

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

Walker County Government

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.

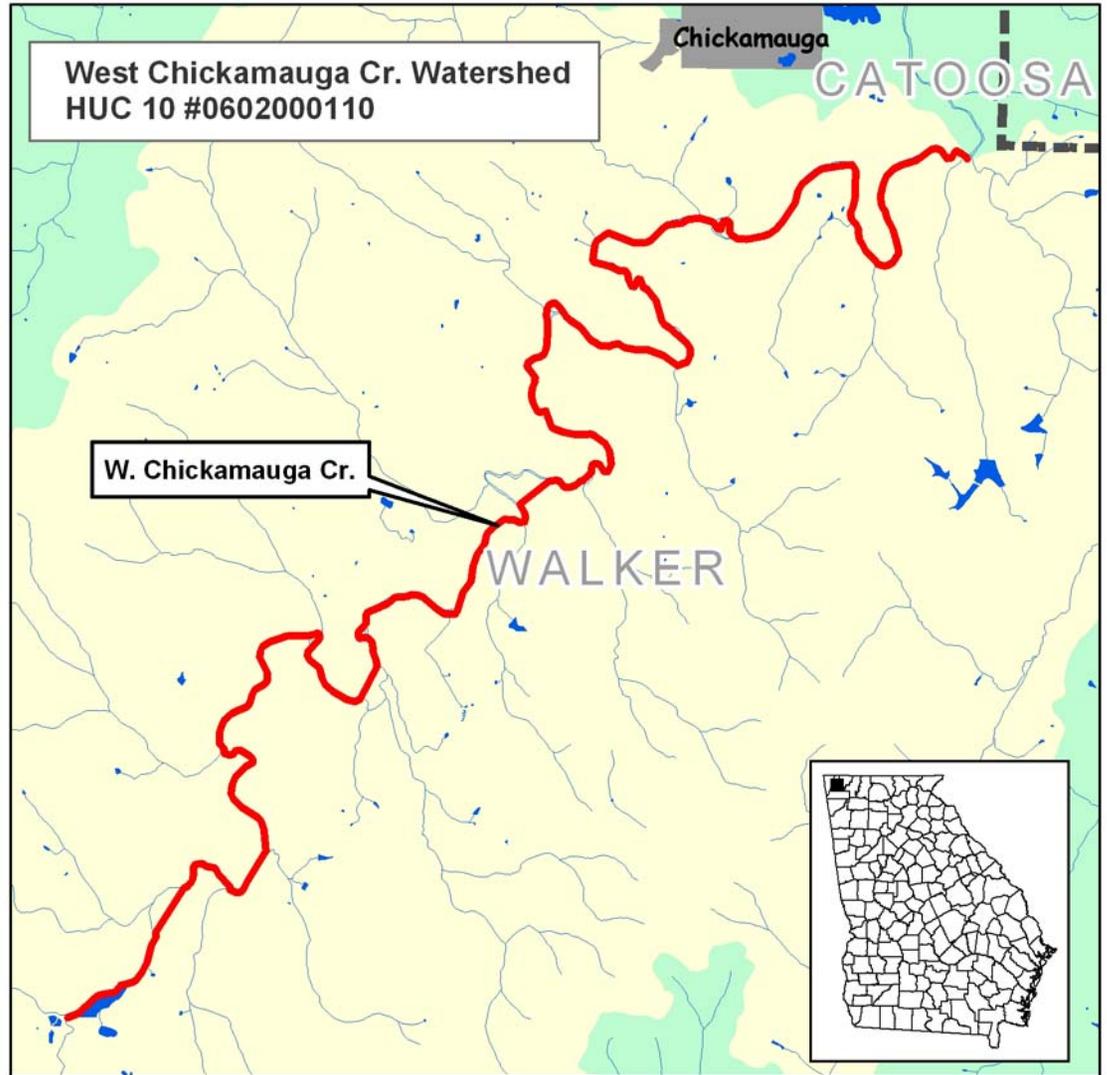


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT	TMDL ID
West Chickamauga Creek	Mill Creek to Crawfish Creek	Fecal Coliform Bacteria	TEN0000031

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10 #0602000110. 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.

