

STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN **REVISION 1**
 Tiger Creek Watershed
 Tennessee River Basin
 April 28, 2006

Catoosa County, Whitfield County Government(s)
 and The City of Ringgold

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.

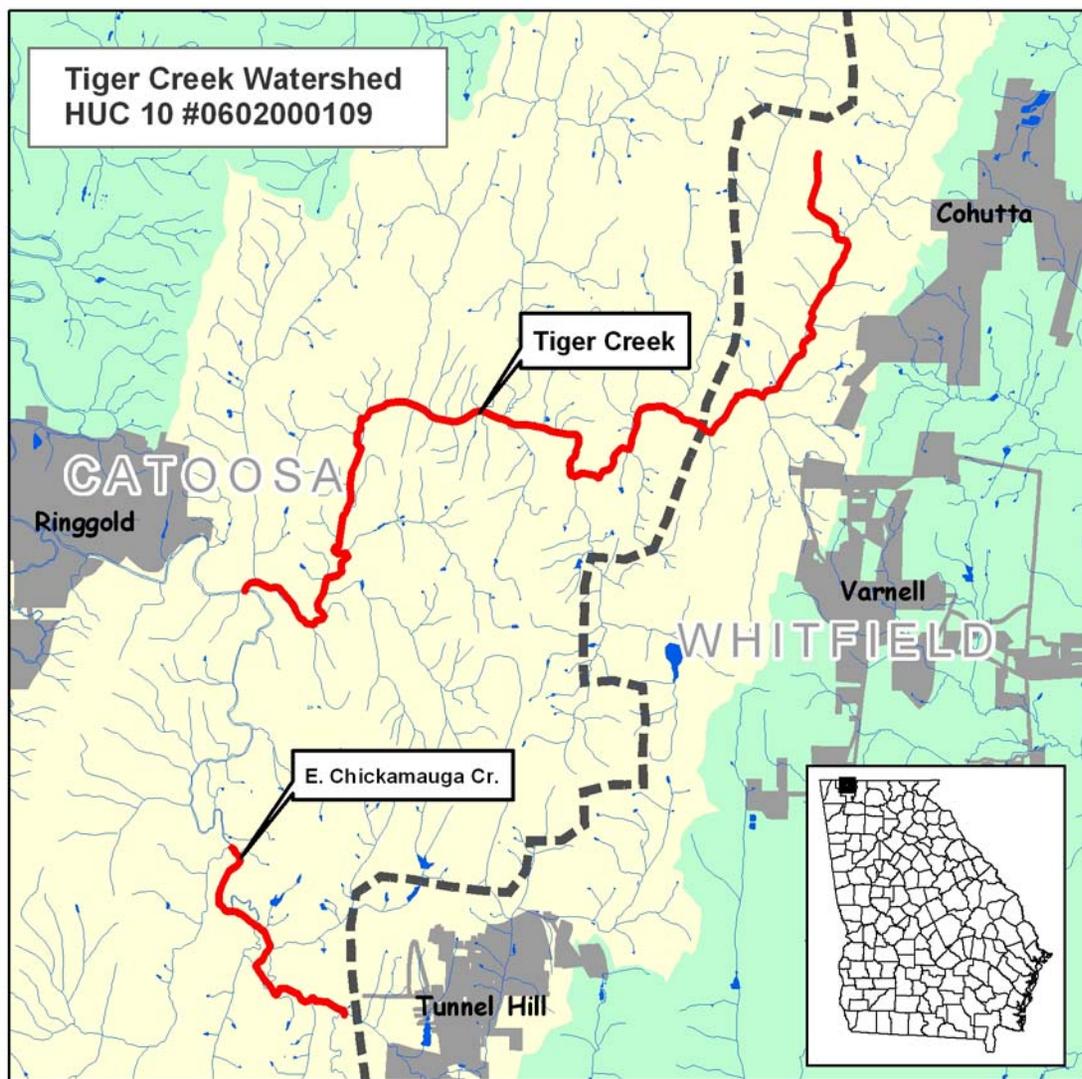


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT	TMDL ID
East Chickamauga Creek	Tanyard Creek to Dry Creek	Fecal Coliform Bacteria	TEN0000024
Tiger Creek	Dry Branch to East Chickamauga Creek	Fecal Coliform Bacteria	TEN0000036
Dry Creek *	Headwaters to East Chickamauga Creek	Biota (Sediment0)	TEN0000022

* Plan will be written by GA EPD

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10 #0602000109. Include an updated overview of watershed characteristics. Identify new conditions and verify or correct information in the TMDL document using the most current data. Include the size and location of the watershed, political jurisdictions, and physical features which could influence water quality. Describe the source and date of the latest land cover/use for the watershed. Describe and quantify major land uses and activities which could influence water quality. See the instructions for more information on what to include.

