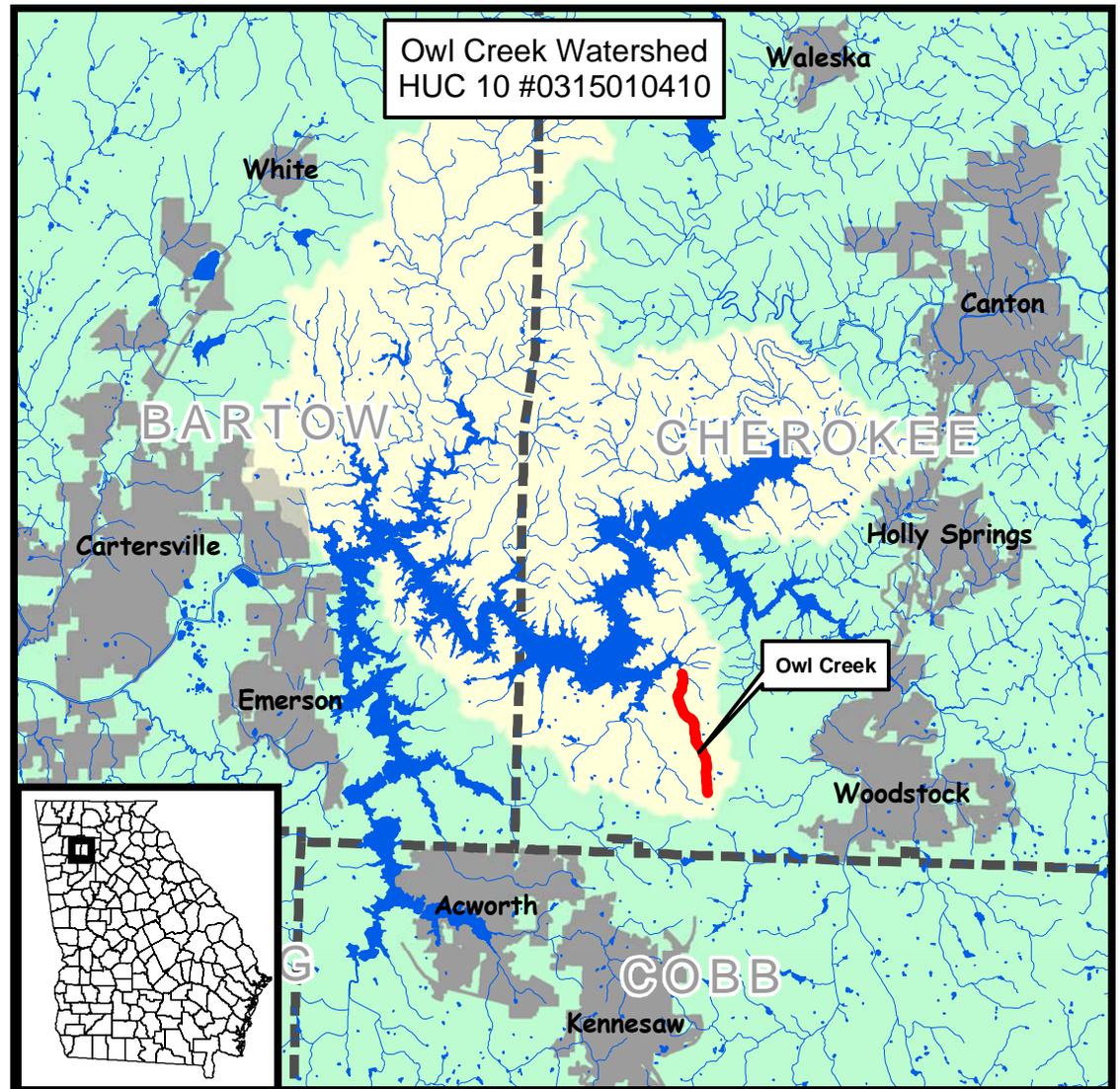


**STATE OF GEORGIA**  
**TIER 2 TMDL IMPLEMENTATION PLAN – REVISION 1**  
 Owl Creek (Lake Allatoona Tributary)  
 Coosa River Basin  
 April 28, 2006  
 Local Watershed Governments  
 Cherokee County

**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
Owl Creek	Lake Allatoona Tributary	Fecal Coliform	CSA0000095

## II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC10# 0315010410. 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 Owl Creek Watershed (HUC10 #0315010410) is located in the northwest portion of metro Atlanta in Bartow and Cherokee Counties. The land area for HUC10 #0315010410 is 67,478 acres. Based on available ARC 2003 land cover data this area appears to be primarily forested. There are residential areas scattered throughout this HUC10 with a concentration of residential areas in the southern portion of this HUC10. The local governments with interest in the Section 305(b) / Section 303(d) listed stream segment in this HUC10 watershed include: Cherokee County. The Owl Creek (Lake Allatoona Tributary) stream segment identified on Georgia Environmental Protection Division’s 303(d) list is the only stream segment in this HUC10 watershed for which ARC has developed an implementation plan. The 303 (d) listed stream segment of Owl Creek is located entirely in unincorporated Cherokee County.

The Owl Creek TMDL segment watershed has a smaller land area than the entire HUC10 watershed that affects the actual TMDL stream segment. We have included below a table describing the land cover for the Owl Creek TMDL stream segment watershed. The land cover data used to develop this table is data developed by the Atlanta Regional Commission in 2001 & 2003. These two years were included to illustrate land cover change during that time. As the table below indicates the land cover data has not changed significantly since 2001. The land cover data found in GA EPD’s 2004 TMDL document shows that the Owl Creek (Lake Allatoona Tributary) stream segment watershed is 1,525 acres while the ARC delineation of the segment watershed shows a land area of 1,436 acres. The TMDL data also shows that forested areas make up 16.4% of the Owl Creek TMDL segment watershed. The 2001 ARC data shows that Forest/Open Space accounts for 15.94% of the watershed area. The data found in the TMDL shows that Pasture/Hay and Row Crops combined make up 7.7% of the Owl Creek TMDL segment watershed. Whereas the ARC data shows Agricultural Lands make up 7.65% of the Owl Creek TMDL Watershed. The data found in the TMDL shows that Low Intensity Residential accounts for 58.6% of the Owl Creek TMDL segment watershed. The ARC data shows that Low Density Residential accounts for 38.88% of the watershed area. 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. Table 2 in the attached visual field survey document (Appendix C) defines the Aggregated ARC Land Cover Codes.