Several small tributaries converge just north of McLemore Cove to form the headwaters of **West Chickamauga Creek**. This segment begins at Mill Creek in Kensington northeast of the Water Treatment facility on Hwy 341. It meanders northeast between the steep slopes of Lookout Mountain – to the west and Pigeon Mountain to the east, being fed along the way by smaller streams draining the ridge. Pigeon Mountain is the easternmost segment of the Appalachian Plateau in Georgia and the site of the 13,300 acre Crockford- Pigeon Mountain Wildlife Management Area managed by Georgia Department of Natural Resources, Wildlife Resource Division. This area is home to over two dozen rare plant species and several high priority species of state-protected animals. The watershed for this segment is almost entirely in Walker County.

The Creek meanders northeast through floodplain down to Crawfish Valley where Crawfish Creek conflues. There are many caves and springs in the area. West Chickamauga is a trout stream which is assigned a restocking frequency of 4, meaning stocking occurs in March, then prior to each of the summer holidays during the season (March through Labor Day).

Land use : forest 74.2%, pasture/hay 22%, row crops 2.7%, transitional 0.6%, high intensity commercial 0.1%, high intensity residential 0.1%, other grasses 0.1%. Source: “Total Maximum Daily Load Evaluation for Nineteen Stream Segments in the Tennessee River Basin for Fecal Coliform” Submitted by The Georgia Department of Natural Resources. January 2004.

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. In the report they identify the watershed for Crawfish Springs Lake as being very small on the surface, encompassing only ten and one half square miles. However the spring is heavily influenced by the regions’ karst topography (groundwater) and the watershed may be significantly larger, there have been no studies to determine the full extent of the watershed, i.e. how the surface water and groundwater interact.

Point Sources

- City of Chickamauga has a discharge below Crawfish Springs Lake but it is just outside of the watershed.
- Walker Co. Water & Sewage Authority – serves Flintstone. System connected to City of Chickamauga to enhance reliability.
- Crystal Springs Print Works – Bleach and Dye plant, on Walker County Water & Sewer Authority Industrial Pretreatment Program.
- Shaw (formerly Synthetic Industries – Permit #GA0046205) on Lafayette Rd. in Chickamauga – has its’ own stormwater permit; also on WCWSA Industrial Pretreatment Program.
- Dow/Reichold Polymers – Permit #GA0000051

Landfills:

- Steele Bros. Landfill – SR341 Industrial waste landfill – Permit No. 146-011D has ceased accepting waste. Landfill is approximately one mile east of the stream.

- Mathis Bros. – Chickamauga Rd. – Permit No. 146-006D closed out through the Superfund program.

West 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
West Chickamauga Creek	Mill Creek to Crawfish Creek (Walker County)	16	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 100ml (geometric mean Nov-April) 200 per 100ml (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 	93 percent

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

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

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

A high percentage of land in this watershed is devoted to agriculture (22%). The field survey confirmed this in that the heavy agricultural use of the land combined with the steep slopes that do not permit infiltration before runoff creates a situation of high potential for non-point pollution. In addition, septic system leakage from many older trailers and homes that line the small roads leading directly to the creek may be the second largest source of bacteria. A DNR/EPD report issued in 1986 studied water availability and use in the Tennessee Basin and concluded that , "... water quality at this site in 1985 was good; however, the influence of upstream discharges was evident in elevated nutrient concentrations. Conductivity values were high as a result of natural conditions. With the exception of two of seventeen fecal coliform bacterial densities, trend monitoring data indicated compliance with criteria of the EPD water use classification of fishing." This indicates that fecal coliform has been an issue in the past, although it had not necessarily led to the stream being classified as impaired and not meeting its' designated use. '86 EPD TN Basin "Water Availability and Use Report.

FIELD SURVEY

6/29/05

Jill Joss

Wx : 92 degrees and drizzling

WEST CHICKAMAUGA CREEK – Mill Creek – Crawfish Creek

vegetated stream buffers often too narrow to provide effective erosion control and in some areas livestock have unrestricted access to the streams. (report from Nature Conservancy)

- I. Hwy 193 Rd. bridge midway between 341 and Kensington
#35.) Upstream – heavily vegetated, muddy from previous days' rain, slow flow.