Tiger Creek headwaters just northwest of Cohutta in Whitfield County as underground springs. The springs had been considered as a source of drinking water for the area and studies were done but plans did not proceed. The creek flows south and southwest through heavily forested terrain into Catoosa County just north of Varnell. It flows west across Catoosa County, dipping south, collecting the drainage from the eastern slopes of Sand Mountain (a 406ft. elevation to the east of Salem Valley within the Catoosa Target Range) and flowing ultimately into South Chickamauga Creek southeast of Ringgold. A large portion of the watershed is owned and managed by the U.S. Military as the Catoosa Target Range. Tiger Creek is a trout stream that is stocked with a restocking frequency of 12 during Stocking Season (March through Labor Day). It is stocked twice per month during the Season.

Land use : forest 72.5%, pasture/hay 20.8%, row crops 3.2%, transitional 1.8%, high intensity residential .7%, high intensity commercial .5%, other grasses .3%. Stakeholders have commented that there is a significant amount of low intensity residential throughout the watershed although it does not show up on the land use data.

Bowater has sold some of its' land holdings at the headwaters in Whitfield County where there is a development of 300 homes proposed. Given the lack of sewer they will all need to be on septic systems as the sewage treatment option. The area has very tight subsoils and will not percolate.

East Chickamauga Creek, in the extreme southeastern corner of Catoosa County, flows northwest from Tanyard Creek, meandering through the floodplain between Dick Ridge to the west and various smaller ridges to the east. It drains into South Chickamauga Creek just west of Ringgold Rd and 1 mile northwest of Copeland Crossing.

Land use: forest 73.4%, pasture/hay 19.2%. row crops 2.5%, transitional 1.5%, high intensity residential 1.3%, high intensity commercial 0.8%, other grasses 0.6%, quarries, strip mines & gravel pits less than .01%. Stakeholders report a lot of older, isolated homes throughout the watershed that would represent a certain percent low intensity residential.

Tiger and East Chickamauga Creeks come to a confluence as South Chickamauga Creek east of Ringgold.

Landfills: Catoosa Co. – SR 151 – S Permit # 023-002D – type is not applicable and status is “no record”
Catoosa Co. SR151 site no. 2 MSWL Permit # 023-007D and is active
Catoosa Co. SR 151 W EXP (SL) Permit # 023-005D is a sanitary landfill and has ceased accepting waste.
Landfills are located approximately six miles west of both Tiger and East Chickamauga Creeks.

NPDES discharges: none

Mines : Roy Young Estate Mining Site Permit #1164-97 is located five miles west of the impaired stretch of East Chickamauga, off SR 151.

East Chickamauga Creek

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

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
East Chickamauga Creek	Tanyard to Dry Creek	3	Fishing	NS

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

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

Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform bacteria	1000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geo. Mean May-Oct)	Wildlife Agricultural/Livestock <ul style="list-style-type: none"> • Animal grazing • Animal access to streams • Application of manure to pastureland and cropland Urban Development <ul style="list-style-type: none"> • Leaking septic systems • Land Application Systems Landfills	76 percent

Tiger Creek

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

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Tiger Creek	Dry Branch to East Chickamauga Creek	8	Fishing	NS

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

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

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

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

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

The percentage of land devoted to agriculture is the second highest of all watersheds studied.

During the field survey horse and cattle pastures and ranches were seen as well as tree farms throughout the watershed. Some buffers are very thick, other areas are mowed clear to the stream.

In 2003 The Coosa Valley Regional Development Center and the North Georgia Regional Development Center submitted their "Inventory of Potential Pollution Sources as part of their contract with Georgia EPD and The Georgia Environmental Facilities Authority to conduct Regional Source Water Assessments (SWAP). The objective was to identify potential pollution sources upstream of a drinking water intake. While turbidity after a storm is the biggest problem for the water treatment plant, the rural nature of the watershed makes it likely that fecal coliform levels may spike after rainfall. Stakeholders from that process in 2001 raised concerns over different potential sources of pollution within the inner and outer management zones for the water intake. They identified the challenges raised by the karst topography of the region, especially sinkholes, the lack of regulation over septic tanks, power line right of ways, lawns, abandoned wells, and landfills as all being potential sources of non-point pollution in the watershed

FIELD NOTES

Jill Joss

7/24/05

Wx : Foggy in a.m. , hazy and hot – 90 degrees

Tiger Creek – Dry Branch to E. Chickamauga

I. Rd. bridge On Hwy 3 just past the Old Stone Church

#79.) Stream flowing well, heavy riparian buffer

#80.) Rd. bridge – sign indicating Tiger Creek and dense buffer.

#81.) Heavy vegetation around stream

II. Turning onto Salem Valley Rd. – Road extends N. and E. around Sand Mountain and the Catoosa Target Range. Area fenced off from access, unable to determine land use beyond fences. Down Salem Valley are many ponds, wetlands, horse pastures, cattle farmers.

