomas Road	Cumming	GA	30028		
Stan Hall / Cherokee County	470 Blalock Road	Canton	GA	30115	770-517-7650	<a href="mailto:recycling@cherokeega.com">recycling@cherokeega.com</a>
Steve Turner / City of Kennesaw	Moon Station Road	Kennesaw	GA		404-392-1156	<a href="mailto:sturner@kennesaw-ga.us">sturner@kennesaw-ga.us</a>
Teresa Crisp / Parsons	5390 Triangle Pkwy, Suite 100	Norcross	GA	30092	678-969-2462	<a href="mailto:teresa.crisp@parsons.com">teresa.crisp@parsons.com</a>
Three Kings Golf Center	4190 Jiles Road, NW	Kennesaw	GA	30144		
Toni Pelliccia / CDM	2030 Powers Ferry Road, Suite 325	Atlanta	GA	30339	770-952-8643	<a href="mailto:PellicciaA@cdm.com">PellicciaA@cdm.com</a>
Towne Lake Hills Golf Club	1003 Towne Lake Hills East	Woodstock	GA	30189		

Trophy Club of Atlanta	15135 Hopewell Road	Alpharetta	GA	30004		
Tyson Foods, Inc.	169 Highway 9 S	Dawsonville	GA	30534		
United Poultry Corp.	2320 Old North Lane	Alpharetta	GA	30004		
Valerie Pickard / USDA-NRCS	678 S. Cobb Drive, Suite 150	Marietta	GA	30066	770-792-0594	<a href="mailto:valerie.pickard@ga.usda.gov">valerie.pickard@ga.usda.gov</a>
Vic Jones / CH2M Hill	115 Perimeter Ctr. NE Suite 700	Atlanta	GA	30346	770-604-9281	<a href="mailto:Vjones2@ch2m.com">Vjones2@ch2m.com</a>
Vulcan Materials Company – Southeast Division	1272 Duncan Road, NW	Kennesaw	GA	30144		
White Columns Golf Club	300 White Columns Drive	Alpharetta	GA	30004		
Woodmont Golf Club	3105 Gaddis Road	Canton	GA	30115		
Woody McFarlin / City of Kennesaw	3080 Moon Station Road	Kennesaw	GA	30114	770-421-8582	<a href="mailto:wmcfarlin@kennesaw-ga.gov">wmcfarlin@kennesaw-ga.gov</a>
Yellow Creek Poultry Farm	4745 Hurt Bridge Road	Cumming	GA	30040		

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

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

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## Proctor Creek

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Proctor Creek	Headwaters to Lake Acworth – Cobb County	4 miles / 4866 acres	Fishing	NS

Cobb County personnel have prepared the following description of the creek: Located in the northwest portion of Cobb County, Proctor Creek originates from tributaries in northern sections of Kennesaw and flows west before entering Lake Acworth. Proctor Creek is part of the Etowah River basin. The watershed has been rapidly developing in the last decade. This has given the Cobb County Water System, in partnership with Ted Mikalsen of EPD the opportunity to study the effects of urbanization on stream morphology. An ongoing study at Baker Road is being conducted to assess stream health as the stream responds to an increased volume of storm flow as impervious surface within the watershed increases. Parameters such as channel width, bank erosion, channel scour, sedimentation, and sinuosity are being measured along with water quality and macroinvertebrate diversity to give an overall understanding of stream health. Proctor Creek is characterized by gravel riffles and sediment filled pools, bank erosion problems, and an excess of sediment in the stream.

### 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 not met. See the “Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan” for the water quality standards. Enter the needed reduction from the TMDL. Describe the sources and causes of each impairment 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)	Pages 16-29 of the Fecal Coliform TMDL document developed by GA EPD dated January 2004 list the following potential sources of fecal coliform: wastewater treatment facilities, Phase I & II MS4 storm water permit holders, confined animal feeding operations, wildlife, agricultural livestock, urban development, leaking septic systems, land application systems and landfills. The 303(d) list identifies the source of the fecal coliform problem as Urban Runoff (UR).	62%

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

INVESTIGATE AND EVALUATE the extent and relative contributions from causes or sources of the 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: 1) involvement of stakeholder group; 2) review of land cover data; 3) field surveys; and 4) other pertinent sources of information consulted.

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The Atlanta Regional Commission has taken steps to involve local stakeholders (Table 4 & Appendix A) in identifying possible pollution sources. In October 2005 public meetings were held to solicit general stakeholder involvement. Large presentation size maps using 2004 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 reviewed the most recent landuse data available (year 2003) 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. In addition to the steps taken by the Atlanta Regional Commission, Cobb County also conducts the following to identify possible sources of pollution.

The Proctor Creek TMDL segment has manhole covers and sanitary pipe creek crossings at regular enough intervals to ensure overlapping visual field inspections 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.

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 93 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 addressed through 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' contribution is addressed through Cobb Community Development's Erosion and Sediment Control restrictions, regulatory BMPs and buffer ordinance as well as the NRCS buffer incentives.

