

STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN REVISION 01
 Little Tallapoosa Buffalo Creek to State Line Watershed
 Tallapoosa River Basin
 April 28, 2006

Local Watershed Governments: Carroll 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.

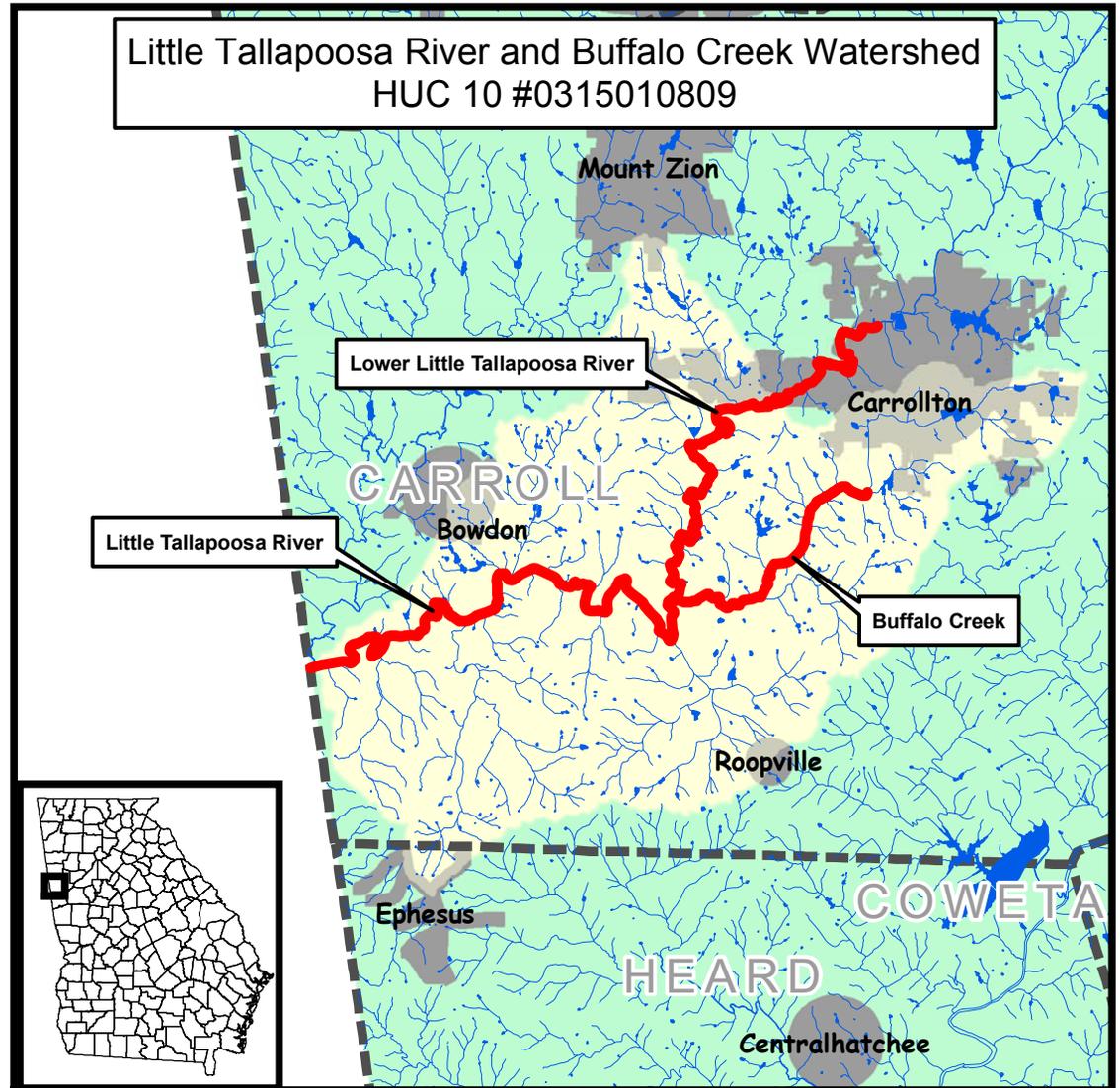


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT	TMDL ID
Little Tallapoosa River	Buffalo Creek to Stateline	Fecal Coliform	TAL0000004
Little Tallapoosa River	Buffalo Creek to Stateline (EPA)	Bio(sediment)/Habitat	TAL0000010

*Plans to be completed by EPD

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10# 0315010809. 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.

Characteristics, Size and Location

The Little Tallapoosa River from Buffalo Creek to State Line segment Begins where Buffalo Creek runs into the Little Tallapoosa River just to the Southwest of the city of Carrollton. It extends west for a length of 14 miles to the Alabama state line.

Land Use and Land Cover

The Little Tallapoosa River was investigated at State Line Road (i.e., Lower Little Tallapoosa River listing at station LTP-01). A physical habitat survey indicated unstable banks, stream bank cover, inadequate riparian zone cover, and heavy sedimentation as concerns in the river. Obvious potential for non-point source pollution and erosion was identified. Habitats available at both sites included leaf packs, undercut banks, woody debris and one riffle- a stretch of choppy water caused by such a shoal or sandbar. Results of the biological community investigation indicated moderate impairment and degradation of habitat conditions was identified as the likely cause. There are numerous new residential subdivisions that are being built very close to the river.