#82.) Signs indicating cattle, residential development as land uses down this road. Many new homes in this section

#83.) Tree Farm

- #84.) Small tributary flowing S. from Sand Mountain towards stream. Two large pipes are the conduit through which stream flows under the road here. Water murky, slow flow.
- #85.) Dense vegetation typical for this area.
- #86.) Horse barn and pasture
- #87.) Cattle ranch
- III. S. on Headrick Rd. – heading down road are many pastures and ranches
- #88.) Quarry – road leading to and from, appears to be active.
- IV. Longwith Rd. – side rd. extending SW roughly paralleling the stream.
- #89.) Dead end of Longwith, photo shows tributary to stream. Much rotting vegetation in pond, eutrophication.
- #90.) Indicating vegetated stream bed flowing out of pond and toward the stream.
- #91.) Main stem of stream. Note bedrock uplifted in channel, lining banks.
- V. Intersection of Headrick Rd. and Stewart Rd.
- #92.) Upstream: Stream has low but steady flow, is fairly clear
- #93.) Downstream : similar conditions
- VI. Around the corner on Stewart Rd. – another road bridge
- #94.) Upstream: dense vegetation, very clear and good flow
- VII. SW. on Smith Chapel Rd. – The stream parallels the full length of the road.
- #95.) Small tributary – row crops one side / cow pasture on other.
- #96.) Emergent herbaceous wetlands.
- VII. Corner of Smith Chapel and Martin Ward Rd.
- #97.) Upstream – vegetation so dense the stream channel can barely be seen , although it is about 15 ft. in width at this point.
- #98. & 99.) Downstream – concrete spillway across channel
- VIII. N. on Martin Ward Rd. - land use is low-intensity residential, although a buffer exists, homes have been built within 100ft. of the stream. Steep slopes exist on the W. side of the road and stream.
- #100.) Looking down at stream from the road. Muddier and more swiftly flowing here, bedrock composes much of the streambed.
- #101.) Small tributary flowing towards stream through cattle, hay pasture. Grass has been mowed all the way to the streams' edge.
- IX. Keith Rd. Bridge and Keith Rd.
- #102.) Upstream – swiftly flowing, clear
- #103.) Downstream – from dirt road leading from highway to stream this appears to be public access fishing hole. Photo did not come out but a cattle barn is less than 100 ft. from this point.
- Traveling SW on Keith Rd. the stream becomes further away.
- #104.) This photo shows Keith Valley Farms (Pilgrims Pride) with 4 long outbuildings.
- #105.) Tributary is contained by corrugated pipes.

- #106.) Cows with access to stream coming to fence mistaking surveyor for someone who feeds them
- #107.) Cows beside stream

X. Highway 3 Rd. Bridge

- #108.) Wetland pond – has a tributary flowing due E into stream (note on map).
- #109.) Upstream – very broad channel, vegetation in stream. Residence to the left of photo did not mow clear up to the stream, but buffer is too narrow to provide adequate protection.

FIELD SURVEY

Jill Joss

7/24/05

Wx : Foggy in a.m. , hazy and hot – 90 degrees

East Chickamauga Creek – Tanyard Creek – Dry Creek

East Chickamauga Creek , flowing NW from Tanyard Creek, meanders through the floodplain between Dick Ridge to the west and various smaller ridges to the east. Dry Creek winds its way around the west side of Dick Ridge and meets with E. Chickamauga just west of Ringgold Rd. and 1 mile NW of Copeland Crossing.

I. Old Ringgold Rd. (Bandy Rd.) just SW of Copeland Crossing

- #110.) Upstream – water fairly cloudy here, dirt road extends down to stream, allowing access.
- #111.) Downstream – while rock rip-rap lines the bank, tributary which drains cow pasture is flowing directly into stream

II. Dogwood Rd. just S. of CSX tracks

- #112.) Upstream – water muddy, slow flow, banks well vegetated
- #113. & 114. & 115.) Downstream – similar conditions, fencing surrounds stream but this gate obviously is used to allow the cattle access, note hoof prints going into water.

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

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

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal Coliform Bacteria	Agriculture – cattle, horse farms	Throughout	Moderate	Highest %age of land devoted to agriculture
	Wildlife	Along stream corridors	Moderate	Abundant
	Leaking septic systems	Throughout	Moderate	No sewer available in Tiger Creek watershed

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.

The Coosa Valley Regional Development conducted several TMDL informational and stakeholder public meetings:

The mailing list for the first meeting included all officials from the cities and counties in the watersheds for the impaired streams. A notice about the 303(d) listed streams, a general handout on the TMDL process, and an RSVP form were mailed to each of the 136 individuals on the list (see attachment)

Outreach for the second meeting included over 200 poultry farmers in the watersheds added to the mailing list. A similar letter was sent to all of those notified of the first meeting as well as the added farmers, watershed groups, educators, and other stakeholders identified at the first meeting or by additional outreach.