Combining information provided in the TMDL document, stakeholder knowledge, existing watershed assessments, and the watershed evaluation conducted for this plan, identify the potential sources or causes most likely to contribute to each identified impairment (parameter) in Table 3. If available information is inadequate to estimate the extent and relative contribution of significant potential sources or causes, recommend appropriate management actions (watershed assessments, monitoring, etc.) to determine the potential sources or causes and relative contributions. In Table 3, list the significant potential sources or causes of each impairment. Estimate the geographic extent of each potential source or cause as percent of the contributing watershed area, percent of stream miles affected, or number per square mile and enter the appropriate rating (from the following table) in the column entitled “Rating (A)”. Estimate the relative contribution of each major source or cause to the pollutant causing the impairment and enter the appropriate rating (from the following table) in the column entitled “Rating (B)”. Calculate a relative impact ratings for each source or cause by multiplying “Rating (A)” by “Rating (B)”. Comments on the source of information used to determine the extent or contribution may be entered in the applicable columns in Table 3.

The following table provides guidance for rating the estimated extent and portion of the contribution from each potential source and cause.

<b>Estimated Geographic Extent of the Source or Cause in the Contributing Watershed</b> (Percent of area or stream miles)	<b>Estimated Contribution of the Source or Cause to the Pollutant Load Causing the Impairment</b> (Percent of load)	<b>Rating</b>
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	0.5
Scattered or low (approximately 5-20%)	Scattered or low (approximately 5-20%)	1
Medium (approximately 20-50%)	Medium (approximately 20-50%)	3
Widespread or high (approximately 50% or more)	Widespread or high (approximately 50% or more)	5
Unknown	Unknown	UNK

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

<b>POTENTIAL SOURCES OR CAUSES</b>	<b>ESTIMATED EXTENT OF CONTRIBUTION</b>		<b>ESTIMATED PORTION OF CONTRIBUTION</b>		<b>IMPACT RATING (A X B)</b>
	<b>Comments</b>	<b>Rating (A)</b>	<b>Comments</b>	<b>Rating (B)</b>	
Urban Runoff		5		3	15
Animal Waste		1		1	1
Leaking Septic Tanks		UNK		UNK	UNK
Leaking Sewer Lines		UNK		UNK	UNK
Illegal discharges		UNK		UNK	UNK

## V. STAKEHOLDERS

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

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

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As a first step local government agencies were asked about possible sources of pollution as well as any preventative / corrective measures in place or planned for the area. The advisory group members 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. Permit holders and other major businesses were identified and invited to participate in the public meetings. A list of elected officials, parks & recreation departments, NRCS, and County Cooperative Extension Service representatives were also invited to the public meetings.

The next outreach activity was to develop a website for this project ([www.atlantaregional.com/cleanerstreams/coosa.html](http://www.atlantaregional.com/cleanerstreams/coosa.html)). The website provided a variety of information and access opportunities to the TMDL Implementation Plan process. The website provided a list and map of the TMDL stream segments. The TMDL documents, the 303(d) list and other background information were 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 next step in this process involved holding 2 initial public meetings in October 2005 to educate stakeholders about this process and solicit input. A total of 34 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, sending out numerous e-mails announcing the initial meetings and finally mailing out meeting announcements to local groups (home owner associations, watershed alliances, etc.), businesses, elected officials, Parks & Recreation Departments, NRCS, and the County Cooperative Extension Services.

After input had been received from our local government advisory group and stakeholders a draft implementation plan was developed that incorporated this input. This draft document was made available to all stakeholders for discussion and input at the 2 public meetings held in February 2006. A total of 22 persons attended the public meetings.

The input received during the four public meetings can be summarized as follows. Stakeholders most commonly asked programmatic type questions like what drives the TMDL process and how will these TMDL implementation plans be used. Stakeholders also asked questions about the water quality parameters for which the implementation plans were developed. Another common question asked was how can local governments and GA EPD tell if the problem is corrected. Other questions revolved around who were the stakeholders involved in the process and how were stakeholders identified for this project. The local stakeholders also wanted to know how stakeholders would be involved in the future. Stakeholders asked what was currently being done to educate the public on how to prevent water quality problems. These types of questions were answered in a discussion format at the public meetings with the help of GA EPD staff.

**Table 4. STAKEHOLDER ADVISORY GROUP MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
GA EPD, Water Protection Branch	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1751	
GA Adopt-A-Stream	4220 International Pkwy, Suite 101	Atlanta	GA	30354	(404) 675-1636	
Georgia Soil and Water Conservation Commission	1500 Klondike Road Suite A109	Conyers	GA	30094	770-761-3020	
City of Acworth, City Manager (Brian Bulthuis)	4375 Senator Russell Square	Acworth	GA	30101	(770) 974-3112	<a href="mailto:bbulthuis@acworth.org">bbulthuis@acworth.org</a>
City of Acworth Public Works (Mark Hipp)	4402 Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
City of Acworth Public Works (Amanda Blowers)	4402 Acworth Industrial Drive	Acworth	GA	30101	(770) 975-0679	<a href="mailto:ablowers@acworth.org">ablowers@acworth.org</a>
Bill Higgins/Cobb Water	680 South Cobb Drive	Marietta	Ga	30060	770 419 6435	<a href="mailto:William.Higgins@cobbcounty.org">William.Higgins@cobbcounty.org</a>
Rob Hosack/Cobb Community Development	191 Lawrence Street	Marietta	Ga.	30090	770 528 2125	
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	<a href="mailto:Jennifer.McCoy@cobbcounty.org">Jennifer.McCoy@cobbcounty.org</a>
Metropolitan North Georgia Water Planning District	40 Courtland Street, NE	Atlanta	GA	30303	404-463-3260	
City of Kennesaw Public Works (Steve Turner)	3080 Moon Station Road	Kennesaw	GA	30144	(770) 421-8582	<a href="mailto:sturner@kennesaw-ga.gov">sturner@kennesaw-ga.gov</a>
City of Kennesaw, Public Works Director (Woodson L. McFarlin Jr.)	3080 Moon Station Road	Kennesaw	GA	30144	(770) 421-8582	<a href="mailto:wmcfarlin@kennesaw-ga.gov">wmcfarlin@kennesaw-ga.gov</a>

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, as described in Project Task #1 of the Scope of Services.