- #36.) Downstream – similar, vegetation in stream.
- II. Kensington Area – Mill Creek Tributary
#37.) Reichold Chemical Company – discharger to stream
#38.) Mill Creek Tributary muddy, upstream at tributary, pasture , high rate of flow.
#39.) Downstream – similar conditions.
- III. Rd. bridge east on Halls' Mill Rd. – much of area is horse pasture, hay.
#40.) Hay bales in background
#41.) Upstream – near floodstage, very muddy, milky, fast flow.
#42.) Spillway downstream , riffles
#43.) Small tributary draining pastureland.
- IV. McLemore Cove Rd. –
#44.) Buffer so dense as to almost not see stream, bedrock lines channel and forms major part of streambed here, fast flow, muddy..
- V. Hwy 136 - 1 mile east of Kensington Rd.
#45.) Upstream – heavy flow, dense riparian buffer
- VI. Hasty Lane – small unimproved rd. northeast off 136, dead ends near stream. Stream parallels this road in backyards of older homes.
#46.) Stormsewer within 500 yds. of stream
#47.) Drainage pipes
- VII. Camp Rd. & McLemore Cove Rd. (Hwy 341)
#48.) Small tributary
#49.) Flowing well, less muddy here
#50.) Upstream – very muddy
#51.) Downstream – south bank is bedrock, north bank sports an attempt at rip-rap.
- VIII. Rd. bridge @ McLemore Cove – 1 mile d/s of last stop. Abandoned pasture here good buffer with a dense grove of hardwoods.
#52.) Upstream – slower flow
#53. & #54.) Downstream
Possible CAFO? – Koch Foods owned by Danny Thomas
- IX. Old Bethel Rd. bridge - surrounded by pasture on all sides.
#55.) Upstream
#56.) Downstream
- X. N. on Lofton Lane from Old Bethel Rd. New residential with large lots horse and cattle pasture predominant land use. Meadow Dr. extends down to dead end approx. 100 ft. from stream.
#57.) Upstream – very low flow, level of stream is high, still murky.
#58.) Downstream – fragmented rip-rap on northern bank.

XI. Glass Mill Rd. – residential, pasture

#59.) Upstream – spotted egret

XII. Rd. bridge over Jake Goodson Creek – tributary to W. Chickamauga

#60.) Upstream – clearer water, lower rate of flow

#61.) Downstream – rock lines streambed and channel

XIII. Crawfish Creek – pasture surrounding

Stream has high flow, almost at flood stage, lots of vegetation in stream, muddy water.

#62.) Upstream

#63.) Downstream – note residential proximity to stream

#64. & #65.) Cattle and horse pasture

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	Agricultural/Livestock <ul style="list-style-type: none"> • Animal grazing • Animal access to streams • Application of manure to pastureland and cropland 	Throughout	Large	Steep slopes of Pigeon Mtn. don't allow for infiltration
	Leaking septic systems	Throughout	Moderate	
	Wildlife	Especially Pigeon Mtn. area of watershed	Moderate	Pigeon Mtn. Wildlife Mgmt. area just south of 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.

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.

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.

Involvement of stakeholder group: If the Advisory Group decides to pursue additional sampling one stakeholder recommended sampling at Mill Creek before the confluence with West Chickamauga, then at the confluence at Hwy 193 just upstream of Reichold Chemicals, Inc. Another sample at Halls Mill Rd. about 4 miles downstream of Reichold may indicate whether the substantial withdrawals made at Reichold seem to be having any impact on water quality.

Land downstream of here is predominantly farmland, so he sees agriculture as the most significant potential source of bacteria from non-point sources.