**ARC 2001 & 2003 Land Cover for Owl 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
Agricultural Lands	109.81	7.65%	109.81	7.65%	0.00	0.00%
Commercial	94.19	6.56%	94.75	6.60%	0.56	0.04%
Forest/ Open Space	228.93	15.94%	169.72	11.82%	-59.21	-4.12%
High Density Residential	124.59	8.68%	126.36	8.80%	1.77	0.12%
Low Density Residential	558.31	38.88%	550.44	38.33%	-7.87	-0.55%
Medium Density Residential	271.24	18.89%	287.08	19.99%	15.84	1.10%
Transitional/ Extractive Lands	42.20	2.94%	91.12	6.35%	48.92	3.41%
Water/ Wetlands	6.62	0.46%	6.63	0.46%	0.00	0.00%
<b>Total Acres</b>	<b>1,436</b>	<b>100.00%</b>	<b>1,436</b>	<b>100.00%</b>		

This stream segment is 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 this stream segment in January 2004 that shows a 56% reduction in fecal coliform is needed.

Staff from Cherokee County helped to identify the potential sources of fecal coliform in this segment watershed. The following potential fecal coliform sources were identified for the stream segments in HUC10 #0315010410: urban runoff, wildlife, domestic animal waste, sanitary sewer leaks, and septic systems.

This implementation plan was developed with the help of representatives from the Cherokee County Engineering Department, Cherokee County Water & Sewer Authority and the Metropolitan North Georgia Water Planning District. 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 segment 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 II 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. Cherokee County participates in the Clean Water Campaign ([www.cleanwatercampaign.com](http://www.cleanwatercampaign.com)). Cherokee County also maintains a website with stormwater related issues (<http://stormwater.cherokeega.com/>). Storm Drain stenciling programs are also being implemented by Cherokee County.

The purpose of this implementation plan is to reduce or eliminate the sources of fecal coliform bacteria contributing to this stream segment 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.

**Owl Creek**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Owl Creek	Lake Allatoona Tributary	2 miles / 1,436 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).	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.

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 is one permitted point source discharges in the Owl Creek (Lake Allatoona Tributary) watershed. The field survey identified nonpoint sources such as wildlife, horses, and urban runoff. Based on the field survey, horses and wildlife are the most likely potential source of pollution in and around the stream segment. The wildlife and horse farms along the stream segment have a high estimated extent of contribution of fecal coliform and a medium estimated portion of contribution. Based on the urban nature of the land cover in the watershed, urban runoff also has a high estimated extent of contribution and a medium estimated portion of contribution. Proposed management practices to address fecal coliform have been provided by local governments and are outlined in the 2006 Owl Creek (Lake Allatoona Tributary) 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		5		3	15
Wildlife		5		3	15
Domestic Animal Waste		5		3	15
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	
Cherokee County Engineer (Geoff Morton)	130 E.Main St, Suite 106	Canton	GA	30114	(678) 493-6057	<a href="mailto:gmorton@cherokeega.com">gmorton@cherokeega.com</a>
Cherokee County Planning Director (Jeff Watkins)					(678) 493-6107	<a href="mailto:jwatkins@cherokeega.com">jwatkins@cherokeega.com</a>
Cherokee County WSA (David Kubala)	P.O. Box 5000 391 W. Main St.	Canton	GA	30114	(770) 479-1813	<a href="mailto:dkubala@earthlink.net">dkubala@earthlink.net</a>
Cherokee Co. Environmental Health (G. Curtis Barnhart, Jr.)	105 E. Main St	Canton	GA	30114	(770) 479-0444	<a href="mailto:gcbarnhart@gdph.state.ga.us">gcbarnhart@gdph.state.ga.us</a>
Cherokee County Cooperative Extension Service (Todd Hurt)	130 East Main Street Suite 200	Canton	GA	30114 -2784	(770) 479-0419	<a href="mailto:thurt@uga.edu">thurt@uga.edu</a>
Cherokee County Recycling Center (Stan Hall)	470 Blalock Road	Canton	Ga	30115	(770) 517-7650	<a href="mailto:recycling@cherokeega.com">recycling@cherokeega.com</a>
USDA Natural Resources Conservation Service (Machelle Simons)	717 S WALL ST STE 1	CALHOUN	GA	30701-2649	706) 629-2582	<a href="mailto:machelle.simons@ga.usda.gov">machelle.simons@ga.usda.gov</a>
GA Soil & Water Conservation Commission (Keith Gilmer)	700 East 2nd Avenue Suite J	Rome	GA	30161-3359	(706) 295-6131	<a href="mailto:kgilmer@gaswcc.org">kgilmer@gaswcc.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		

<p>Georgia Water Quality Control Act (OCGA 12-5-20)</p>	<p>Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6</p>	<p>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 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.</p>	<p>Federal, State, Local/County Governments</p>	<p>Current</p>	<p>in place, ongoing</p>		
<p>Georgia River Basin Management Planning Act, Georgia Code Section 12-5-521</p>	<p>Georgia DNR/EPD</p>	<p>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.</p>	<p>State, Local/County Government</p>	<p>Completed</p>	<p>1998</p>		
<p>Industrial Storm Water Discharge NPDES Permit</p>	<p>Georgia DNR/EPD</p>	<p>General storm water discharge permit for manufacturing facilities; mining, oil &amp; 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</p>	<p>State</p>	<p>Active and will be enhanced or expanded</p>	<p>2006</p>		

		storm water monitoring program targeting discharges into/near 303(d) listed waters.					
Buffer Incentives	USDA/NRCS	incentives for fencing and restoring buffers	NRCS	current	1996	5	1
Phase II MS4 NPDES Permit	Cherokee County	This program requires the implementation of six minimum control measures designed to maintain or improve water quality. The permit is applicable to the "urbanized", unincorporated portions of the County; however, many of the management practices should have beneficial impacts throughout the County.	General Fund	Enforced	2004	5	3
Industry database	Cherokee County	Create and maintain a database of industrial sites that could contribute to stormwater pollution as part of the Illicit Discharge Detection and Elimination BMPs. The database will be integrated into GIS and outfalls located near industries identified in this database will be prioritized for dry weather screening monitoring locations.	General Fund	In progress, planned	December 2004	5	1
Dry Weather Screening	Cherokee County	The dry weather screening program will consist of inspecting outfalls and sampling any dry weather flow to determine if upstream facilities/connections are discharging non-stormwater flows to the drainage system. This will be a part of the Illicit Discharge Detection and Elimination BMPs.	General Fund	In progress, planned	July 2005	5	3
Source Tracing and Removal Procedures	Cherokee County	Once an illicit discharge is detected through the dry weather screening program, it will be the responsibility of the County to attempt to trace the source and remove the illicit connection as part of the Illicit Discharge Detection and Elimination BMPs.	General Fund	In progress, planned	June 2005	5	3
Site Plan Review	Cherokee County	Site plan reviews for land disturbing activities that will disturb more than one (1.0) acres of land or more as part of the Construction Site Stormwater Runoff Control BMPs.	General Fund	In progress, planned	March 2003	5	1