The Topography consists of rolling hills. The Segment's area is mostly forested with a mixture of hardwood and pine trees. Agriculture is heavily engaged in the area, taking up the second largest amount of land, around 14669 acres. The area has been undergoing increasing development in the past two decades.

Land use characteristics vary. In the Little Tallapoosa watershed there are 754 acres of urban land, 222 acres of barren land, 1,134 acres of commercial/industry use, 14,669 acres of agriculture, 943 acres of water, 2,145 acres of wetlands, and 34,349 acres of forest. Most of the land that the Little Tallapoosa runs through is forest and agriculture. Some of the forestland is set aside for conservation.

Relevant Water Quality Planning and Management Activities

Source Watershed Assessment: In 2004 The West Georgia Watershed Assessment was completed. The assessment was funded by the State of Georgia to support work in Carroll and Heard Counties. Funding for the project was administered through the City of Villa Rica, Georgia. The project sampled a significantly denser network of data stations than is normal, allowing planners to understand surface water impacts in detail.

EPD has designated the Georgia Forestry Commission (GFC) as the agency responsible for managing commercial forestry nonpoint sources. The GFC uses specially trained Water Quality Foresters in order to minimize erosion and sedimentation from forestry operations by using education and monitoring. The GFC has two statewide contracts with EPD in order to help fund these activities.

The 319(h) and 106 grants have continued the GFC's Silvicultural Nonpoint Source Management Program that encompasses BMP education, forestry complaint investigation and mediation and forestry BMP implementation monitoring. The GFC also conducts BMP Assurance Monitoring of active forestry operations that target the 63 TMDL watersheds that are listed for sediment. This allows GFC to educate landowners about their roles and responsibilities regarding BMPs and water quality and to provide forest operators with on the ground assistance before problems occur. These projects also educate and train loggers and purchase needed equipment. The purpose of these contracts is to achieve a statewide goal with increased BMP implementation rates and overall improved water quality.

Carroll County Community Greenspace Program: Carroll County has around 86,644 plus acres of land that falls within watershed designated areas. These areas are very important in protecting the water of Carroll County and all municipalities through a variety of measures. Carroll County feels the Little Tallapoosa River is key in this program since it is a vital source of water for the City of Carrollton. The City of Carrollton has proposed approximately 368.6 acres to be protected along this river corridor.

Source Water Assessment Plan Report (SWAP): A SWAP report was done for the City of Carrollton in 2002. According to the report, total suspended solids (TSS), are the matter suspended in water, and an increase in these solids cause rapid sedimentation in rivers. These sediments increase as runoff from rainwater increases. Sediment sources include construction, stream bank erosion, agricultural and timber harvest practices and etc. High sediment levels can harm the physical habitat for aquatic insects and fish and it degrades a streams usage as a drinking water source. New residential developments that expose a great amount of soil coupled with heavy rains have made the Little Tallapoosa susceptible to increased sediment concentrations.

Fecal coliform bacteria are the most common cause of stream contamination in the Tallapoosa River Basin. The most common sources of fecal coliform are animal intrusion into streams and animal waste runoff and failing septic tanks.

Tallapoosa River Basin Watershed Protection Plan- 1998: The purpose of this plan is to provide relevant information on the characteristics of the Tallapoosa River basin, describe the status of water quality and quantity in the Tallapoosa River basin, identify present and future water resource demands, present and facilitate the implementation of water quality protection efforts, and enhance stakeholder understanding and involvement in basin planning.

Source Water Stewardship Exchange Team Program: The Trust for Public Land (TPL), in partnership with the University of Massachusetts and the USDA Forest Service, conducted Source Water Stewardship Projects in four watersheds throughout the United States to demonstrate land use conservation and forest management practices for source water protection. This project is designed to integrate and build-upon work underway, such as state source water assessments and other local planning efforts.

Carroll County Soil Erosion and Sedimentation Control Ordinance: A Carroll County plan for the control of soil erosion and sedimentation resulting from a land-disturbing activity. In the Plan, land disturbing activities shall require, as a minimum, best management practices (BMPs), including sound conservation and engineering practices to prevent and minimize erosion and sedimentation, which are consistent with , and no less stringent than, those practices contained in the *Manual for Erosion and Sediment Control in Georgia* published by the Georgia Soil and Water Conservation Commission.

Little Tallapoosa River to State Line

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

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Little Tallapoosa River	Buffalo Creek to State Line (Carroll Co)	14	Fishing	PS

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 Bacteria (FC)	1,000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geometric mean May-Oct)	Wastewater Treatment Facilities	17%
		Stormwater runoff	
		Confined Animal Feeding Operations	
		Wildlife, leaking septic systems, landfills, LASs.	