## VI. MANAGEMENT MEASURES AND ACTIVITIES

Identify and list in Table 5A the significant management measures or activities which have or will be taken in the contributing watershed to address sources or causes of the impairment(s). List significant management measures and activities in Column 1 and responsible organizations in Column 2. Describe the measure or activity in Column 3 and sources of funding or resources in Column 4 (you may wish to adapt the generic language included in the “Standard Language for Management Measures and Activities” to local applications) In Column 5, enter one of the following codes describing the status of the measure or activity: (A) installed and active; (AE) active and **will be** enhanced or expanded; (R) required in the future by law, regulation or permit conditions; (P) currently proposed, but not required; and (N/R) **additional new recommended** or (N/E) **recommended enhanced** management measures and activities. In Column 6 enter the rating of the estimated existing or proposed extent of application of the measure or activity or percentage of individual sources to which the management actions have or will be applied (see the following table). In Column 7 enter a rating of the estimated effectiveness of the management measures and activities (see following table). Effectiveness may be estimated by local experts or derived from tables included in the “Standard Language for Management Measures and Activities”.

The following table provides guidance for rating the estimated extent and portion of the contribution for each significant potential source and cause.

Estimated Extent of Application or Percentage of Individual Sources to Which the Management Measure or Activity Has or Will be Applied in the Contributing Watershed	Estimated Effectiveness or Percent Removal of Constituent (Percent of load)	Rating
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	.5
Scattered or low (approximately 5-20%)	Low to medium (approximately 5-25%)	1
Medium (approximately 20-50%)	Medium to High (approximately 25-75%)	3
Widespread or high (approximately 50% or more)	High (approximately 75% or more)	5
Unknown	Unknown	UNK

**Table 5A. MANAGEMENT MEASURES AND ACTIVITIES**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCES OF FUNDING & RESOURCES	STATUS CODE	TARGET DATE	EXTENT RATING (Area, #)	EFFECT. RATING (Reduction)
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	The congressional objective of the CWA “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 305 (the <i>National Water Quality Inventory</i> ) requires states to report progress in restoring impaired waters to EPA on a biennial basis. Section 303(d) requires states to identify ‘impaired’ waters, submit a list to EPA every two years, and develop TMDLs for these waters.	Federal, State	current	In place, ongoing		
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Law prohibiting discharge of excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats. Law authorizing Georgia EPD to control water pollution, eliminate phosphate detergents and regulate sludge	Federal, State, Local/County Governments	Current	in place, ongoing		

		disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit siltation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.					
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	River Basin Management Plans describe strategies and measures necessary for local governments, businesses, and citizen groups to educate the general public on matters involving the environmental and ecological concerns specific to the river basin; improve water quality and reduce pollution at the source; improve aquatic habitat and reestablish native species of fish; restore and protect wildlife habitat; and provide recreational benefits.	State, Local/County Government	Completed	1998		
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	General storm water discharge permit for manufacturing facilities; mining, oil & gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage sludge treatment. Requires implementation of Storm Water Pollution Prevention Plan. May require storm water monitoring program targeting discharges into/near 303(d) listed waters.	State	Active and will be enhanced or expanded	2006		
Soil Erosion Ordinance	City of Acworth	Required by State Erosion and Sedimentation Act. State approved erosion control plans for all development 1.1 acres and up. 50-ft. minimum stream buffer, expanding on State minimums.	General Fund	Enforced	1975, 8/04	0.5	1
Stormwater Ordinance	City of Acworth	Stormwater detention required for all new development.	General Fund	Enforced	4/05	0.5	1
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Comprehensive stormwater program, including public education & participation, illicit discharge detection & elimination, construction & post-construction runoff control, pollution prevention, permitting & reporting and program implementation plans. Includes dry weather outfall screening twice yearly.	General Fund	Active	1/05	0.5	3
Street Sweeping Program	City of Acworth	Street sweeping route through the City to help reduce debris in runoff.	General Fund	Active	1/00	0.5	3
Stormwater Management Ordinance (Ordinance #	City of Acworth	Protects streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity, managing stormwater system.	General Fund	Enforced	04/2005	0.5	3