The mailing for the third meeting in December was supplemented by posting of flyers in the watershed community. 10-15 flyers were posted/handed out for each 10-digit HUC in an attempt to attract and educate more of the public-at-large (see attachment). The meeting was purposely scheduled during evening hours to allow for broader participation. The Stakeholder Advisory Groups were formed, including individuals who had attended one or more of the past stakeholder meetings. Where we discovered key stakeholders that had not yet participated, they were included even at the late date.

May 18, 2005 TMDL Stakeholder Meeting held at the Walker County Civic Center for the streams in the Tennessee Basin (17 attendees)

A powerpoint presentation introduced the TMDL process and contractor's responsibilities under the contract as well as milestones and timelines. The meeting was opened for general discussion afterward. Government officials were told that part of the process would be to review what management measures (i.e. ordinances, previous water planning efforts, etc.) are currently in place to address fecal coliform impairments in the streams. Stakeholders questioned how the requirements for stormwater planning coincide with the TMDL requirements. Watershed Protection Plans can go a long way toward fulfilling these requirements. Some questioned the State Legislature's passing of legislation that reduces the minimum requirements for stream buffers and measures threatening legal problems around the issue of easements as "takings issues". The agricultural community discussed some of the work that they do with buffers and fencing. They shared that they have been involved in this kind of process before and hopes that the end result is not to decrease the agricultural development or input. Providing a buffer zone for row crop farmers may decrease their crop area and yield. Some wondered about methods to determine whether the source of bacteria is human or animal in origin. Geese and ducks are in abundance in some areas and contribute to the load. It would be easier to target best management practices if the source could be somehow narrowed down.

It was suggested that most of the cause of non-point pollution to the waters is urban runoff. Others recommended that counties that border one another gather information and work toward addressing these issues together. It was explained that this process is intended to foster partnerships within the watershed to work towards solutions.

August 31, 2005 TMDL Stakeholder Meeting held at Walker County Civic Center for the streams in the Tennessee Basin (24 attendees)

The meeting opened with the showing of two videos, "TMDLs in Georgia" and "When Red Clay Meets Blue Water". A powerpoint presentation followed and findings and photos from the field survey were shared. Discussion followed as a brainstorming session on sources and best management practices. The NRCS shared their efforts in the watershed to help farmers with funding for buffers, greenspace development, grasslands, and fencing livestock out of waterways. Currently the bulk of the funding is targeting poultry growers. The Georgia Soil and Water Conservation Commission spoke to the new requirements for those involved in land disturbing activities to become certified in Soil and Erosion control. This will need to be accomplished by the end of 2006.

Discussion moved to the challenges faced by leaking and failing septic systems as sources of bacteria. The local water utility tests well water samples for the public and they see well water failures due to neighboring septic systems. The county health departments have records on recent permitting for septic tank installation but no records indicate those in need of maintenance or pumping out. Homeowners are usually not aware of the problem until it fails. TVA has done pollution inventories by arial infrared photography to help identify failing systems. Local officials would like to get more customers on sewer systems, but cannot get the permitted output needed to accommodate the increased flow. One stakeholder suggested a state law be passed mandating sewer line connections if a home is located so many feet from sewer service. A TVA official discussed the concept of on-site wastewater treatment systems as alternatives and stated that The State of Tennessee is very receptive to these systems if they are managed properly.

The meeting was adjourned and participants were told they would be notified about the next meeting.

October 18, 2005 Fall Workshop-Northwest Georgia Regional Water Resources Partnership held in Dalton, Georgia. Workshop title: CLEAN WATER the TMDL Link, A Toolbox for Improving Water Quality. Coosa Valley Regional Development Center & North Georgia Regional Development Center had two separate breakout sessions on the TMDL Implementation Plans for Stakeholder Interest (73 attendees)

December 6, 2005 Stakeholder Meeting held at the Walker County Civic Center (14 attendees).

Stakeholders were also contacted individually to introduce the TMDL implementation process and to invite input into the implementation plans as members of the advisory committee. An interview with Donnie Brown, Water Treatment Plant operator at Catoosa Utility District was conducted. We drove the watershed and agreed that cattle, often seen in the creeks and ponds, and horse farms are likely contributors of fecal bacteria.

Cindy Askew of the NRCS reported that this watershed has a high concentration of poultry operations as well as a lot of poultry best management practices implemented.

In addition, there is no sewer available to those in the watershed, so everyone must be on septic systems, another possible contributor. Alan Ridley brought to the groups' attention that development is planned for the Salem Valley region of the watershed where there is a concentration of wetlands. Given that there is no sewer to serve them, all will be on septic. The Environmental Health Department's hands are tied as far as regulatory authority goes.

The Catoosa County Stakeholder Advisory Group (SAG) met on February 16 at the Walker County Civic Center (6 attendees) to review the plans prior to turning in the rough drafts. Due to low turnout another meeting was scheduled and the Walker and Catoosa County stakeholders will convene as one Tennessee Basin Stakeholder Advisory Group.