PARAMETER 2	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Sediment	No degradation to fish community	Storm water discharges of sediment associated with construction activities.	72%
		Roads, agriculture, bare ground and silviculture are major nonpoint sources of sediment in the watersheds.	
		Residential Developments near the river	

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.

FECAL COLIFORM

POINT SOURCES

Land Application Systems: A sizeable Land application system for the Carrollton city wastewater treatment system exists just north of the watershed. The TMDL states that if not properly bermed, or if the rate of application exceeds the percolation rate of the ground, fecal coliform contaminated runoff may occur.

Landfills: Leachate from landfills (sanitary/municipal) may contain fecal coliform that at some point may discharge into surface waters.

Confined animal feeding operations: CAFOs have high animal densities. Large quantities of fecal material in a limited area infiltrates into streams.

Wastewater Treatment Facilities: Industrial and municipal WTF discharges contribute to fecal coliform to receiving waters.

NON POINT SOURCES

Wildlife: Deer and Other: Carroll County has a high-density deer population (50 deer per square mile). A high portion of the watershed is forest, which would make deer and wildlife a possible significant contributor to high fecal coliform counts. Stake holders have stated that beaver and geese play a major role in adding large amounts of fecal material into the waterways.

Leaking sewer lines: There are sewer lines running all throughout the city of Carrollton. Any undetected or future breaches of the sewer lines could have significant impact on the fecal coliform level in the water.

Agricultural Livestock: Carroll County has a very active agricultural system, and a high percentage of the buffalo creek area is engaged in various livestock oriented agriculture.

Leaking Septic Systems: In 2004 there were 29,858 septic systems in Carroll County of which 2,508 had to be repaired. Given how septic systems operate combined with the knowledge that many are in need of repair at any given time they can have significant impact on fecal coliform counts.

Regulated Stormwater Discharges: These discharges may contain fecal coliform which is associated with industrial activities including construction sites larger than 5 acres, and separate storm sewer systems (MS4s).

SEDIMENT

Bare ground: According to the *TMDL for Sediment: In the Tallapoosa and Coosa River Basins*, during the field reconnaissance study, it was documented that several of the impaired waterbodies have unstable banks and lack vegetation on the stream banks. Undercutting of the streambed and banks can be a major nonpoint source of sediment during high flow events. Although several watersheds have point source discharges of sediment, nonpoint sources are considered the primary source of sediment in the impaired waterbodies. The watershed loadings of sediment in water from nonpoint sources in the watershed were simulated using the Watershed Characterization System Sediment Tool.

Roads: There aren't many unpaved roads in the Little Tallapoosa River watershed but some do exist. According to the *TMDL* Unpaved roads can be a major contributor of sediment to our waterways if not properly managed. Disturbances to unpaved roadway surfaces and ditches, and poor road surface. This leads to increased roadway erosion and thus stream sedimentation. Well vegetated ditches help control and filter the storm water runoff. Culverts, which are conduits, are used to convey water from one side of a road to another. Installation, modification, and /or improvements of culverts when streamflows and expected rainfall is low can reduce the amount of sediment that enters a stream. This can have an impact on the biological community if the size and species of fish passing through it are not considered.

Residential/Urban Development: According to the *TMDL for Sediment: In the Tallapoosa and Coosa River Basins*, The Erosion and Sedimentation Act, established in 1975, provides the mechanism for controlling erosion and sedimentation from land-disturbing activities. Erosion and sedimentation occurs mostly during the construction phase. Storm water runoff from developed urban areas (post-construction) can also have an impact on the transport of sediment to and within streams.

Storm water discharges: According to the City of Carrollton's Source Water Assessment Plan Report stormwater discharges are a major factor in stream sedimentation. This occurs as runoff from rain events. This can involve all the causes mentioned above. Rain washes sediment into streams. These sources are construction, stream bank erosion, agricultural and timber harvest practices, and runoff from dirt roads, ditches, unpaved driveways, and recreational areas (4-wheeling). These sediments can contain attached nutrients, metals, and pesticides. High sediment levels can harm the physical habitat for aquatic insects and fish. Excess sediment also degrades a streams usage as a drinking water source and for recreational uses.

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.

Estimated Geographic Extent of the Source or Cause in the Contributing Watershed (Percent of area or stream miles)	Estimated Contribution of the Source or Cause to the Pollutant Load Causing the Impairment (Percent of load)	Rating
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

PARAMETER 1: Fecal Coliform

POTENTIAL SOURCES OR CAUSES	ESTIMATED EXTENT OF CONTRIBUTION		ESTIMATED PORTION OF CONTRIBUTION		IMPACT RATING (A X B)
	Comments	Rating (A)	Comments	Rating (B)	
Land Application Systems	One in Carrollton	1	Low 6%	1	1
Landfills	Few	1	Based on waste categorization	1	1
Confined Animal Feed Lots	Approximately 4 Feedlots in the watershed	3	High Priority	5	15
Wastewater Treatment Facilities	Medium 20%	3	Medium	3	9
Wildlife	Various and scattered	3	Deer, Geese, Beaver	1	3
Leaking Sewer Lines	Scattered through watershed	1	Low 5%	1	1
Agricultural Livestock	Common in watershed	3	Medium 25%	3	9
Leaking Septic Systems	Scattered	3	Low 8%	5	25
Regulated Stormwater Discharges/ Runoff	Throughout	3	Low 15%	5	15