2005-21)							
Residential Subdivisions Ordinance (Ordinance # 2006-06 – Zoning Ordinance)	City of Acworth	This is an ordinance to regulate and control the development of residential subdivisions. Section 30 – Development Regulations – (Sanitary Sewers) requires that “each lot or other site in a subdivision shall be connected to a public sanitary sewage system by lines of sufficient size to accommodate the anticipated sewage load.” This section also states that when sewer is not available septic systems may be installed but the minimum lot size for septic use is 1 acre with 100 feet of frontage. This large minimum lot size for septic systems will be beneficial in the long term management of septic systems in the city limits.	General Fund	Enforced	April 15, 1993	0.5	3
Tree Protection and Landscaping Ordinance (within the Zoning Ordinance)-	City of Acworth	Requires a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.	General Fund	Enforced	1983	0.5	1
Animal Control (City of Acworth Code 1983 § 4-10)	City of Acworth	This city ordinance states that it is “...the duty of the owner to maintain in a clean and sanitary condition and free from extreme and unreasonably objectionable odor all structures, pens, yards and adjacent areas wherein any animal is kept.”	General Fund	Enforced	1983	0.5	1
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	This city ordinance prohibits cattle in the corporate limits of the city.	General Fund	Enforced	1983	0.5	1
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	This city ordinance authorizes the city manager to have signs erected in any city park or city cemetery prohibiting the feeding of ducks, birds, and fowl. When such signs are posted feeding ducks, birds, or fowl is prohibited.	General Fund	Enforced	9-17-1992	0.5	1
Stream Monitoring/Dry Weather Screening	Cobb Water System, Cobb Marietta Water Authority	Water quality sampling/illicit discharge detection, dry weather screening, NPDES fecal sites	Cobb	current	1976	5	3
Fecal Coliform Monitoring Program	Cobb Water System	Fecal coliform sampling	Cobb	current	2002	5	3
Pet Waste Management	Cobb Water, Cobb Parks and	Measures to control pet waste from being washed into creeks at County Park locations	Cobb	proposed	Pending	5	3

Program	Recreation, Keep Cobb Beautiful						
Inflow and Infiltration stream walks	Cobb Water System Engineering	Infrastructure inspections and repair	Cobb	current	1988	5	3
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	5	3
Nuisance Ordinance	Cobb Board of Health	Required removal of health nuisances, maintenance and installation of septic tanks	Cobb	current	1988	5	3
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	5	1
Chattahoochee Tunnel Project	Cobb Water System	Relieve sewer system loads in the basin to prevent overloading and spills	Cobb	under construction	1988	5	3
buffer incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	5	1
Adopt A Stream	Ga. EPD, Cobb	trains volunteers for bio, physical and chem. monitor	Cobb	current	2001	5	1
manhole raising	Cobb Water Engineering	raises manholes caps above latest floodplain level	Cobb	current	1999	5	3
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	5	3
foam root control	Cobb Water System Maintenance	chemical dissolving of encroaching roots in sewers	Cobb	current	1997	5	3
beaver control	USDA / Cobb Stormwater	remove beavers from building dams and raising water levels above manholes	Cobb/USDA	current	1998	5	3
streambank stabilization program	Cobb Stormwater Management	reinforces stream banks in order to stabilize sewer infrastructure	Cobb Stormwater Management	current	1995	5	3
CMOM Program	EPD, Cobb Water System (System	CMOM Program -- (Capacity, Management, Operation, and Maintenance): Program that provides incentives to	Cobb Water System	current	2003	5	3

	Maintenance)	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.					
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	5	3
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	5	3
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. These ordinances have been adopted by the City of Acworth.	Local Funds	Ongoing	2004 & 2005	5	3
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	5	3
NPDES Phase I MS-4 Program	City of Kennesaw	Wet weather screening, stream monitoring, SIC inspections, new outfalls, spill monitoring. Outfall testing done once per year.	General Fund	Active	1992	3	3
Erosion & Sedimentation Ordinances	City of Kennesaw	Required by State Erosion and Sedimentation Act. Requires approved erosion control for construction, & 25-ft buffers on State waters.	General Fund	Enforced	1975, 2000	3	1
Stormwater Ordinance	City of Kennesaw	Requires new development to have approved stormwater detention facilities.	General Fund	Active	1998	3	3
Stream Buffer Regulation	City of Kennesaw	50-ft. minimum stream buffer.	General Fund	Enforced	2000	3	3
Tree Preservation Ordinance	City of Kennesaw	Preserves existing trees and provides for planting of new trees in new development.	General Fund	Enforced	7/99	3	1

The purpose of Table 5B is to initiate and guide a “first-cut” evaluation of the capacity of existing, currently proposed, and future required management measures and activities to achieve the load reductions specified in the TMDL (and meet water quality goals) and where needed, identify potential feasible and effective measures and practices which could be encouraged and supported to further reduce pollutant loadings from significant potential sources. Though completely voluntary, such recommendations would provide an effective local guide to effective management actions to achieve local water quality goals, establish priorities for grant or loan programs (Section 319 (h), EQUIP, SRF), establish eligibility for grants for Tier plans and implementation, and identify priorities for local watershed assessments and protection plans.

In Columns 1 and 2 of Table 5B, enter each significant potential source and its’ corresponding impact ratings from Table 3. Review Table 5A and list significant management practices and activities applicable to each significant cause or source. Evaluate and compare the estimated extent and relative contribution of each significant cause or source with the extent and effectiveness of the applicable management measures and in conjunction with appropriate local stakeholders or organizations, make a best current determination of whether the existing or proposed management practices would achieve the load reductions needed to achieve the TMDL. Summarize conclusions and rationale in Column 4. If more information is needed to adequately determine the significant sources or causes and their relative contributions so note and recommend management actions needed to adequately identify sources such as monitoring, watershed assessments, or Tier 1 implementation plans in the last column. If the current, proposed and required management measures are judged inadequate to achieve the needed load reductions for significant sources, recommend, in consultation with the advisory groups, additional management activities, programs, and measures which would effectively reduce pollutant loads from the source. List such measures in the final column and list as a recommended activity in the milestones (Table 8).