Inspection Program	Cherokee County	Inspectors conduct several inspections at active construction sites of one (1.0) acres or more as part of the Construction Site Stormwater Runoff Control BMPs.	General Fund	In progress, planned	June 2004	5	1
Citizen Complaint Database	Cherokee County	The County will create and maintain a database of citizen comments/ concerns regarding stormwater, water quality, and erosion and sedimentation and how each issue was managed/ resolved as part of the Construction Site Stormwater Runoff Control BMPs and the Pollution Prevention/ Good Housekeeping for Municipal Operations BMPs..	General Fund	In progress, planned	December 2004	5	1
BMP Mapping	Cherokee County	The County will develop a GIS database of the location of all BMPs, the type of ownership (residential, commercial, or municipal), and the actual owner contact information as part of the Post-Construction Stormwater Management in New Development and Redevelopment BMPs.	General Fund	In progress, planned	December 2005	5	3
BMP Inspection Program	Cherokee County	MNGWPD requires adoption of its model ordinance for Post Construction Runoff Control. As such , the County will implement a post construction BMP inspection program to monitor the condition of various water quality BMPs and detention ponds within the urbanized area as part of the Post-Construction Stormwater Management in New Development and Redevelopment BMPs.	General Fund	In progress, planned	December 2006	5	3
GA Stormwater Management Manual	Cherokee County	The County will adopt the GA Stormwater Management Manual as its technical design guideline as part of the Post-Construction Stormwater Management in New Development and Redevelopment BMPs.	General Fund	In progress, planned	April 2005	5	3
Little River Watershed Model	Cherokee County	The CCWA will develop a computer model for use by engineers to be utilized when designing water quality	General Fund	In progress, planned	March 2004	5	3

		BMPs within the watershed for all new construction projects as part of the Post-Construction Stormwater Management in New Development and Redevelopment BMPs.					
Greenspace Program	Cherokee County	The Cherokee County Greenspace Program will promote the permanent protection of land and water (including agricultural and forestry) that is in its undeveloped and/or natural state as part of the Post-Construction Stormwater Management in New Development and Redevelopment BMPs.	General Fund	In progress, planned	March 2004	5	3
NOIs	Cherokee County	The County will identify those County facilities that would qualify as industrial activities and prepare and submit a NOI for coverage under the Industrial Stormwater Permit as part of the Pollution Prevention/ Good Housekeeping for Municipal Operations BMPs.	General Fund	In progress, planned	March 2003	5	3
MS4 Inspection Program	Cherokee County	A MS4 inspection and maintenance program will be implemented in the urbanized area and will include identifying components of all major drainage systems and developing a drainage system inspection checklist as part of the Pollution Prevention/ Good Housekeeping for Municipal Operations BMPs.	General Fund	In progress, planned	December 2006	5	3
Flood Management	Cherokee County	Flood Management (CIP) Water Quality analysis programs includes examination of existing levels of water quality impact on the CIP and new and existing flood control projects. A procedure/ checklist will be developed for determine if water quality enhancements are achievable as part of the Pollution Prevention/ Good Housekeeping for Municipal Operations BMPs.	General Fund	In progress, planned	June 2005	5	3
Adopt-A-Mile	Cherokee County	The County currently operates an Adopt-A-Mile program to encourage	General Fund	In progress,	March 2003	5	1

		volunteer groups to pick up trash along major roadways in the County within the urbanized area as part of the Pollution Prevention/ Good Housekeeping for Municipal Operations BMPs.		planned			
Roadside Litter Pickup	Cherokee County	The County administers a program to utilize community service labor to pick up roadside trash and debris along arterial and commercial roads within the urbanized area as part of the Pollution Prevention/ Good Housekeeping for Municipal Operations BMPs.	General Fund	In progress, planned	June 2004	5	1
IAW O.C.G.A. 290-5-26	Cherokee County Board of Health	Rules and regulations for installation and repair of on-site sewage management systems.	Cherokee County Board of Health	Enforced	June 30, 1980	5	Effectiveness will vary
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	Dry Weather Screening (Cherokee County) GA Stormwater Management Manual (Cherokee County) Industry database (Cherokee County) Source Tracing and Removal Procedures (Cherokee County) Citizen Complaint Database (Cherokee County) BMP Mapping (Cherokee County) BMP Inspection Program (Cherokee County) District-Wide Watershed Management Plan	It is anticipated that the management measures listed in Table 5A will achieve the load reduction for this segment.	

		Little River Watershed Model (Cherokee County)		
		Greenspace Program (Cherokee County)		
		MS4 Inspection Program (Cherokee County)		
		Flood Management (Cherokee County)		
		Adopt-A-Mile (Cherokee County)		
		Roadside Litter Pickup (Cherokee County)		
		Phase II MS4 NPDES Permit (Cherokee 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		
Wildlife	15	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	15	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	IAW O.C.G.A. 290-5-26	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

## 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
Cherokee County	Library of stormwater educational materials as part of Public Education and Outreach on Stormwater Impacts BMPs.	General public	March 2004
Cherokee County	Stormwater management web page as part of Public Education and Outreach on Stormwater Impacts BMPs and the Illicit Discharge and Elimination BMPs. ( <a href="http://stormwater.cherokeega.com/">http://stormwater.cherokeega.com/</a> )	General public	June 2004
Cherokee County	Public school environmental library as part of Public Education and Outreach on Stormwater Impacts BMPs.	School System Officials	August 2004
Cherokee County	Create a stakeholder advisory group to assist political leaders and County staff with developing stormwater program policies and ordinances as part of Public Involvement and Participation BMPs	Community Stakeholders	April 2004
Cherokee County Recycling Center	Storm drain stenciling program	General Public	Ongoing