PARAMETER 2: Sediment

POTENTIAL SOURCES OR CAUSES	ESTIMATED EXTENT OF CONTRIBUTION		ESTIMATED PORTION OF CONTRIBUTION		IMPACT RATING (A X B)
	Comments	Rating (A)	Comments	Rating (B)	
Bare Ground	Scattered in watershed	1	Low-Medium 15%	1	1
Roads	Scattered	1	Medium 20%	1	1
Urban Development	Throughout	5	Medium 50%	3	15
Stormwater Discharges	Throughout	5	Widespread 60%	5	25

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.

Stakeholders were notified of the project by mail (letter). The letter received by individual stakeholders was sent to encourage them to attend one or both of the meetings to be held to discuss issues of water quality in the Little Tallapoosa watershed and the parameters set out in this TMDL Implementation Plan.

Two meetings were held where stakeholders were invited. The dates of the two meetings were September 1st and 8th.

The majority of the attendees were from the upper Little Tallapoosa River watershed area. This is the area around Lake Buckhorn near the City of Temple. These citizens filled out survey sheets in which stated what their concerns were about what is affecting water quality in their community. The surveys was also used to identify what they think should be done to address water quality concerns dealing with the Little Tallapoosa River.

There were few in attendance at both of these meetings so these particular citizens have been made the advisory group for this particular TMDL Implementation Plan. The dates of the two meetings were very close to stormy/bad weather, which may have affected the stakeholder turnout to the meetings.

Some stakeholders addressed the issue of heavy fishing activities along side the road, which may cause sedimentation in the water.

Most of the concerns of the stakeholders dealt with septic issues i.e. fecal coliform.

List the watershed stakeholder advisory group committee members, described in Project Task #1 of the Scope of Services, in following table.

Table 4. STAKEHOLDER ADVISORY GROUP MEMBERS

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Evelyn Whitfield	35 Kansas St.	Carrollton	GA	30117	770-459-6247	evelynwhi@earthlink.net
Sara Godfrey	60 Elizabeth St.	Carrollton	GA	30117	770-456-8087	
Ron Myers	---	Carrollton	GA	30117		
Amy Goolsby	---	Carrollton	GA	30117	770-830-5861	agoolsby@carrollcountyga.com
Ben Hobbs	---	Carrollton	GA	30117	770-830-8211	
Evelyn Hart	85 Elizabeth St.	Temple	GA		770-456-7044	
Marrie Buice	54 Lankford Loop				770-459-8408	
Bill Paschal	285 E. Lake Buckhorn	Temple	GA		770-459-5389	
G. Paschal	Lake Buckhorn Road	Temple	GA			
Katie Barfield	25 Kansas St.	Temple	GA		770-456-0993	
John Pendrak	123 Edgewater	Temple	GA		770-459-8669	john@pendrak.net
Hope Parsons	80 Cash Drive				770-562-1884	
Tony Godfrey	60 Cash Drive				770-562-1012	

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 Mangement 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

GENERAL MEASURES APPLICABLE TO ALL PARAMETERS

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCES OF FUNDING & RESOURCES	STATUS CODE	TARGET DATE	EXTENT RATING (Area, #)	EFFECT. RATING (Reduction)
Environmental Quality Incentives Program (EQUIP)	Natural Resources Conservation Services	Voluntary program that provides technical and cost share assistance for protection of ground and surface water, erosion control, air quality, wildlife habitat and plant health.	Federal % Cost share with possible additional incentive payments	A	Active	5	?
Greenspace Program	Carroll County	To protect open space and water quality in the Carroll County area.	Local	A	Active	3	45%

MEASURES APPLICABLE TO SPECIFIC PARAMETER: FECAL COLIFORM.

MEASURE	RESPONSIBILITY	DESCRIPTION	POTENTIALSOURCES OF FUNDING & RESOURCES	STATUS	TARGET DATE	EXTENT RATING	EFFECT. RATING
Lower Little Tallapoosa River Watershed Project	NRCS	Addressing agricultural animal waste	UNK	Ongoing	UNK	3	20%
Sustainable Agriculture and Farm*A*Syst.	State	Assessing nutrient- and coliform-reducing BMPs on farms	UNK	Scheduled?	UNK	UNK	15%

MEASURES APPLICABLE TO SPECIFIC PARAMETER: SEDIMENT.