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

Table 4. COMMITTEE MEMBERS

NAME	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Kelia Kimbell Walker County Planning Director	101 Napier St. Ste. B	Lafayette	GA	30729	(706) 638-4048	klkimbell@aol.com
Kathy Ward Walker County Planning	101 Napier St. Ste. B	Lafayette	GA	30729	(706) 638-4048	
Norman Edwards Walker County Extension Agent	P.O. Box 827	Lafayette	GA	30728	(706) 638-2548	nedwards@uga.edu
Cindy Askew NRCS	208 N. Duke St.	Lafayette	GA	30728	(706) 638-2207 ext.3	cindyaskew@ga.usda
Brandon Whitley Walker Co. Water & Sewer Authority –Plant Supervisor	P.O. Box 248	Flintstone	GA	30725	(423) 421-2942	wcsaww@nexband.com
Don Oliver	P.O. Box 445	Lafayette	GA	30728	(706) 638-1437	

Walker County Attorney						
Doug Cabe Limestone Valley RC&D	125 RedBud Rd. Suite 7	Calhoun	GA	30701		dec@lvrcd.org
David Ashburn Mgr. Walker County Water & Sewer	P.O. Box 445	Lafayette	GA	30728	(706) 638-1437	
Mrs Dee Collins Parker Chattanooga Valley Residents Association	64 Iriswood Rd.	Flintstone	GA	30725	(706) 820-9622	deecolpar@aol.com
Keith Gilmer Ga. Soil & Water Conservation Commission	700 E. 2 nd Ave. Suite J	Rome	GA	30161		
Jimmy Pinion – Walker County Environmental Health					(706) 639-2574	
Henry Blakemore?	2380 Burnt Mill Rd.	Flintstone	GA	30725		

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	EFFECTIVENESS (Very, Moderate, Weak)
USEPA, Georgia DNR EPD, Walker County	Federal Clean Water Act, Section 305(b) and 303 (d)	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 Rules and Regulations for Water Quality Control, Chapter 391-3-6	Georgia Water Quality Control Act (OCGA 12-5-20)	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	Federal, Georgia, Walker County	Enforced	11/1964	

		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 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.				
Walker County, Georgia DNR/EPD, Georgia Soil and Water Conservation Commission	Georgia Erosion and Sedimentation Control Act, Construction Permit	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	Walker County	Enforced		
State and local governments	Georgia Mountain and River Corridor	Mountain and River Corridor Protection Act requires local				

	Protection Act	governments to provide a 100-foot buffer on large rivers.				
Walker County	Local ordinances	Ordinance to protect the water supply watersheds in county	County	Enforced		
Walker County	Local ordinances	Ordinance to protect the groundwater recharge areas of county	County	Enforced		
Georgia DNR/EPD	Construction Storm Water Discharge NPDES Permit	General storm water permit for stand-alone construction sites; infrastructure projects; 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		
Georgia DNR/EPD	Industrial Storm Water Discharge NPDES Permit	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		
Georgia DNR & EPD, Walker County	Phase II NPDES Storm Water Permit for Small MS4	Requires local jurisdictions to develop a comprehensive Storm Water Management	Walker County	Enforced	Resubmitting NOI, waiting approval from	

		Program (SWMP) to include 1. Public 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.			EPD.	
Walker County	Watershed Assessment and Protection Plan	Limited Voluntary Assessment of Rock Creek watershed	Walker County			
Land Trust	Lula Lake Land Trust	Land conservation activities, biological monitoring and research, education and programming, and land protection initiatives in Rock Creek watershed. Protects over 4,000 acres	Private	ongoing	Est. 1994	
CVRDC	Mapping of outfalls	GPS mapping of outfalls where stormwater enters creeks	Walker County			
Georgia DNR/EPD	Georgia Best Management Practices (Agriculture)	Informs those involved in the agriculture business of effective practices to minimize non-point sources of pollution	Georgia			
Georgia Forestry Commission	Farm Bill 2002 Forestland Enhancement Program	The Forestry Commission has implemented best management practices on its lands to reduce sedimentation and erosion from silviculture practices. The Georgia	Federal, State		Ongoing	