**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**

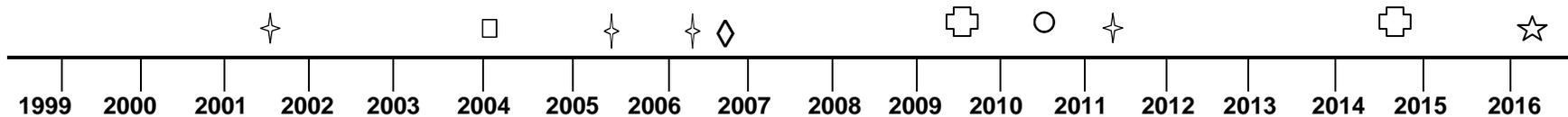
MANAGEMENT MEASURE OR ACTIVITY	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Federal Clean Water Act, Section 305(b) and 303(d)	USEPA, Georgia DNR/EPD, Local/County Government	current	In place, ongoing	
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia Rules and Regulations for 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	
Phase II MS4 NPDES Permit	Cherokee County	Enforced	2004	Refer to MS4 Annual Report
Industry database	Cherokee County	In progress, planned	December 2004	Refer to MS4 Annual Report
Dry Weather Screening	Cherokee County	In progress, planned	July 2005	Refer to MS4 Annual Report
Source Tracing and Removal Procedures	Cherokee County	In progress, planned	June 2005	Refer to MS4 Annual Report
Site Plan Review	Cherokee County	In progress, planned	March 2003	Refer to MS4 Annual Report
Inspection Program	Cherokee County	In progress, planned	June 2004	Refer to MS4 Annual Report

Citizen Complaint Database	Cherokee County	In progress, planned	December 2004	Refer to MS4 Annual Report
BMP Mapping	Cherokee County	In progress, planned	December 2005	Refer to MS4 Annual Report
BMP Inspection Program	Cherokee County	In progress, planned	December 2006	Refer to MS4 Annual Report
GA Stormwater Management Manual	Cherokee County	In progress, planned	April 2005	Refer to MS4 Annual Report
Little River Watershed Model	Cherokee County	In progress, planned	March 2004	Refer to MS4 Annual Report
Greenspace Program	Cherokee County	In progress, planned	March 2004	Refer to MS4 Annual Report
NOIs	Cherokee County	In progress, planned	March 2003	Refer to MS4 Annual Report
MS4 Inspection Program	Cherokee County	In progress, planned	December 2006	Refer to MS4 Annual Report
Flood Management	Cherokee County	In progress, planned	June 2005	Refer to MS4 Annual Report
Adopt-A-Mile	Cherokee County	In progress, planned	March 2003	Refer to MS4 Annual Report
Roadside Litter Pickup	Cherokee County	In progress, planned	June 2004	Refer to MS4 Annual Report

IAW O.C.G.A. 290-5-26	Cherokee County Board of Health	Enforced	June 30, 1980	Continue the process of reviewing the installation and repair of septic systems.
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
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:gl@georgialakes.org">gl@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**  
**Owl Creek TMDL Segment**  
**(Lake Allatoona Tributary)**  
**In the**  
**Coosa River Basin**  
**March 1, 2006**

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**Visual Field Survey**  
**For**  
**Owl Creek TMDL Segment**  
**(Lake Allatoona Tributary)**  
**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 Owl Creek TMDL stream segment is located in the northern portion of the Atlanta Metropolitan region in Cherokee County. The stream segment is listed for not meeting the State water quality standards for fecal coliform. The listed portion of the stream is 2 miles long. Owl Creek is a tributary to Lake Allatoona. As shown in Figure 1, the TMDL segment begins north of Oakmont Drive and flows north until it reaches Lake Allatoona.

### 1.2 Watershed Description

The Owl Creek TMDL segment watershed is comprised of 1,436 acres of land. The Owl Creek watershed is located within HUC 10 – 0315010410. Mapping of the watershed and review of ARC’s LandPro data shows that land cover within the watershed is predominantly residential, which accounts for approximately 67% of the area. ARC land cover data from 2001 and 2003 are presented in Table 1.

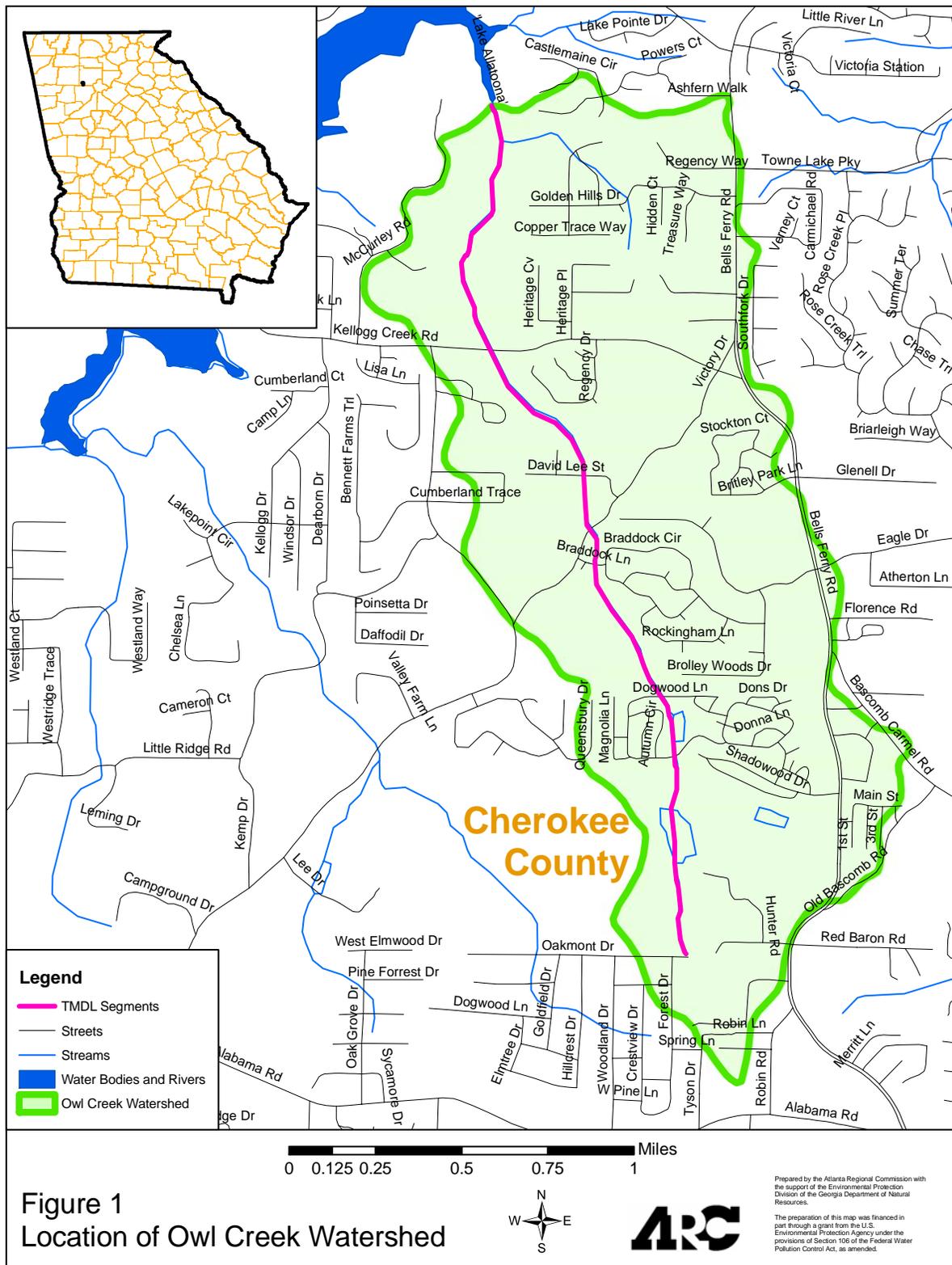
Based on ARC’s 2001 and 2003 land cover, the most notable changes in the watershed were a loss in forest/open space and a gain in transitional lands. The most visible change in land cover between 2001 and 2003 is an area of land north of Dogwood Lane that changed from forest to transitional. Table 2 outlines ARC’s land cover codes that have been aggregated into the categories used for this project. Maps showing land cover in 2001 and 2003 in the watershed are included as Figures 2A and 2B.