MEASURE	RESPONSIBILITY	DESCRIPTION	POTENTIALSOURCES OF FUNDING & RESOURCES	STATUS	TARGET DATE	EXTENT RATING	EFFECT. RATING
Georgia's Best Management Practices	Georgia Forestry Commission (Matters involving enforcement are generally referred to the GA EPD)	GFC program to inform landowners, foresters, timber buyers, loggers site preparation and reforestation contractors and others involved with silvicultural operations about commonsense, economical effective practices to minimize nonpoint sources and thermal pollution. GFC encourages and monitors compliance and conducts a compliant resolution program.	State	A	1995	5	>75% When properly applied to site preparation and harvesting activities.
Manual for Erosion and Sediment Control in Georgia	GSWCC	To control sedimentation in watershed basin	State	A	Ongoing	1	4 5 %
Guidelines for StreambankRestoration, A Guide to Controlling Erosion with Vegetation, and Agricultural Best Management Practices.	GSWCC	To control sedimentation in watershed basin	State	A	Ongoing	1	20%
Source Water Stewardship Exchange Program	Carroll County and the Trust for Public Land	To identify and protect critical lands in the County that protect drinking water resources.	Local, State, and Federal funds	A	Ongoing	3	35%
Soil Erosion and Sedimentation Control Ordinance	Carroll County	To control the affects of soil erosion and sedimentation primarily through BMP's (Best Management Practices)	Local and State	A	Ongoing	5	50%

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

APPLICABLE TO SPECIFIC PARAMETER: Sediment.

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
Bare Ground	1	GSWCC Guide	Yes, Moderately	Somewhat Sufficient
		TPL Sourcewater Stewardship Exchange Plan		Sufficient
Roads	1	GSWCC Guide	Yes, Moderately	Somewhat Sufficient
		Soil Erosion and Sedimentation Control Ordinance		Effective
Urban Development	15	Greenspace Program	Yes, Somewhat	Sufficient
		TPL Sourcewater Stewardship Exchange Plan		Sufficient

Stormwater Discharge	25	Soil Erosion and Sedimentation Control Ordinance	Yes, Somewhat	Effective
		TPL Sourcewater Stewardship Exchange Plan		Sufficient
		Fecal Coliform		
Confined Animal Feed Lots	15	UNK	No	Insufficient
Leaking Septic Systems	25	County	Yes	Somewhat sufficient
Stormwater Runoff	15	Greenspace Program	Somewhat	Sufficient

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	
All	EPD	Planned	2005	2005	Monitoring

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
CFRDC	Contacting and gathering information from stakeholders.	Stakeholders	2005-2006

IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH

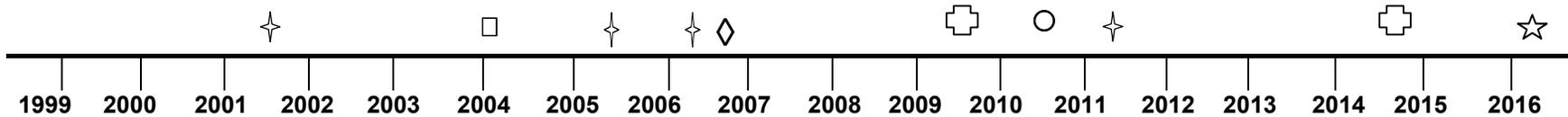
This table will be used to periodically track and report progress of significant management practices and activities identified or recommended in Tables 5A, 5B, and other sections of this plan, including outreach, additional monitoring and assessments, and the enhancement or installation of management 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	
Public Outreach	CFRDC	2005	2006	Ongoing
TMDL Implementation Plans	CFRDC	2005	2006	Ongoing
Soil Erosion and Sedimentation Control Ordinance (Includes BMPs)	Carroll County	2004	2004	Ongoing
Sourcewater Stewardship Plan (TPL)	TPL, Carroll County	2002	2002	Ongoing
Carroll County Greenspace Program	Carroll County	2001	2005	Ongoing

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:	Paul Jarrell		
Agency:	Chattahoochee-Flint Regional Development Center		
Address:	P.O. Box 1600		
City:	Franklin	ST:	GA ZIP: 30217
E-mail:	pjarrell@cfrdc.org		
Date Submitted to EPD:	December 13, 2005	Revision:	01

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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.