**TABLE 5B: EVALUATION OF MANAGEMENT MEASURES AND ACTIVITIES APPLIED TO SPECIFIC SOURCES OR CAUSES**

SIGNIFICANT POTENTIAL SOURCE (S) OR CAUSE(S) (From Table 3)	IMPACT RATING (From Table 3)	EXISTING, CURRENTLY PROPOSED, OR REQUIRED MANAGEMENT MEASURES OR ENHANCEMENTS APPLICABLE TO EACH SIGNIFICANT SOURCE (From Table 5A)	EVALUATION: WILL THE ESTIMATED EXTENT OF APPLICATION AND EFFECTIVENESS OF EXISTING, CURRENTLY PROPOSED, AND REQUIRED MANAGEMENT MEASURES BE ADEQUATE TO ACHIEVE THE SOURCE REDUCTION SPECIFIED BY THE TMDL?	IF MANAGEMENT MEASURES ARE ESTIMATED TO BE INSUFFICIENT, RECOMMEND ADDITIONAL MANAGEMENT MEASURES AND ACTIVITIES WHICH COULD EFFECTIVELY REDUCE LOADS FROM SIGNIFICANT SOURCES
Urban Runoff	15	Stormwater Management Ordinance (Ordinance # 2005-21 City of Acworth)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		NPDES Phase I MS-4 Permit # GAS000101 (City of Acworth)		
		Street Sweeping Program (City of Acworth)		
		Soil Erosion Ordinance (City of Acworth)		
		Tree Ordinance (Section 98-31 – 98- (City of Acworth)		
		District-Wide Watershed Management Plan		
		Fecal Coliform Monitoring Program (Cobb County)		
		County Ordinances (Cobb County)		
		Nuisance Ordinance (Cobb County)		
		Clean Water Campaign (Cobb County)		
		Adopt A Stream (Cobb County)		
		Chattahoochee Tunnel Project (Cobb County)		
		buffer incentives (Cobb County)		

		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		foam root control (Cobb County)		
		beaver control (Cobb County)		
		streambank stabilization program (Cobb County)		
		NPDES Phase I MS-4 Program (City of Kennesaw)		
		Erosion & Sedimentation Ordinances (City of Kennesaw)		
		Stormwater Ordinance (City of Kennesaw)		
		Stream Buffer Regulation (City of Kennesaw)		
		Tree Preservation Ordinance (City of Kennesaw)		
		Federal Clean Water Act, Section 305(b) and 303(d)		
		Georgia Water Quality Control Act (OCGA 12-5-20)		
		Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521		
		Industrial Storm Water Discharge NPDES Permit		
Animal Waste	1	Animal Control (City of Acworth Code 1983 § 4-10)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Animal Control (City of Acworth Code 1983 § 4-29)		
		City of Acworth Ordinance # 92-040-A, § 1		
		Pet Waste Management Program (Cobb County)		
		beaver control (Cobb County)		
		buffer incentives (Cobb County)		
Leaking Septic Tanks	UNK	Residential Subdivisions Ordinance (Ordinance # 93-077) (City of Acworth)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Long-Term Wastewater Management Plan		
Leaking Sewer Lines	UNK	Long-Term Wastewater Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		Inflow and Infiltration stream walks (Cobb County)		
		Chattahoochee Tunnel Project (Cobb County)		
		foam root control (Cobb County)		
		manhole raising (Cobb County)		
		grease trap maintenance section (Cobb County)		
		CMOM Program (Cobb County)		
		Preventative Maintenance (Cobb County)		
		Emergency Response Policy (Cobb County)		
		streambank stabilization program (Cobb County)		
Illegal discharges	UNK	Stream Monitoring/Dry Weather Screening (Cobb County)	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	
		District-Wide Watershed Management Plan		

## VII. MONITORING PLAN

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

**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	2006	2007	TMDL Evaluation / Monitoring data for Georgia's 305(b)/303(d) List
	Acworth NPDES Phase I MS-4 Municipal Stormwater Permit		Twice a year	Ongoing	Dry weather screening.
	City of Acworth Fecal Coliform Analysis		May-September	Ongoing	Recreational monitoring for beach and swimming safety.
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 : Stream 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
Fecal and chemical	Kennesaw NPDES Phase I MS-4 Municipal Stormwater Permit		Once a year	Ongoing	Wet weather screening, stream monitoring, SIC inspections, new outfalls, spill monitoring. Outfall testing.

## VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities, including those described in the Scope of Services that 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	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
ARC, Cobb County, Acworth, Kennesaw in Regional Coalition	Clean Water Campaign - Educate the public on the sources, causes and prevention of stormwater pollution, including fecal coliform.	General Public	9/01