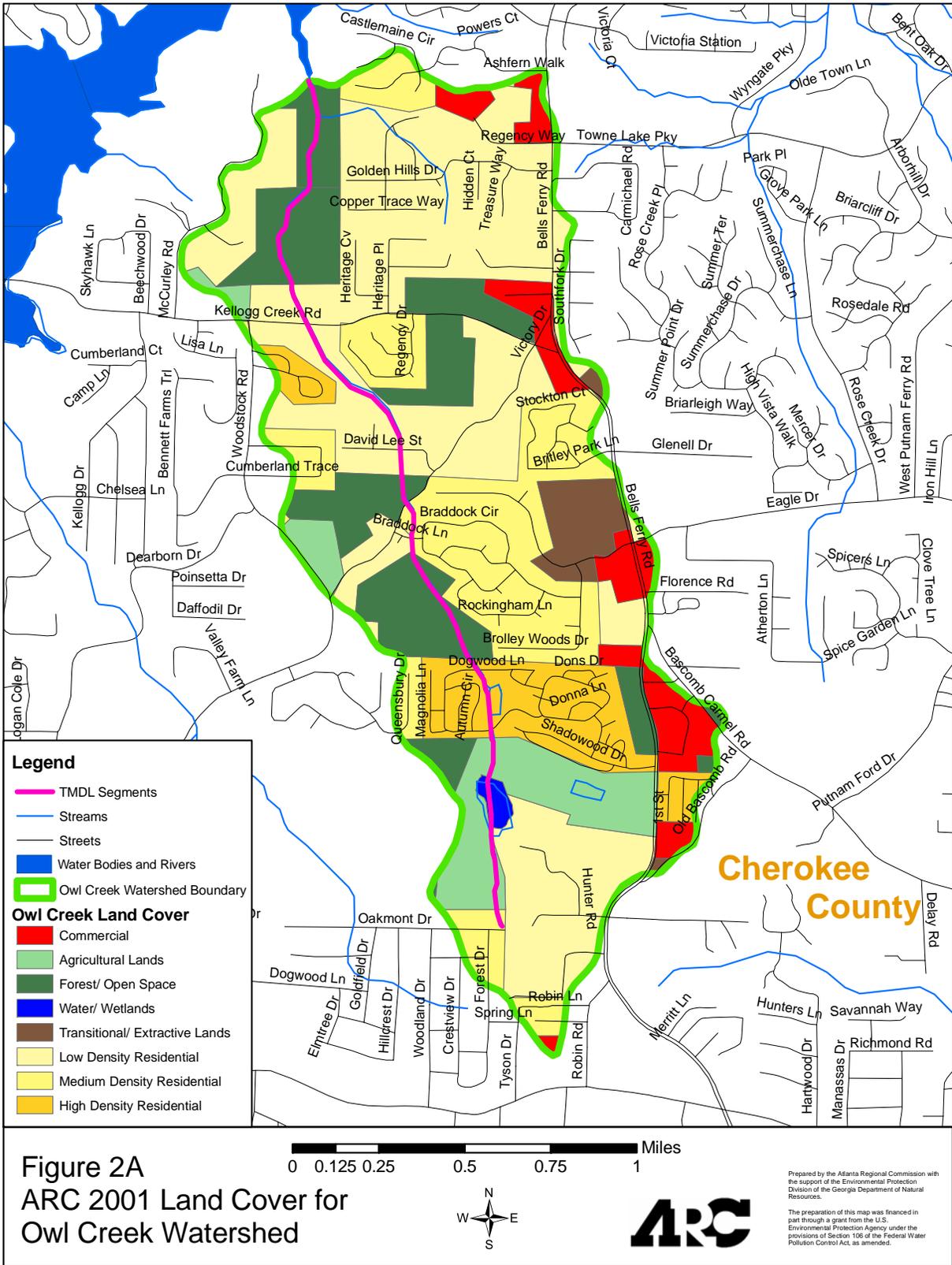
**Table 1. Watershed Land Cover (Source: ARC 2001 AND 2003 LandPro Data)**