		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.				
United States Department of Agriculture/ Natural Resources Conservation Service	Federal Farm Bill 2002	Enhances long-term quality of our environment and conservation of our natural resources. This bill provides several opportunities for receiving grants to improve water quality.	Federal Cost-Share and Incentive Programs		Ongoing	
Walker County	Quality Growth Grant Program Slope Protection	Part of greenspace planning, protecting steep slopes from erosion with stricter enforcement of SES and stormwater regulations	DCA		TBA	
Walker County	Quality Growth Grant Program Hillside BMP's	Part of greenspace planning, limit inappropriate grading and hillside development	DCA		TBA	
Walker County	Quality Growth Grant Program and Phase II Stormwater – wetlands protection	Vegetative buffers along waterways. Encourage wetland protection/enhancements	DCA		TBA	
Walker County	Quality Growth Grant Program Education for community leaders, businesses, organizations, citizens, schools, etc.	TVA, DCA and the Southeast Watershed Forum developed educational program that builds on the “Non-point Education for Local Officials Program. Educational packages to be presented to groups in county. Packages tailored to audiences.	EPA, TVA, NRCS		TBA	
Walker County	Quality Growth Grant Program	Including regulations for conservation subdivisions,	DCA		TBA	

	Development Regulations	minimum lot sizes, tree preservation ordinance for new development, tree replacement ordinance for new development, rewriting of PUD regulations so PUD districts are used to create livable, pedestrian oriented village centers with low environmental impact (i.e. shared septic fields, etc.), and requiring conventional Greenfield subdivision developments over 10 units to be on sewer vs septic.				
Ga DOT National Park Service	Transportation Enhancement Program	Purchase easements along abandoned rail beds – provide connectivity to existing trails	DCA		TBA	
Walker County CVRDC	Walker County Comprehensive Plan - update	To be used as a reference in evaluating the appropriateness of future development proposals, county will then assess local development controls to ensure that they support the plan				
Walker County Department of Environmental Health	Rules and regulations for onsite wastewater management (Septic system permitting)	Regulates through permits and inspections of on-site sewage management systems	Walker County	Enforced	Ongoing	
Walker County	Sanitary Sewer Maintenance Program	Sanitary Sewer system inventory and inspection (mapping, television inspections); infiltration and inflow identification and reduction (flow monitoring, smoke testing); sewer line rehabilitation (pipe bursting, relining, cleaning) and	Walker County	Enforced	Ongoing	

		manhole rehabilitation.				
Georgia DNR/EPD, Limestone Valley RC&D	PL-566		Federal, State	Cost-share	Renewed yearly; since 2003	Very
Natural Resources Conservation Services	Conservation Reserve Program (CRP)	Conservation cost-share for conversion of highly erodible croplands to vegetative cover	USDA	Cost-share	Ongoing	Varies
Natural Resources Conservation Services	Continuous Conservation Reserve Program	Encourages farmers to convert highly erodable acreage to filter strips and riparian buffers to improve water quality and habitat 3500 acres have been preserved in Walker County under this program	USDA	Cost-share	Ongoing	
Walker County Greenspace committee	Acquisition and Preservation of Riparian Buffers	Committee will buy land			Ongoing	Very
Walker County and stakeholders	Watershed Protection Tools Addressing Point Sources	Improved NPDES permits; Enforcement of existing permits				

VII. MONITORING PLAN

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

Table 6. MONITORING PLAN

ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
		START	END	

TVA	current	2003	2006	As part of business plan and to gauge effectiveness of poultry bmp's under PL-566 program
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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

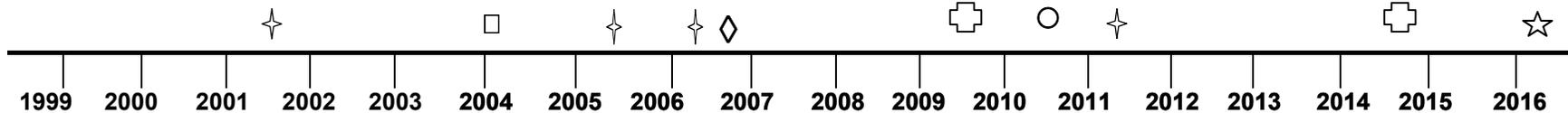
MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS PROPOSED INSTALLED		COMMENT
<p>Stormwater Management Education and Outreach</p> <ul style="list-style-type: none"> • Complete Center for Watershed Protection's <u>Codes and Ordinances Worksheet</u> • Consider Adopting 22 Model Development Principles 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		
	Local Governments	2007-2008		
	Local Governments	Ongoing		
	Local Governments	2006-2008		
	Coosa Valley RDC, stakeholders	2006		
	Coosa Valley RDC, stakeholders	2006		Application deadline May 31, 2006. Yearly deadline.