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

This table will be used to periodically track and report progress of significant management practices and activities identified or recommended in Tables 5A, 5B, and other sections of this plan, including outreach, additional monitoring and assessments, and the enhancement or installation of management measures and activities. Identify and list significant planned or recommended activities and the target date of accomplishment. Provide room to 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 OR ACTIVITY	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	current	In place, ongoing	
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6	Current	in place, ongoing	
Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521	Georgia DNR/EPD	Completed	1998	
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/EPD	Active and will be enhanced or expanded	2006	
Buffer Incentives	USDA/NRCS	current	1996	
Soil Erosion Ordinance	City of Acworth	Enforced	1975, 4/01	Continue requiring approved erosion control plans for all development 1.1 acres and up. This includes enforcement of a 50-ft. minimum stream buffer,
Stormwater Ordinance	City of Acworth	Enforced	1/96	Continue requiring stormwater detention for all new developments.
NPDES Phase I MS-4 Permit # GAS000101	City of Acworth	Active	1/96	Refer to annual report
Street Sweeping Program	City of Acworth	Active	1/00	Continue street sweeping route through the City.
Stormwater Management Ordinance (Ordinance # 2000-41)	City of Acworth	Enforced	12/7/2000	Continue enforcing ordinance to protect streams by prohibiting illicit discharges, regulating post-development runoff quality & quantity, managing stormwater system.
Residential Subdivisions Ordinance (Ordinance # 93-077)	City of Acworth	Enforced	April 15, 1993	Continue to enforce this ordinance through development plan review.
Tree Ordinance (Section 98-31 – 98-	City of Acworth	Enforced	1983	Continue to require a tree preservation and/or replacement plan be submitted to the builder inspector with all applications for land disturbing permits.

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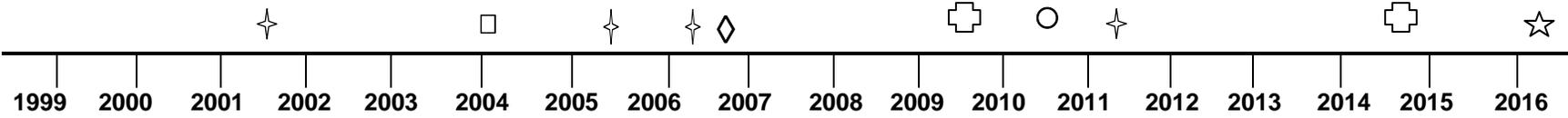
Animal Control (City of Acworth Code 1983 § 4-10)	City of Acworth	Enforced	1983	Continue to enforce this ordinance.
Animal Control (City of Acworth Code 1983 § 4-29)	City of Acworth	Enforced	1983	Continue to enforce this ordinance.
City of Acworth Ordinance # 92-040-A, § 1	City of Acworth	Enforced	9-17-1992	Continue to enforce this ordinance.
NPDES Phase I MS-4 Program	City of Kennesaw	Active	1992	Refer to Annual Report
Erosion & Sedimentation Ordinances	City of Kennesaw	Enforced	1975, 2000	Continue requiring approved erosion control for construction, & 25-ft buffers on State waters.
Stormwater Ordinance	City of Kennesaw	Active	1998	Require new development to have approved stormwater detention facilities.
Stream Buffer Regulation	City of Kennesaw	Enforced	2000	Continue enforcing 50-ft. minimum stream buffer.
Tree Preservation Ordinance	City of Kennesaw	Enforced	7/99	Require preservation of existing trees and planting of new trees in new development.
District-Wide Watershed Management Plan	Metropolitan North Georgia Water Planning District and Local Governments in 16 county District Area		2004 & 2005	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		2005	Refer to the Long-Term Wastewater Management Plan
Dry Weather Screening Program	Cobb County Water System: Water Quality Section	2005	2006	implemented into the program for 2006
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	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	Control pet waste in parks

### 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 □
- Revised TMDL Implementation Plan Accepted ◇
- Plan Status Evaluation Report ⊕
- Plan Update or Revision, if Necessary ○
- Project Attainment for Plans Prepared in 2006 ☆

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Date Submitted to EPD:	March 31, 2006	Revision:	#1

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
Acworth Lake Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		
Acworth Downtown Development Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		<a href="http://www.acworthmainstreet.org">http://www.acworthmainstreet.org</a>
Acworth Area Convention And Visitors Bureau Authority	Acworth City Hall 4415 Senator Russell Ave.	Acworth	GA	30101		<a href="http://www.acworthtourism.org">http://www.acworthtourism.org</a>
A & B Poultry Co.	1020 Scenic View Drive	Jasper	GA	30143		
American Sports & Rec	3939 Royal Drive, NW, Suite 101	Kennesaw	GA	30144		
Anderson, W B Feed & Poultry	8650 Main Street	Woodstock	GA	30188		
Angi Bruton / Bay Marine, Inc	2394 North Cobb Parkway	Kennesaw	GA	30152	770-427-3578	<a href="mailto:angi@baymarineboats.com">angi@baymarineboats.com</a>
April Ingle / Georgia River Network	126 S. Milledge Ave., Suite E3	Athens	GA	30601	706-549-4508	<a href="mailto:ingle@garivers.org">ingle@garivers.org</a>
Aris Georgakakos / Georgia Water Resources Institute, Georgia Tech	790 Atlantic Drive	Atlanta	GA	30332-0355	404-894-2240	<a href="mailto:ageorgak@ce.gatech.edu">ageorgak@ce.gatech.edu</a>
Bill Higgins / Cobb County Water System, Stormwater Management	680 South Cobb Drive	Marietta	GA	30066	770-419-6434	<a href="mailto:bhiggins@cobbcounty.org">bhiggins@cobbcounty.org</a>
Bingham Trading, Inc	2627 Sandy Plains Road	Marietta	GA	30066		
Bob Sutton / LAPA	194 Evelyn Street	Marietta	GA	30064	770-422-3094	<a href="mailto:RSU194@aol.com">RSU194@aol.com</a>
Bradshaw Farms Golf Course	3030 Bradshaw Club Drive	Woodstock	GA	30188		
Brown Poultry Farms	4494 Conns Creek Road	Ball Ground	GA	30107		
Buchanan Livestock, Inc	1168 S. Main Street	Jasper	GA	30143		
Burt's Cattle Poultry	3553 Sweetwater Juno Road	Dawsonville	GA	30534		
Candace Stoughton /	1330 West Peachtree Street,	Atlanta	GA	30309	404-253-7250	<a href="mailto:cstoughton@tnc.org">cstoughton@tnc.org</a>