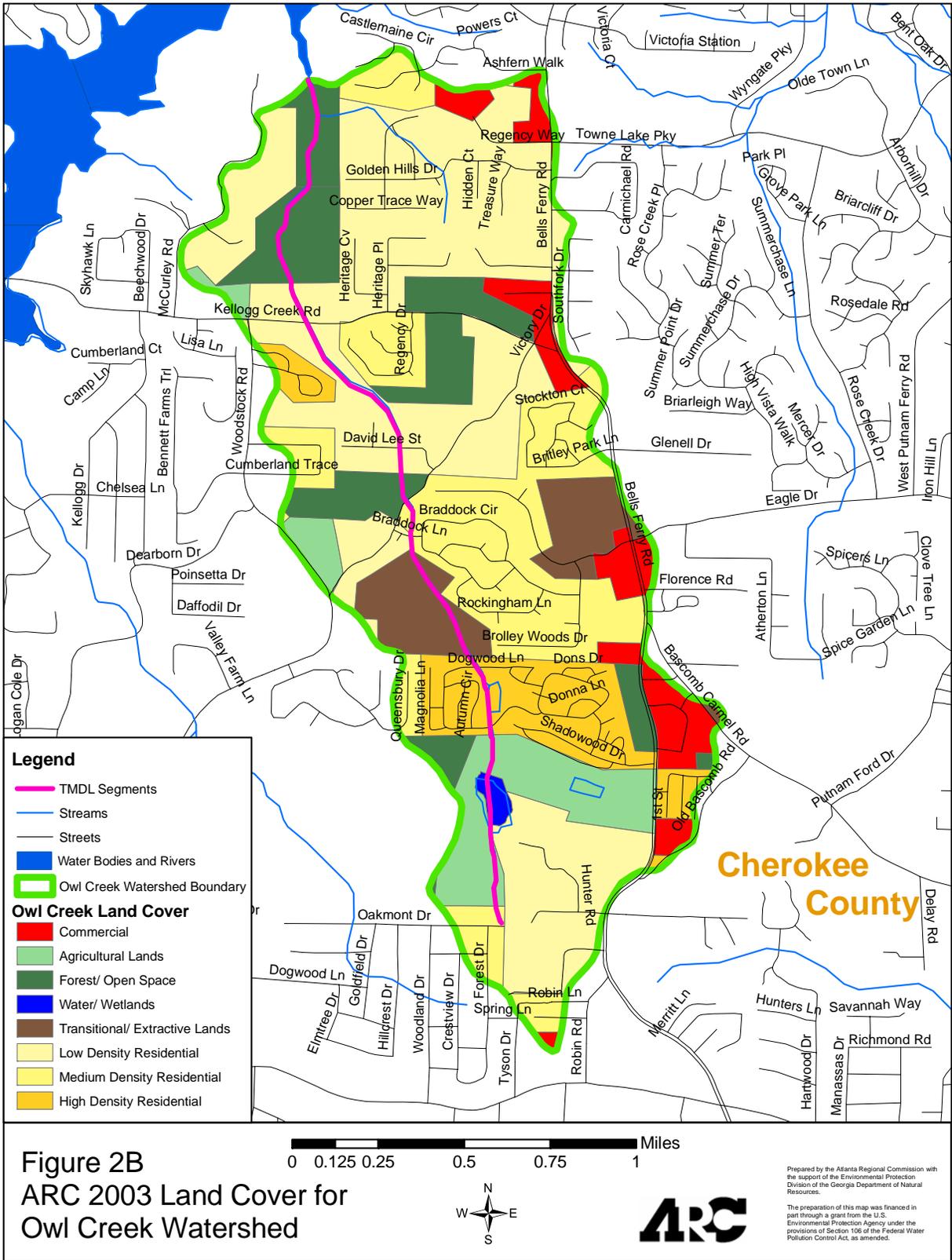
Land Cover Classification	Land Cover 2001		Land Cover 2003		Land Cover Difference	
	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area
Agricultural Lands	109.81	7.65%	109.81	7.65%	0.00	0.00%
Commercial	94.19	6.56%	94.75	6.60%	0.56	0.04%
Forest/ Open Space	228.93	15.94%	169.72	11.82%	-59.21	-4.12%
High Density Residential	124.59	8.68%	126.36	8.80%	1.77	0.12%
Low Density Residential	558.31	38.88%	550.44	38.33%	-7.87	-0.55%
Medium Density Residential	271.24	18.89%	287.08	19.99%	15.84	1.10%
Transitional/ Extractive Lands	42.20	2.94%	91.12	6.35%	48.92	3.41%
Water/ Wetlands	6.62	0.46%	6.63	0.46%	0.00	0.00%
<b>Total Acres</b>	<b>1,436</b>	<b>100.00%</b>	<b>1,436</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







## **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. Known potential individual sources of pollution from this data source located in the Owl Creek watershed are shown in Figure 3. 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 16 – 17, 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.

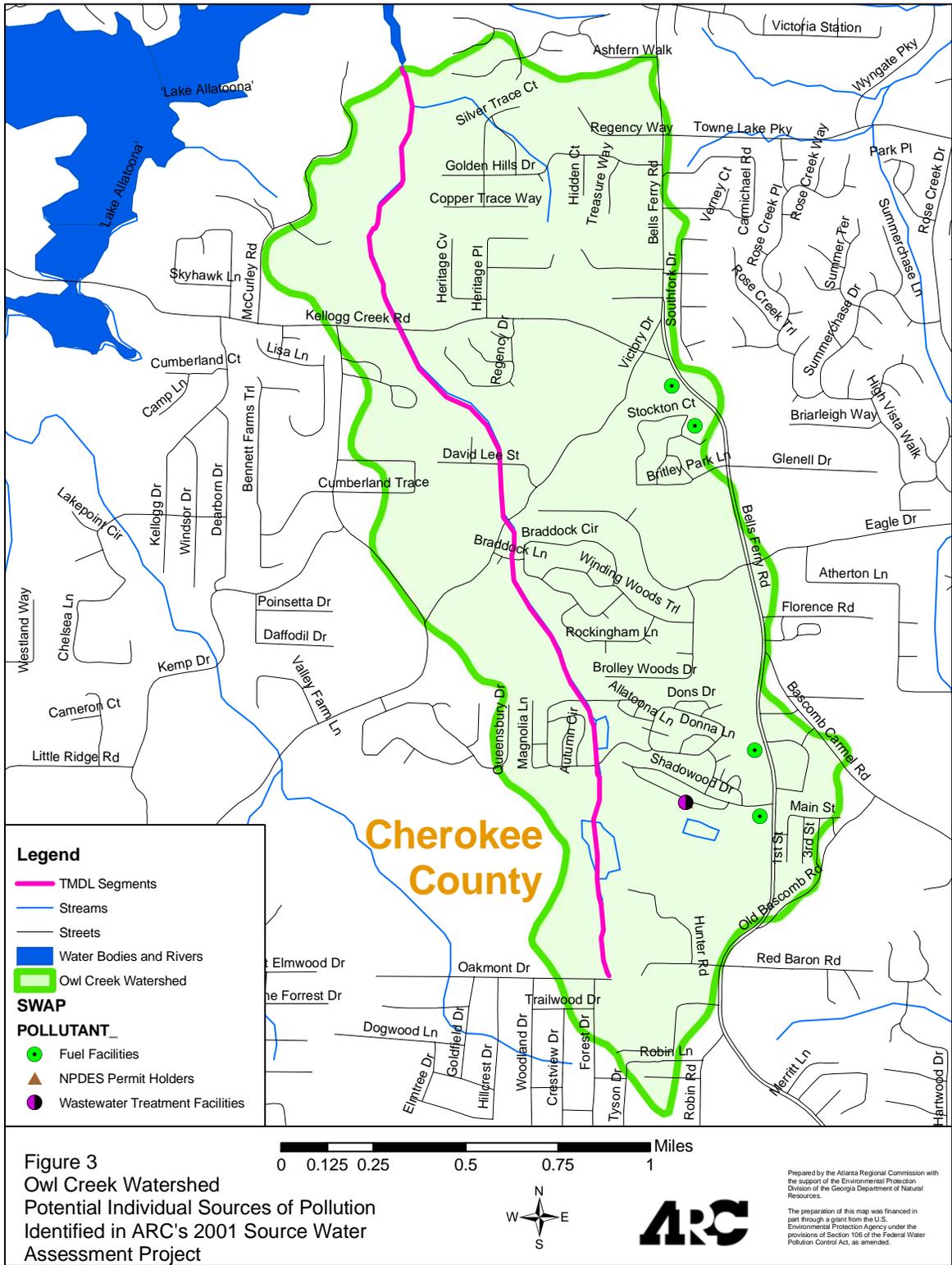
Following completion of the windshield survey, a foot survey of the stream segment was performed where access permitted. The purpose of the stream segment walk was to identify and observe possible sources of pollution. Observations were documented and captured in photographs of the stream channel and its surroundings. A map of included images taken during the visual field survey is shown as Figure 4.