Region	Name / Affiliation	Street Address	City	State	Zip
LT	Martha J. Adams	2971 Lovvorn Mill Rd.	Waco	GA	30182
LT	Ralph Adams	7257 Smithfield Rd.	Bowdon	GA	30108
UT	Vera Atchenson	608 Rome St.	Carrollton	GA	30117
LT	Penelope W. & Randolph G. Ayers	610 Baxter Rd.	Carrollton	GA	30117
UT	Mrs. H.O. Barge	173 Spinks Rd.	Temple	GA	30179
UT	Bay Springs West LP	171 N Bay View Dr.	Villa Rica	GA	30180
UT	Charles H. & Frederick H. Bentley	120 Falcon Dr.	Pikeville	NC	27863
LT	Monte Black	PO Box 10	Hebron	OH	43025
UT	Bowdon JCT Community Cent.	125 Holly Springs Rd.	Bremen	GA	30110
LT	Bremen Mayor & City	City Hall Avenue	Bremen	GA	30110
LT	Carroll Brock	3282 Lovvorn Mill Road	Waco	GA	30182
LT	Hugh Jr. & Doris H. Brock	1224 Brock Rd.	Carrollton	GA	30117
UT	Brown H. Grady Family	P.O. Box 516	Villa Rica	GA	30180
UT	D. A. Buchanan	1108 Vista Court	Villa Rica	GA	30180
LT	Mary O. Buchanan	2926 South Hwy 100	Bowdon	GA	30108
UT	David K. & Charron D. Byrd	655 Frashier Rd.	Carrollton	GA	30116
LT	C & M Stewart Farms LP	375 Sardis-Bethal Rd.	Bowdon	GA	30108
LT	Gwen & Ralph Caldwell	710 Lower Caldwell Rd.	Bowdon	GA	30108
UT	Sharps Creek Elementary	164 Independence Dr.	Carrollton	GA	30117
LT	Rev Chambers	1871 Mcree Mill Road	Watkinsville	GA	30677
LT	Millard & Teresa Chambers	2895 W Hwy 5	Bowdon	GA	30108
UT	Sarah Elizabeth Clark	Lewis Clark 2050 Pleasant Ridge Rd.	Carrollton	GA	30117
UT	Paul Cobb Jr.	418 Cochran Drive	Norcross	GA	30017
UT	W.E. & Peggy Cobb	579 Levans Road	Temple	GA	30179
LT	Brad Cole	2250 Lovvorn Rd.	Carrollton	GA	30117
UT	Julian Cook	890 Sandhill Shady Grove Rd.	Carrollton	GA	30116
UT	John Couzens	107 Humphries Dr.	Carrollton	GA	30117
BC	Gregory W. & renee Crews	2243 Tyus Carrollton Rd.	Carrollton	GA	30117
UT	John & Sara Daniell	1315 Miller Academy Rd.	Carrollton	GA	30117
UT	Floyd C. Davis, Jr.	PO Box 761	Douglasville	GA	30133
LT	Roy Denney	130 West Club Dr.	Carrollton	GA	30117
UT	Duncan Brothers Properties	7 S Hillside Dr.	Carrollton	GA	30116
UT	Jan M. Sheryl Edwards	205 Somerset Ct.	McDonough	GA	30253
LT	Fern K. Farmer (Life Estate)	659 Brock Rd.	Carrollton	GA	30117
LT	Randy Fordham	196 Turner Road	Bowdon	GA	30108

UT	Mrs. Tommy Freeman	1486 Pleasant Hill Rd.	Carrollton	GA	30116
UT	W.S. Fullilove	1550 Center Point Rd.	Carrollton	GA	30117
LT	Robert Garrett	4782 State Line Road	Bowdon	GA	30108
LT	Geneda Woods, Inc.	PO Box 1558	Englewood	FL	34295
LT	CE & Barbara Gibson	PO Box 625	Mt. Zion	GA	30150
UT	Willard C. & Gladstone	160 Smokerise Dr.	Carrollton	GA	30116
UT	Edwin H. & Ingeborg Grant	1415 Bankhead Hwy	Carrollton	GA	30116
LT	Hulon Gray	471 Robinson Rd.	Bowdon	GA	30108
UT	Charles R. & Brenda Hall	3006 N E Hickory Level Rd.	Temple	GA	30179
LT	Ned Harmon	18845 Hwy 27	Roopville	GA	30170
UT	Fred O. & Mary Hembree	257 Ithica Gin Rd.	Villa Rica	GA	30180
UT	Harvey D. Hendrix	2900 Shady Grove Rd.	Carrollton	GA	30116
UT	R.C. Hendrix	463 Spruill Bridge Rd.	Temple	GA	30179
UT	William & Louise Hendrix	2863 Hog Liver Rd.	Carrollton	GA	30117
UT	Bert & Celestine Hobbs	1141 Rome St.	Carrollton	GA	30117
BC	JT Hogan	1799 Oak Grove Ch. Rd.	Carrollton	GA	30117
UT	L & P Hollingsworth	PO Box 457	Carrollton	GA	30112
UT	Donna & Charles Holloway	PO Box 1296	Carrollton	GA	30112
LT	Doyal Horton	829 Brock Rd.	Carrollton	GA	30117
LT	Nancy Hutcheson	1501 Carrollton Tyus Rd.	Carrollton	GA	30117
UT	Bobby J. Hutcheson	2217 Carrollton Hwy	Temple	GA	30179
LT	Jimmy Iler	1637 Old Columbus Rd.	Bowdon	GA	30108
LT	Inland Paperboard & Pkg	PO Box 1149	Austin	TX	78767
LT	Harold & Janice Ivester	205 Dixie Street	Carrollton	GA	30117
UT	J.W. Hill Estate	417 Knollwood Ave	Bremen	GA	30110
UT	Madelyn F. Jackson	251 Old Center Point Rd.	Carrollton	GA	30117
LT	Trenton R & Ardith Jackson	180 Greenwood Dr. E	Carrollton	GA	30117
UT	Robert Jean	4200 S Hickory Level Rd.	Carrollton	GA	30116
LT	Russell Johnson	1417 Hwy 166	Bowdon	GA	30108
UT	C.W. Jones	43 C W Jones Rd.	Carrollton	GA	30117
UT	Debra Jordan	226 Lasseter Rd.	Carrollton	GA	30117
LT	Nan Kent	149 Brock Road	Carrollton	GA	30117
LT	Magdalene Shelton Kilgore	2455 Lovvorn Rd.	Carrollton	GA	30117
LT	Glenda S. Kimbrell	4584 Wonder Valley Tr.	Decatur	GA	30034
LT	J W King	2113 Old Columbus Rd.	Bowdon	GA	30108
LT	Larry Lane	404 Lane Rd.	Carrollton	GA	30117
LT	Russell & Dianne Langley	169 Gum Creek Rd.	Roopville	GA	30170