Nature Conservancy	Suite 410					
Canterbury Golf Club	500 Cambridge Drive	Marietta	GA	30066-2512		
Cherokee Golf Center	635 Molly Lane	Woodstock	GA	30189		
Cherokee Recreation and Parks Authority	7545 Main Street, Building 200	Woodstock	GA	30188	770-924-7768	
Conagra Poultry	1335 Canton Road	Marietta	GA	30066		
Crooked Creek Golf Club	3430 Highway 9 North	Alpharetta	GA	30004		
Curt Gervich / UGA Etowah HCP	PO Box 287	Acworth	GA	30101	678-758-0781	<a href="mailto:curt@etowahhcp.org">curt@etowahhcp.org</a>
David Kubala / CCWSA	PO Box 5000	Canton	GA	30114	770-479-1813	<a href="mailto:dkubala@earthlink.net">dkubala@earthlink.net</a>
David Radcliffe / UGA	Crop & Soil Sciences Dept., UGA	Athens	GA	30602	706-542-0897	<a href="mailto:dradclif@uga.edu">dradclif@uga.edu</a>
Diane Minick / Env. Impact Assessment & Upper Etowah River Alliance – Chair	317 N. Brook Drive	Canton	GA	30114	678-493-9574	<a href="mailto:dianeminick@msn.com">dianeminick@msn.com</a>
Dobson Poultry Farms	6295 Yellow Creek Road	Ball Ground	GA	30107		
Don Stevens / CCWSA	391 West Main Street	Canton	GA	30114	770-479-9302	
Duncan Cottrell / Upper Etowah River Alliance	171 Meridian Street	Canton	GA	30114	770-720-6269	<a href="mailto:duncancottrell@yahoo.com">duncancottrell@yahoo.com</a>
Eagle Watch Golf Course	3055 Eagle Watch Drive	Woodstock	GA	30189		
Ed Mullinax / LAPA, City of Catersville Water	PO Box 1671	Cartersville	GA	30120	770-607-6296	<a href="mailto:emullinax@cityofcatersville.org">emullinax@cityofcatersville.org</a>
Gene Cornelison / Cherokee County	1712 Hornage Road	Ball Ground	GA	30107	770-735-3387	
Geoff Morton / Cherokee County	130 East Main Street, Suite 106	Canton	GA	30114	678-493-6057	<a href="mailto:gmorton@cherokeega.com">gmorton@cherokeega.com</a>
Geoffrey Sarra / City of Alpharetta	1790 Upper Hembree Road	Alpharetta	GA	30004	678-297-6200	<a href="mailto:gsarra@alpharetta.ga.us">gsarra@alpharetta.ga.us</a>
Hilda Hatzell / Interested Citizen	98 Brookhaven Drive	Marietta	GA	30066		
Jeff Riley / CCWSA	1979 Hammond Woods Circle	Marietta	GA	30008	404-932-0745	<a href="mailto:jeffriley191@hotmail.com">jeffriley191@hotmail.com</a>
Jim Lanier / Aquascape Environmental	605 B. Mauldin	Woodstock	GA	30188	678-445-0077	<a href="mailto:muddog@mindspring.com">muddog@mindspring.com</a>
Jimmy Gisi / Cobb County PRCA	1792 County Services Pkwy	Marietta	GA	30008		
John Seafert / Georgia Adopt-A-Stream	430 Morgan Falls Chaseq	Canton	GA	30114	770-592-0942	<a href="mailto:jseufert@adelphia.net">jseufert@adelphia.net</a>
Jonathon Davis / US Army Corp of Engineers	PO Box 487	Cartersville	GA	30120-0487		
Jose Anez / City of Woodstock	103 Arnold Mill Road	Woodstock	GA	30188	678-409-4335	<a href="mailto:janez@ci.woodstock.ga.us">janez@ci.woodstock.ga.us</a>