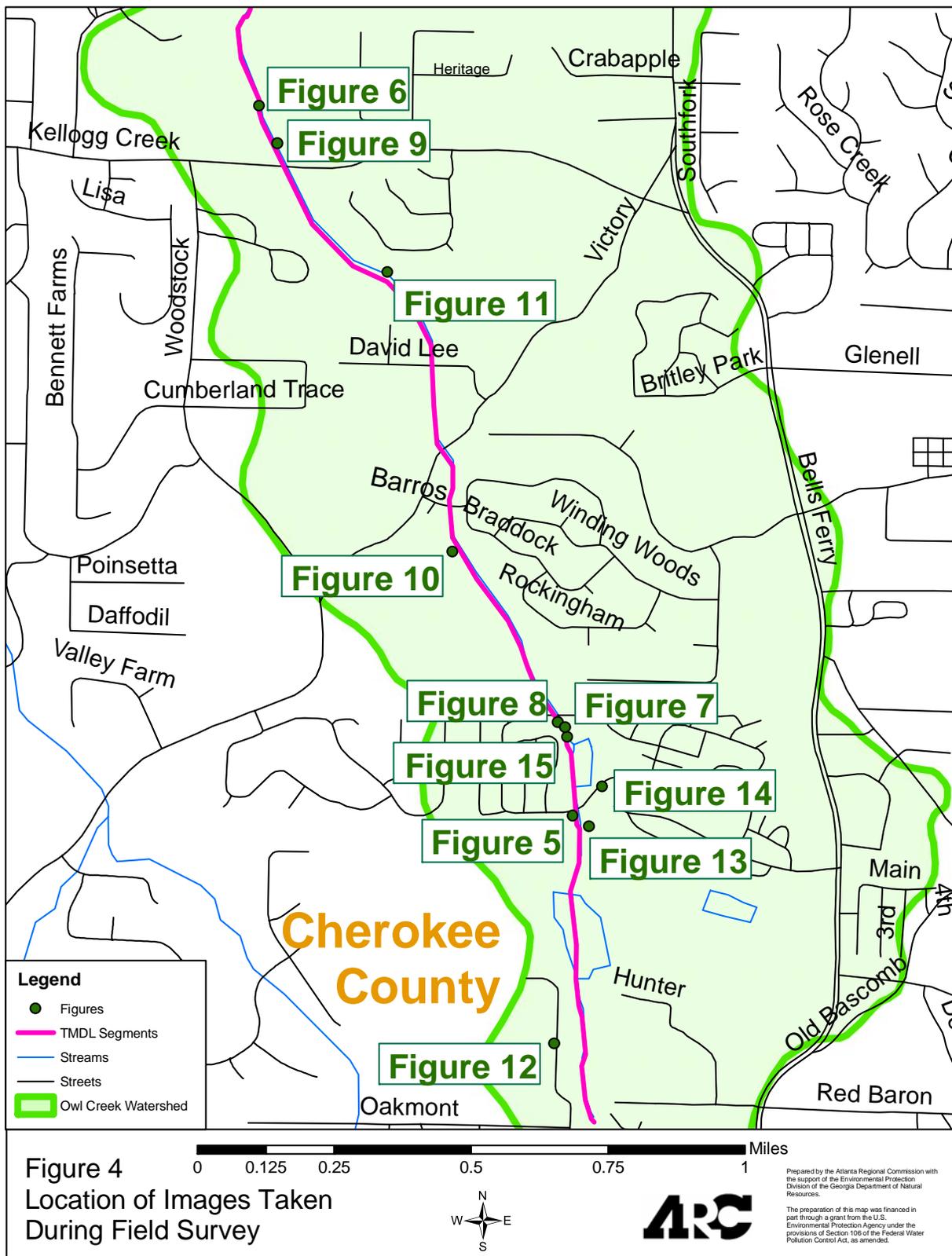
## **3.0 FIELD FINDINGS**

### **3.1 General Characteristics**

The field findings discussed here are the results of the visual survey performed largely on foot throughout the designated segment. The residential character of the watershed can be described traditionally as an agricultural and rural residential area that has been transitioning into a rural suburban area. The watershed's character varies from older farm homes and manufactured home communities to suburban-style subdivisions still under construction. The only commercial areas were observed along Bells Ferry Road along the eastern border of the watershed.

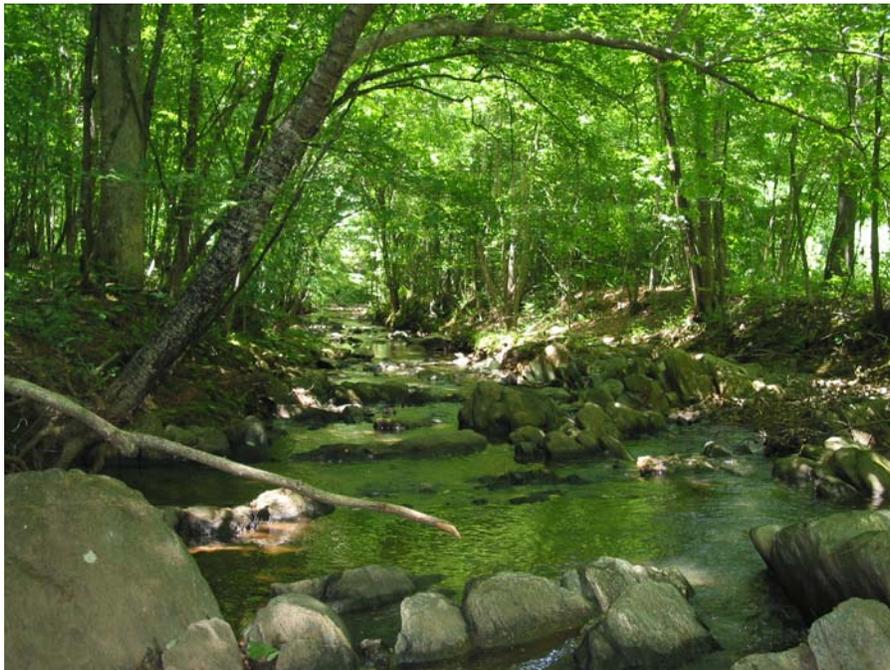
The Owl Creek TMDL stream segment is bordered by a vegetative buffer that is lightly wooded with occasional areas of thick brush. The portions of the stream bank flowing adjacent to the large horse stables near the headwaters and in Shadowood Trailer Park are not always protected by a vegetative buffer (Figure 5). The Owl Creek TMDL segment contains six road crossings. In the lower portions of the stream segment, north of Kellogg Creek road, the area surrounding the stream is more densely wooded (Figure 6).