The Catoosa County SAG combined with the Walker County SAG to form the Stakeholder Advisory Group for each of the 10 listed streams in the Tennessee Basin in Georgia. The group met at the Walker County Civic Center February 23 from 6:00 pm to 8:00 pm. Present were: Brandon whitley with Walker County Water and Sewer, Kelia Kimbell, Walker County Planning and Development, Allen Ridley, Catoosa County Building and Inspection, Suzanne Cobos, Catoosa County Special Projects Coordinator, Linda Harris, TVA, Mrs. Dee Collins Parker, Chattanooga Valley Residents' Association, Jill Joss, and Julie Meadows, Coosa Valley RDC. Representatives from each county discussed the new sewer and where it is being located in the watershed. In each case if an older system can be used it will be pumped out, but if they are failing or crumbling they will be taken out. Environmental education on non-point sources of pollution was discussed among stakeholders with sharing of initiatives and a willingness to work together to discuss new opportunities. The group discussed the different land development regulations, i.e. requirements to hook up to sewer when available, requirements for building on floodplains, wetland building requirements, etc. and challenges of implementing them and lessons learned. The new Erosion and Sedimentation Certification required of those involved in land-disturbing activities was discussed and stakeholders felt it will help. Funding availability through the 319 grant program was discussed. Group was informed that the contractor will meet with EPD to discuss the types of activities expected to receive funding this cycle. The meeting concluded with the announcement that the contractor would like to hold monthly meetings between March and June to continue the process. All agreed and the meeting was adjourned.

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

Table 4. COMMITTEE MEMBERS

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Allen Ridley – Chief Building Official – Catoosa County	184 Tiger Trail Ringgold, GA 30736	Ringgold	GA	30736	(706) 965-4226	allen.ridley@catoosa.com
Cindy Askew – Natural Resources Conservation Service	208 N. Duke St. Suite C Lafayette, GA 30728	Lafayette	GA	30728	(706) 638-2207 X3	cindy.askew@ga.usda.gov
Charles Lancaster – Cooperative Extension	43 Maple St.	Ringgold	GA	30736	(706) 935-4211	clancast@uga.edu

Service						
Bill Clark – Chairman, Catoosa County Board of Commissioners	P.O. Box 8	Ringgold	GA	30736	(706) 905-7438	bclark@catt.com
Ron Brown – Assistant County Manager – Catoosa County	7698 Lafayette St.	Ringgold	GA	30736	(706) 965-2500	ron.brown@catoosa.com
Dena Haverland – Regulatory – Water/Wastewater Engineering, Dalton Utilities	1200 V.D. Parrott, Jr. Parkway	Dalton	GA	30722-0869	(706) 529-1010	dhaverland@dutil.com
Keith Gilmer - Georgia Soil and Water Conservation Commission	700 E. 2 nd Ave.	Rome	GA	30161	(706) 295-6131	kgilmer@gaswcc.org
Denise Clopton or Frank Redmond – Field Representatives - Sen. Johnny Isakson	214 Magnolia St	Lafayette	GA	30728	(770) 661-0999	Denise Clopton@isakson.senate.gov
Linda Harris – Sr. Water Resources Representative – Tennessee Valley Authority	1101 Market St. PSC 1E	Chattanooga	TN	37402-2801	(423) 876-4178	lbharris@tva.gov
Donnie Brown – Lab Analyst - Catoosa Utility District	1058 Old Mill Rd.	Ringgold	GA	30736	(706) 937-9370	n/a
Mike Cannon – Catoosa County Environmental Health Department	P.O. Box 1308 182 Tiger Trail	Ringgold	GA	30736	(706) 935-6322	
Bill Henderson – Soil conservationist					(706) 935-5263	bill.henderson@catoosa.com
Suzanne Cobos – Catoosa Co. Government Project Administrator	208 N. Duke St.	Lafayette	GA	30728	(706) 965-2500	suzanne.cobos@gmail.com

Chris Rader – City of Fort Oglethorpe	500 City Hall Dr.	Ft. Oglethorpe	GA	30742	(706) 866-2544 ext. 12	
Dan Wright – City Manager of Ringgold	150 Tennessee St.	Ringgold	GA	30736	(706) 935-3061	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

VI. MANAGEMENT MEASURES AND ACTIVITIES

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

Table 5. MANAGEMENT MEASURES AND ACTIVITIES

GENERAL MEASURES APPLICABLE TO ALL PARAMETERS

RESPONSIBILITY	MEASURE	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFE (Ver
Federal Clean Water Act, Section 305(b) and 303 (d)	USEPA, Georgia DNR EPD, Catoosa County	The congressional objective of the Clean Water Act "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, Georgia	Enforced		
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,	Federal, Georgia, Catoosa County	Enforced	11/1964	