Katie Knowles / Corp of Engineers – Allatoona Lake	1138 State Route Spur 20, SE	Cartersville	GA	30121	678-721-6738	
Katie Owens / Coosa River Basin Initiative	408 Broad Street	Rome	GA	30161	706-232-2724	<a href="mailto:keady@coosa.org">keady@coosa.org</a>
Kimberly Sanders / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8035	<a href="mailto:Kimberly.sanders@co.fulton.ga.us">Kimberly.sanders@co.fulton.ga.us</a>
L & W Poultry Farms	476 Alpine Farm	Talking Rock	GA	30175		
Little River Grill	6979 Bells Ferry Road	Canton	GA	30114		
Little River Landing	6986 Bells Ferry Road	Canton	GA	30114		
Lori Forrester / CCWSA	1957 Authority Drive	Woodstock	GA	30188	770-591-7156	<a href="mailto:brenaucrew@hotmail.com">brenaucrew@hotmail.com</a>
M & H Poultry	155 Marsha Drive	Canton	GA	30014		
Manor Golf & Country Club	16000 Hopewell Road	Alpharetta	GA	30004		
Mark Hipp / City of Acworth	4402 Acworth Industrial Drive	Acworth	GA	30101	770-975-0679	<a href="mailto:mhipp@acworth.org">mhipp@acworth.org</a>
Martha Kent	1642 Scott Road	Canton	GA	30115		
Martin Poultry, Inc	4710 McCoy Circle	Cumming	GA	30028		
Marty Williams / Georgia Lakes Society	171 Sumter Drive	Marietta	GA	30066		<a href="mailto:gls@georgialakes.org">gls@georgialakes.org</a>
Mary Gazaway / GA EPD	2 Martin Luther King Jr. Drive, Suite 1152 East Tower	Atlanta	GA	30334	404-675-1745	
Mike Tuller / Cobb County	191 Lawrence Street	Marietta	GA	30060	770-528-2199	<a href="mailto:Michael.tuller@cobbcounty.org">Michael.tuller@cobbcounty.org</a>
Nanette Nelson / UGA WQ Training	Ecology UGA	Athens	GA	30602	706-542-4329	<a href="mailto:nanette@uga.edu">nanette@uga.edu</a>
Nick Ammons / Fulton County	141 Pryor Street	Atlanta	GA	30303	404-730-4000	
Phyllis Lea / Lake Sovereign HOA	571 East Shore Drive	Canton	GA	30114	770-345-4904	<a href="mailto:pplea@comcast.net">pplea@comcast.net</a>
Pilgrim Poultry	654 Univeter Road	Canton	GA	30115		
Richard Rogers / City Canton	151 Elizabeth Street	Canton	GA	30114	770-704-1500	<a href="mailto:richard.rogers@canton-georgia.com">richard.rogers@canton-georgia.com</a>
Ron Papaleoni / LAPA	4793 Cooks Ct	Acworth	GA	30101	678-776-6331	<a href="mailto:rpapaleoni@acworthcable.net">rpapaleoni@acworthcable.net</a>
Roy Taylor / Cherokee Homeowners	360 E. Marietta Street	Canton	GA	30114	770-720-4669	<a href="mailto:wrlpdeas@mindspring.com">wrlpdeas@mindspring.com</a>
Rusty Simpson / Cobb County Parks	1792 County Services Pkwy	Marietta	GA	30008	770-528-8840	<a href="mailto:rusty.simpson@cobbcounty.org">rusty.simpson@cobbcounty.org</a>
Shadburn Poultry Farm	3495 Hurt Bridge Road	Cumming	GA	30040		
Sharon Smith / Fulton County	141 Pryor Street, Suite 5001	Atlanta	GA	30303	404-730-8006	<a href="mailto:sharon.smith@co.fulton.ga.us">sharon.smith@co.fulton.ga.us</a>
Smith A C	28 Alan Thomas Road	Cumming	GA	30028		

Plan for Proctor Creek (Headwaters to Lake Acworth – Cobb County) Watershed  
HUC 10 #: 0315010409

Stan Hall / Cherokee County	470 Blalock Road	Canton	GA	30115	770-517-7650	<a href="mailto:recycling@cherokeega.com">recycling@cherokeega.com</a>
Steve Turner / City of Kennesaw	Moon Station Road	Kennesaw	GA		404-392-1156	<a href="mailto:sturner@kennesaw-ga.us">sturner@kennesaw-ga.us</a>
Teresa Crisp / Parsons	5390 Triangle Pkwy, Suite 100	Norcross	GA	30092	678-969-2462	<a href="mailto:teresa.crisp@parsons.com">teresa.crisp@parsons.com</a>
Three Kings Golf Center	4190 Jiles Road, NW	Kennesaw	GA	30144		
Toni Pelliccia / CDM	2030 Powers Ferry Road, Suite 325	Atlanta	GA	30339	770-952-8643	<a href="mailto:PellicciaA@cdm.com">PellicciaA@cdm.com</a>
Towne Lake Hills Golf Club	1003 Towne Lake Hills East	Woodstock	GA	30189		
Trophy Club of Atlanta	15135 Hopewell Road	Alpharetta	GA	30004		
Tyson Foods, Inc.	169 Highway 9 S	Dawsonville	GA	30534		
United Poultry Corp.	2320 Old North Lane	Alpharetta	GA	30004		
Valerie Pickard / USDA-NRCS	678 S. Cobb Drive, Suite 150	Marietta	GA	30066	770-792-0594	<a href="mailto:valerie.pickard@ga.usda.gov">valerie.pickard@ga.usda.gov</a>
Vic Jones / CH2M Hill	115 Perimeter Ctr. NE Suite 700	Atlanta	GA	30346	770-604-9281	<a href="mailto:Vjones2@ch2m.com">Vjones2@ch2m.com</a>
Vulcan Materials Company – Southeast Division	1272 Duncan Road, NW	Kennesaw	GA	30144		
White Columns Golf Club	300 White Columns Drive	Alpharetta	GA	30004		
Woodmont Golf Club	3105 Gaddis Road	Canton	GA	30115		
Woody McFarlin / City of Kennesaw	3080 Moon Station Road	Kennesaw	GA	30114	770-421-8582	<a href="mailto:wmcfarlin@kennesaw-ga.gov">wmcfarlin@kennesaw-ga.gov</a>
Yellow Creek Poultry Farm	4745 Hurt Bridge Road	Cumming	GA	30040		

**APPENDIX B.**

**UPDATES TO THIS PLAN**

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

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

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