**Figure 5. Stream segment south of Dogwood Lane (looking upstream)**



**Figure 6. Stream channel north of Kellogg Creek Road (looking downstream)**

The water appeared clear throughout the stream segment. However, blue dye was apparent in a small tributary in the upstream portion of the stream segment. This small tributary is located near and flows parallel to Shadowood Drive. The source of the dye is discussed in section 3.4. Potential sources affecting the overall health of Owl Creek are discussed in the Point Source and Non-point Source sections.

### 3.2 Point Sources

East Gate Wastewater Treatment Facility is the only facility permitted to discharge in the Owl Creek TMDL segment watershed. This facility is located on Figure 3. 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 Owl Creek. Approximately half of the watershed is sewered, while the other half appears to be served by septic systems.

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 lawnmower (Figure 7). Most of the large litter in and near the stream bed, including three lawnmowers and a television, was observed in Shadowood Manufactured Housing Community located north of Owl Creek's headwaters.



**Figure 7. Lawnmower in the streambed in Shadowood Manufactured Housing Community**

There are several other potential non-point source pollutant problems. North of Shadowood Manufactured Housing Community, a rusted drain pipe, with a diameter of approximately 3 feet had water flowing under the concrete structure (Figure 8) and north of the Kellogg Creek Road stream crossing a small pipe with dry weather flow was observed (Figure 9).



**Figure 8. Rusted drain pipe in Shadowood Manufactured Housing Community**



**Figure 9. Flow from pipe north of Kellogg Creek Road**

An erosion problem was observed behind a new subdivision that is still under construction where workers were observed digging up a detention pond full of sediment adjacent to the creek. There were signs of recent sediment flowing into the creek from this new development (Figure 10). North of the David Lee Road stream crossing large amounts of grass clippings were dumped in and along the stream bank (Figure 11).



**Figure 10. Erosion and Sedimentation problem is causing sediment to flow into the creek.**



**Figure 11. Piles of grass clippings dumped in and along the stream**

Wildlife was observed throughout the stream segment. Several instances of raccoon, deer and dog tracks were found in the stream bed. A hawk hunting for prey was also observed.

Three stables were observed within the watershed, two of which are adjacent to Owl Creek. A large horse stable is located near the headwaters of Owl Creek (Figure 12). The property line (observed by walking up the stream from Dogwood Lane) is marked by a gate crossing the stream (Figure 13). Livestock in this area does not appear to be fenced out of the stream. The other stable on the stream is located north of the Kellogg Creek Road stream crossing. The third stable is north of Golden Hills Road adjacent to a tributary to Owl Creek.



**Figure 12. Large stables located near Owl Creek headwaters.**



**Figure 13. Live stock gate at large stables near the headwaters suggests that animals may occasionally be in the stream bed (looking upstream).**

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

Data obtained from the 2001 ARC Source Water Assessment Project show potential individual sources of pollution in the Owl Creek watershed (Figure 3). No individual sources of pollution were observed directly adjacent to the stream segment.

There are three potential pollutant sources involving wastewater. One of these potential wastewater pollutants is located within Shadowood Manufactured Housing Community. Owl Creek flows through this community. The subdivision's wastewater needs were originally served by its own wastewater dilution pond (Figure 14).

A larger wastewater treatment pond with an LAS permit was built to serve a larger community that included Shadowood Manufactured Housing Community. The small pond at Shadowood then became the property of the Shadowood's management and is currently being used as a maintenance area.

There is no longer a LAS permit site at that location. The LAS pond was filled in when the neighborhoods it served became sewered. The old LAS site is not considered a potential source of pollution. The smaller pond at Shadowood continues to drain into a tributary of Owl Creek (Figure 15). There was no odor detected from the stagnant water; however, it is still considered a potential source of pollution.



**Figure 14. Old wastewater treatment pond in Shadowood Manufactured Housing Community**



**Figure 15. Outflow of pond water from old wastewater treatment pond drains into Owl Creek**

Another potential wastewater pollutant source is East Gate WWTF, which consists of two connected wastewater ponds south of Shadowood Drive that serve a trailer park off Old Bascomb Road. These ponds were discovered after walking upstream on Owl Creek from Dogwood Lane. The ponds drain into Owl Creek via a small tributary that flowed into the creek from the east.

The water from this tributary appeared to have artificially blue water instead of the shade of water found in the main stem of Owl Creek. It is thought that this blue color is caused by the use of aquatic dye for ponds like Aquashade, which is used to inhibit the growth of algae in ponds. These ponds were on private property and access was prohibited. The location of the ponds was verified on the aerial imagery.

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

The wildlife and horse farms along the stream segment may be considered a moderate source of fecal coliform. Based on the urban nature of the land cover in the watershed, urban runoff can also be considered a moderate source affecting the entire stream segment.

#### **5.0 SUMMARY OF FINDINGS**

East Gate WWTF is the only permitted point source that may discharge in the Owl Creek watershed. The field survey identified non-point sources such as wildlife, horses, and urban runoff. Based on the field survey, horses and wildlife is the most likely potential source of pollution in and around the stream segment. Proposed management practices to address fecal coliform will be provided by local governments and will be outlined in the 2006 Owl Creek watershed TMDL implementation plan.

#### **6.0 STAKEHOLDER INVOLVEMENT**

Mike Morrissey, Cherokee County WSA Laboratory Manager, accompanied ARC staff during this field study. Mr. Morrissey assisted in identification of potential pollutant sources and assisted the survey team in clarifying the field findings.

Results have been made available and discussed with local government representatives. Also, 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.