		eliminate phosphate detergents, and regulate sludge disposal; to require permits for agricultural ground and surface water withdrawals; to prohibit situation 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 Erosion and Sedimentation Control Act, Construction Permit	Catoosa County, Georgia DNR/ EPD, Georgia Soil and Water Conservation Commission	County certified as Local Issuing Authority for land-disturbing activities. Requires Erosion and Sedimentation Control Plan incorporating best management practices plus "Qualified Personnel" Training and Certification Program adopted from Georgia Soil and Water Conservation Commission. Certification of on-site "Qualified Personnel" to ensure proper design, construction, and maintenance of standard E & S control measures and storm water management practices	Catoosa County	Enforced	
Georgia Mountain and River Corridor Protection Act	State and local governments	Mountain and River Corridor Protection Act requires local governments to provide a 100-foot buffer on large rivers.			
Georgia Planning Act	State and local governments	Water supply watershed protection requirements including stream buffer requirements and SWAPs. The Georgia Planning	State	Enforced	1989

		Act calls for protection of streams that flow into reservoirs or are upstream from drinking water intakes.			
Local ordinances	Catoosa County	Ordinance to protect the water supply watersheds in county	County	Enforced	
Local ordinances	Catoosa County	Ordinance to protect the groundwater recharge areas of county	County	Enforced	
Construction Storm Water Discharge NPDES Permit	Georgia DNR/ EPD	General storm water permit for stand-alone construction sites; infrastructure permits; and common developments. Requires implementation of Erosion, Sedimentation and Pollution Control Plan plus monitoring of discharge for compliance with Georgia's in-stream water quality standards.	State	Enforced	
Industrial Storm Water Discharge NPDES Permit	Georgia DNR/ EPD	General storm water discharge permit for manufacturing facilities; mining, oil, and gas operations; hazardous waste treatment; storage or disposal facilities; recycling centers; steam electric power generating facilities; transportation facilities; domestic sewage or sewage treatment. Requires implementation of Storm Water Pollution Prevention Program. May require storm water monitoring program targeting discharges into/near 303 (d) listed waters.	State	Enforced	
Phase II NPDES Storm Water Permit for Small MS4	Georgia DNR & EPD, Catoosa County	Requires local jurisdictions to develop a comprehensive Storm Water Management Program (SWMP) to include 1. Public	Catoosa County	Enforced	NOI submitted to EPD in December, have received comments. To be revised and

		Education and Outreach; 2. Public Participation and Involvement; 3. Illicit Discharge Detection and Elimination; 4. Construction Site Storm Water Runoff Control; 5. Post-Construction Storm Water Management in New Development and Redevelopment; 6. Pollution Prevention and Good Housekeeping related to municipal operations, reporting, monitoring and program implementation.			resubmitted once mapping of outfalls has been accomplished.
Sanitary Sewer Maintenance Program	City of Ringgold	Program aimed at homeowners to find breaks in sewer lines using smoke testing. Extra water in system raises treatment costs	City of Ringgold	Enforced	Ongoing
Georgia Best Management Practices (Agriculture)	Georgia DNR/EPD	Informs those involved in the agriculture business of effective practices to minimize non-point sources of pollution	Georgia		
Farm Bill 2002 Forestland Enhancement Program	Georgia Forestry Commission	The Forestry Commission has implemented best management practices on its lands to reduce sedimentation and erosion from silviculture practices. The Georgia Forestry Commission also provides education, technical and financial assistance through cost-share programs to private landowners especially in the Forestland Enhancement Program, a part of the 2002 Farm Bill.	Federal, State		Ongoing
Federal Farm Bill 2002	United States Department of Agriculture/ Natural	Enhances long-term quality of our environment and conservation of our natural resources. This bill	Federal Cost-Share and Incentive		Ongoing

	Resources Conservation Service	provides several opportunities for receiving grants to improve water quality.	Programs		
Catoosa County Stormwater Management General Standards and Guidelines	Catoosa County	Offering general guidelines, bmp's, stormwater management plan minimum requirements, design checklists, stormwater permits and fees, erosion control affidavit, post-development conditions drainage map and sediment and erosion control plan.			August 2000
Municipal Ordinance – Flood Damage control	Catoosa County Code Chapter 42 Section 119 through 125	Current stormwater planning will replace this ordinance			April 2001
Municipal Ordinance	Catoosa County/ Code Enforcement Office	Post-Development Stormwater Management Ordinance with stream buffer limits	General fund	On-going	January 2005
Community Greenspace Program		Participation in Georgia Greenspace Program with the conditions that concentration be on lands that would not significantly impact the tax digest and would improve the quality of life			
Catoosa Sewage program	Catoosa Co. Environmental Health	Septic tank permitting, repair permits, existing system evaluations, site evaluations, subdivision plan reviews i.a.w. Rules & regs for on-site sewage management Ch. 290-5-26			
South Chickamauga Land Treatment Watershed Program	NRCS	2.2 million dollars available for 75% cost-share programs aimed at installing poultry bmp's including monitoring pre- and post- bmp's to gauge			