LT	Latson Ventures LLC	850 Cedar St.	Carrollton	GA	30117
BC	Melvin and Nell Lee	1124 Old Camp Church Rd.	Carrollton	GA	30117
BC	Lydia Ann & Lino Linares	10215 SW 89th Street	Miami	FL	33176
LT	Lincoln Trust Co.	PO Box 720273	Atlanta	GA	30358-2273
BC	Patricia Lipham	381 Laurel Rd.	Carrollton	GA	30117
BC	Mildred Mapp	1609 Oak Grove Rd.	Carrollton	GA	30117
LT	James and Wilma Marlow	575 N Jonesville Rd.	Bowdon	GA	30108
UT	Martha J. Hughes (Life Estate)	384 Buell Jones Rd.	Carrollton	GA	30117
UT	Brenda Mathews	PO Box 324	Villa Rica	GA	30180
LT	James Maxwell	5123 S. Nichol Street	Tampa	FL	33611
LT	Brent & Karen McCaghren	855 Lovvorn Rd.	Bowdon	GA	30108
LT	H G McCaghren	1065 Lovvorn Rd.	Bowdon	GA	30108
LT	Nell McCarley	442 E College St	Bowdon	GA	30108
UT	Dennis H. McDowell	PO Box 858	Carrollton	GA	30112
LT	Eric & Willy McGrew	304 Alford Road	Bowdon	GA	30108
LT	Ralph McGuire	375 Barge Tallapoosa Rd.	Waco	GA	30182
LT	James & Linda McKey	277 Old Columbus Rd.	Bowdon	GA	30108
LT	JB McManus	917 Stoney Point Rd.	Roopville	GA	30170
LT	Sandra Moore	100 Amhurst Way	Carrollton	GA	30117
LT	Abraham & Nellie Morrison	4885 Edgemoor Ln.	Bethesda	MD	20814
UT	BJ Muse	466 Bush Mill Rd	Bremen	GA	30110
UT	Mary A Muse	4461 S. Hickory Level Rd.	Carrollton	GA	30117
UT	Merle K. Muse	466 Bush Mill Rd	Bremen	GA	30110
UT	W. A. Nalley	900 Ithica Gin Rd.	Carrollton	GA	30117
UT	Oak Mtn. Championship Golf Club	409 Birkdale Blvd.	Carrollton	GA	30116
LT	Reeda M. Owens	562 Old Columbus Rd.	Bowdon	GA	30108
LT	Anthony W. and Karen Padgett	383 Stoney Point Rd.	Bowdon	GA	30108
UT	Pamela H. Lambert & Moria H. Mackinnon	30 Lynda Circle	Carrollton	GA	30117
BC	Patrick Family	250 Cottage Hill Rd.	Carrollton	GA	30117
UT	Wendell Patterson	1887 Shady Grove Rd.	Carrollton	GA	30117
UT	Donna Pease	2290 Center Point Rd.	Carrollton	GA	30117
LT	CC Perkins	PO Box 321	Carrollton	GA	30112
UT	Plantation Pipeline	PO Box 18616	Atlanta	GA	31126
UT	Plunkett Family LP	1911 Grayson Hwy Suite 8	Grayson	GA	30017
UT	James P. & Carolyn J. Ponder	1833 Cohran Store Rd.	Douglasville	GA	30134
LT	Wayne P. Prestridge	885 Tyus Veal Rd.	Bowdon	GA	30108
LT	Regents of the University	244 Washington Street, SW	Atlanta	GA	30334