<p>Septic System Maintenance Education and Outreach</p> <ul style="list-style-type: none"> Investigate expansion of district-wide outreach component to homeowners to include those with existing systems Will investigate 319 h non-point source pollution grant possibilities regarding septic system maintenance and repair project 	<p>Coosa Valley RDC, stakeholders</p> <p>Coosa Valley RDC, stakeholders</p>	<p>2006</p> <p>2006</p>		<p>Application deadline May 31, 2006. Yearly deadline.</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 	<p>Coosa Valley RDC, stakeholders</p>	<p>2006</p>		<p>Application deadline May 31, 2006. Yearly deadline.</p>

of riparian buffers, and stormwater pollution prevention				
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PROJECTED ATTAINMENT DATE

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



- Scheduled EPD Basin Group Monitoring ✦
- TMDL Completed ◻
- Revised TMDL Implementation Plan Accepted ◊
- Plan Status Evaluation Report ✚
- Plan Update or Revision, if Necessary ○
- Project Attainment for Plans Prepared in 2006 ☆

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Date Submitted to EPD:	04/22/06	Revision:	01

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APPENDIX A.
STAKEHOLDERS

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

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Kelia Kimbell Walker County Planning Director	101 Napier St. Ste. B	Lafayette	GA	30729	(706) 638-4048	klkimbell@aol.com
Kathy Ward Walker County Planning	101 Napier St. Ste. B	Lafayette	GA	30729	(706) 638-4048	
Norman Edwards Walker County Extension Agent	P.O. Box 827	Lafayette	GA	30728	(706) 638-2548	nedwards@uga.edu
Cindy Askew NRCS	208 N. Duke St.	Lafayette	GA	30728	(706) 638-2207 ext.3	cindyaskew@ga.usda
Brandon Whitley Walker Co. Water & Sewer Authority –Plant Supervisor	P.O. Box 248	Flintstone	GA	30725	(423) 421-2942	wcsaww@nexband.com
Don Oliver Walker County Attorney	P.O. Box 445	Lafayette	GA	30728	(706) 638-1437	
Doug Cabe Limestone Valley RC&D	125 RedBud Rd. Suite 7	Calhoun	GA	30701		dec@lvrcd.org
David Ashburn Mgr. Walker County Water & Sewer	P.O. Box 445	Lafayette	GA	30728	(706) 638-1437	
Mrs Dee Collins Parker Chattanooga Valley Residents Association	64 Iriswood Rd.	Flintstone	GA	30725	(706) 820-9622	deecolpar@aol.com
Keith Gilmer Ga. Soil & Water Conservation Commission	700 E. 2 nd Ave. Suite J	Rome	GA	30161		
Jimmy Pinion – Walker County Environmental Health					(706) 639-2574	

Henry Blakemore?	2380 Burnt Mill Rd.	Flintstone	GA	30725		
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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.

PHOTOS AND MAPS

WEST CHICKAMAUGA WATERSHED
HUC 10 #0602000110

West Chickamauga Creek – Mill Creek to Crawfish Creek
DSC00037 Kensington area. Entrance to Reichold Chemical Company – NPDES discharger to stream.



West Chickamauga Creek – Mill Creek to Crawfish Creek

DSC00040 Road bridge east on Halls' Mill Rd. Much of this area is pasture and hay. Note the hay bales in the center of the photo.



West Chickamauga Creek – Mill Creek to Crawfish Creek

DSC00043 Halls' Mill Rd. Photo on following page. Small intermittent stream drains pastureland.



West Chickamauga Creek – Mill Creek to Crawfish Creek

DSC00063 Crawfish Creek area. Several homes are in very close proximity to creek.



West Chickamauga Creek – Mill Creek to Crawfish Creek
DSC00064 This pasture surrounds the creek.