PI-566 program		effectiveness				
Environmental Trust Fund Resolution	Catoosa County	Resolution calling for State of Georgia to fully appropriate fees collected from developers for erosion and sedimentation intended to fund additional inspectors to implement ordinances as intended	State			Very

VIII. MONITORING PLAN

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

Table 6. MONITORING PLAN

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
Fecal coliform	TVA	current	2003	2006	As part of their business plan

VIII. PLANNED OUTREACH FOR IMPLEMENTATION

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

Table 7. PLANNED OUTREACH

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
CVRDC	Look at data that may be available through TVA	Stakeholder Advisory Group	March 2006
CVRDC	Consider applying for 319H grant for septic education	Stakeholder Advisory Group	March 2006
CVRDC	Determine if "Jill at Ringgold High School is still working with the Ecology Club "EcoRescue". Might their activities tie in with public education goals	Stakeholder Advisory Group	April 2006
CVRDC	Recommend buffer ordinances that are proactive	Stakeholder Advisory Group	March 2006
CVRDC	Recommend septic system education for homeowners above and beyond Health Department's efforts.	Stakeholder Advisory Group	March 2006
CVRDC	Recommend convening Phase II Stormwater Administrators from multiple counties to discuss progress on NOI and stormwater planning issues	Stakeholder Advisory Group	April 2006

IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH

This table will be used to **track and report progress of management measures including BMPs and outreach.**

Record milestone dates for:

- accomplishment of management practices or activities - outreach activities
- installation of BMPs

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

Table 8. MILESTONES

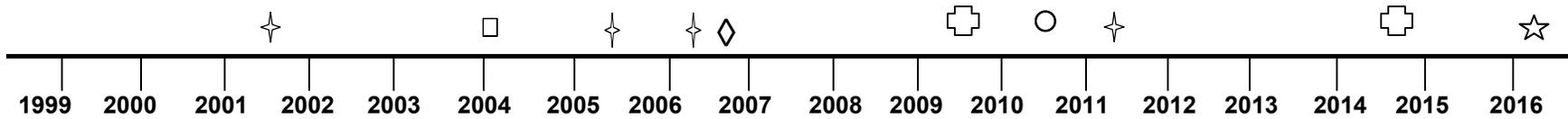
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Stormwater Management Education and Outreach				

<ul style="list-style-type: none"> • Complete Center for Watershed Protection's <u>Codes and Ordinances Worksheet</u> • Consider Adopting 22 Model Development Principles as discussed in <u>Better Site Design: A Handbook for Changing Development Rules in Your Community</u> where applicable • Implement education of community using After the Storm non-point source pollution video presentation on public access channels • Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations • Reconvene Stormwater Working Group to include all counties, municipalities in Coosa Valley RDC area • Will investigate 319 h non-point source pollution grant possibilities regarding funding for development of stormwater management training for municipal employees 	Local Governments	Summer 2006		Application deadline May 31, 2006. Yearly deadline.
	Local Governments	2007-2008		
	Local Governments	Ongoing		
	Local Governments	2006-2008		
	Coosa Valley RDC, stakeholders	2006		
	Coosa Valley RDC, stakeholders	2006		
Septic System Maintenance Education and Outreach				
	Coosa Valley RDC, stakeholders	2006		Application deadline May 31, 2006. Yearly deadline.
<ul style="list-style-type: none"> • Will investigate 319 h non-point source pollution grant possibilities regarding septic system maintenance and 	Coosa Valley RDC, stakeholders	2006		

<p>repair project</p>				
<p>Riparian Buffer Education and Outreach</p> <ul style="list-style-type: none"> • Consider adopting relevant principles as detailed in 22 Model Development Principles as discussed in <u>Better Site Design: A Handbook for Changing Development Rules in Your Community</u> • Continue education and outreach to local communities through USDA NRCS/FSA, County Extension Service • Will investigate 319 h non-point source pollution grant possibilities regarding purchasing and distribution of education materials encouraging homeowners to develop, maintain riparian buffers 	<p>Local Governments</p> <p>USDA NRCS/FSA, County Extension Service</p> <p>Coosa Valley RDC, stakeholders</p>	<p>2007-2008</p> <p>Ongoing</p> <p>2006</p>		<p>Application deadline May 31, 2006. Yearly deadline.</p>
<p>Investigate Funding Sources</p> <ul style="list-style-type: none"> • Will investigate 319 grant possibilities regarding development of a project to survey schools in Coosa Valley RDC service area to determine interest in and feasibility of water quality education, specifically on causes of non-point source pollution, importance of riparian buffers, and stormwater pollution prevention 	<p>Coosa Valley RDC, stakeholders</p>	<p>2006</p>		<p>Application deadline May 31, 2006. Yearly deadline.</p>

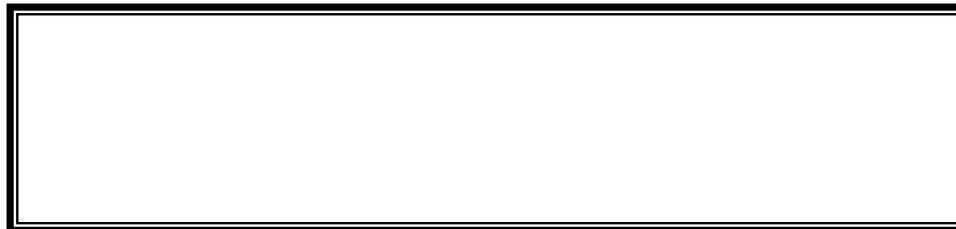
PROJECTED ATTAINMENT DATE

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 ☆

Prepared By:	Jill Joss		
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Date Submitted to EPD:	04/2206	Revision:	01



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
Allen Ridley – Chief Building Official – Catoosa County	184 Tiger Trail Ringgold, GA 30736	Ringgold	GA	30736	(706) 965-4226	allen.ridley@catoosa.com
Cindy Askew – Natural Resources Conservation Service	208 N. Duke St. Suite C Lafayette, GA 30728	Lafayette	GA	30728	(706) 638-2207 X3	cindy.askew@ga.usda.gov
Charles Lancaster – Cooperative Extension Service	43 Maple St.	Ringgold	GA	30736	(706) 935-4211	clancast@uga.edu
Bill Clark – Chairman, Catoosa County Board of Commissioners	P.O. Box 8	Ringgold	GA	30736	(706) 905-7438	bclark@catt.com
Ron Brown – Assistant County Manager – Catoosa County	7698 Lafayette St.	Ringgold	GA	30736	(706) 965-2500	ron.brown@catoosa.com
Dena Haverland – Regulatory – Water/Wastewater Engineering, Dalton Utilities	1200 V.D. Parrott, Jr. Parkway	Dalton	GA	30722-0869	(706) 529-1010	dhaverland@dutil.com
Keith Gilmer - Georgia Soil and Water Conservation Commission	700 E. 2 nd Ave.	Rome	GA	30161	(706) 295-6131	kgilmer@gaswcc.org
Denise Clopton or Frank Redmond – Field Representatives - Sen. Johnny Isakson	214 Magnolia St	Lafayette	GA	30728	(770) 661-0999	Denise Clopton@isakson.senate.gov
Linda Harris – Sr. Water Resources	1101 Market St. PSC 1E	Chattanooga	TN	37402-2801	(423) 876-4178	lbharris@tva.gov

Representative – Tennessee Valley Authority						
Donnie Brown – Lab Analyst - Catoosa Utility District	1058 Old Mill Rd.	Ringgold	GA	30736	(706) 937-9370	n/a
Mike Cannon – Catoosa County Environmental Health Department	P.O. Box 1308 182 Tiger Trail	Ringgold	GA	30736	(706) 935-6322	
Bill Henderson – Soil conservationist					(706) 935-5263	bill.henderson@catoosa.com
Suzanne Cobos – Catoosa Co. Government Project Administrator	208 N. Duke St.	Lafayette	GA	30728	(706) 965-2500	suzanne.cobos@gmail.com
Chris Rader – City of Fort Oglethorpe	500 City Hall Dr.	Ft. Oglethorpe	GA	30742	(706) 866-2544 ext. 12	
Dan Wright – City Manager of Ringgold	150 Tennessee St.	Ringgold	GA	30736	(706) 935-3061	

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.

**APPENDIX C
MAPS AND PHOTOS**

TIGER CREEK WATERSHED

HUC 10 #0602000109

- Tiger Creek – Dry Branch to East Chickamauga Creek
- East Chickamauga Creek – Tanyard Creek to Dry Creek

Tiger Creek – Dry Branch to East Chickamauga Creek

DSC00082 Salem Valley Rd. Cattle and residential development characterize the land use along the



road.

Tiger Creek

DSC00083 Further down Salem Valley Rd. More agricultural uses of the land.



Tiger Creek
DSC00086 Salem Valley Rd. horse barn and pasture



Tiger Creek

DSC00087 Cattle ranch on Salem Valley Rd.



Tiger Creek

DSC000101 Heading north on Martin Ward Rd. this small tributary flows between cattle and hay pasture. The grass is mowed to the edge of the bank.



Tiger Creek

DSC000104 The outbuildings of Keith Valley Farms (Pilgrims Pride) on Keith Rd.



Tiger Creek
DSC000106 Cattle with access to the creek.



DSC000107 Same location.



Tiger Creek

DSC000109 Highway 3 road bridge. The homeowner at the left of the photo has not left adequate buffer protection although they did not mow all the way to the bank.



East Chickamauga Creek

DSC000111 The tributary in the upper right of the photo drains a cow pasture into the creek.



East Chickamauga Creek

DSC000114 On Dogwood Rd. just south of the CSX tracks fencing surrounds the stream but the gate is obviously used to allow cattle access.



DSC000115 Same location as above.