UT	Sandra Riva	1458 Taylors Gin Rd	Temple	GA	30179
UT	Robert C. Baskin Family	517 Bolijeri Blvd	Villa Rica	GA	30180
LT	Dianne Robinson	371 Robinson Road	Bowdon	GA	30180
LT	Highpoint Farms, LLC	128 Lost Lake Trl.	Villa Rica	GA	30180
LT	James & Penelope Robinson	1121 Kansas Jake Rd.	Waco	GA	30182
LT	Quinon Robinson	774 Highpoint Rd.	Bowdon	GA	30180
LT	Thomas Keith Robinson	1095 Highpoint Rd.	Bowdon	GA	30180
UT	Scientific Dev. Inc.	3120 Coventry Ct.	Cumming	GA	30041
UT	Oliver D. Sears	283 Cown Rd	Temple	GA	30179
BC	H. C. Seaton	PO Box 1292	Carrollton	GA	30112
UT	Silvey Family Partnership	371 Hamp Jones Rd.	Carrollton	GA	30117
LT	Sims Parks & Ras Jr.	500 Barnes Mill Rd.	Bowdon	GA	30108
LT	Charles Smith	248 Smith Rd.	Waco	GA	30182
LT	Larry Smith	208 Frost Rd.	Bowdon	GA	30108
LT	Wilburn T & Janice Smith	585 Roopville Veal Rd.	Roopville	GA	30170
LT	Snow Hill Limited Ptnship	9040 Tara Wood Cr.	Villa Rica	GA	30180
LT	WJ Snow	10862 Co. Rd. 59	Woodland	AL	36280
LT	Albert & Kathryn Stallings	1700 S Hwy 100	Bowdon	GA	30108
BC	Stipe Investments, LP	65 Twin Lakes Dr.	Carrollton	GA	30116
UT	J.W. & Clara M. Swinson	1701 Mandeville Rd.	Bremen	GA	30110
UT	Mayor and City of Temple	City Hall	Temple	GA	30179
UT	Terry Dobbins Inc.	150 E Memorial Dr.	Dallas	GA	30132
LT	Tin Inc.	1300 MOPAC Expressway	Austin	TX	78764
LT	James or Gloria Tippins	4037 Hwy 5	Douglasville	GA	30135
LT	Richard G Sr. & Marian Tisinger	208 Old Hickory Trail	Carrollton	GA	30117
LT	Wilbert & Wanda Tutsch	1333 Highpoint Rd.	Bowdon	GA	30108
UT	Mayor and City of Villa Rica	571 HWY 78	Villa Rica	GA	30180
LT	Fred Walker	738 Salem Ch. Rd.	Carrollton	GA	30117
LT	James Walker	PO Box 1508	Carrollton	GA	30112
BC	Katherine Redding Walker	839 Bethesda Church Rd.	Carrollton	GA	30117
LT	Wilbur Wallace	26 Walnut Hill Rd.	Carrollton	GA	30117
UT	Walmart Stores East Inc.	702 SW 8th Street/Store #46-3540	Bentonville	AR	72716
UT	Nalley Warner	2360 Hicory Level Rd.	Villa Rica	GA	30180
LT	Mavis Watts	PO Box 338	Carrollton	GA	30112
LT	Sandra G. Welch	400 Crook Rd.	Carrollton	GA	30117
LT	West Georgia Airport Auth	635 Regional Airport Rd.	Carrollton	GA	30117
LT	Jack West	115 Third Street	Bowdon	GA	30108

LT	Edward & Doris Wheeler	2549 S Hwy 100	Bowdon	GA	30108
LT	Joni & Richard White	1205 Watts Rd.	Bowdon	GA	30108
LT	Jerry & Emma Wiggins	1313 Watts Rd.	Bowdon	GA	30108
BC	Carl Sr. & Leslia Wiley	334 Old Carrollton Rd.	Roopville	GA	30170
LT	Van Wilks	515 Tanner Street	Carrollton	GA	30117
UT	William P. Johnson Credit Shelter Trust	108 W. Club Dr.	Carrollton	GA	30117
UT	Terry Williams	221 Happy Hollow Rd.	Villa Rica	GA	30180
LT	Bobby Williamson	393 Barnes Rd.	Waco	GA	30182
LT	Jerry Williamson	405 Williamson Rd.	Bowdon	GA	30108
BC	Betty Wilson	435 Thomas Wilson Rd.	Roopville	GA	30170
BC	A. Eugene & Ollie Wright	1701 Oak Grove Rd.	Carrollton	GA	30117
LT	Jenice Itaglia Wright	207 JC Wright Rd.	Waco	GA	30182
LT	Jerome Yates	114 Meadowland Trail	LaGrange	GA	30240
LT	Linda & Jeremiah Yates	184 Seabolt Way	Carrollton	GA	30117
LT	Mrs. (Sarah) Hugh Yeats	101 Amhurst Way	Carrollton	GA	30117
LT	Andrew Zvejnieks	4 Ashfield Lane	Blythewood	SC	29016-9091
	Mr. Steve Sanford	564 Old Newnan Road	Carrollton	GA	30117
	Mr. Tony Cole	771 Mandeville Road	Carrollton	GA	30117
	Mr. Butch Holye	324 Columbia Drive	Carrollton	GA	30117
	Mr. Bill Hodges	900 Newnan Road	Carrollton	GA	30117
	Mr. Sam Sharpe	408 North White Street	Carrollton	GA	30117
	Ms. Cindy Haygood	203 Legion Road	Dallis	GA	30132
	Ms. Harriet Bryant	2 MLK, JR. Drive, South East	Atlanta	GA	30334
	Mr. Johnny Waters	1600 Maple Street	Carrollton	GA	30118
	Mr. Sam Breyfogle	201 Spingdale Drive	LaGrange	GA	30240
	Mr. Ed Moon	136 City Hall Avenue	Bowdon	GA	30108
	Mr. John Griffin	PO Box 597	Mount Zion	GA	30150
	Mr Eric Lacefield	571 West Bankhead Highway	Villa Rica	GA	30180
	Mr. Don McKenzie	PO Box 160	Temple	GA	30179
	Mr. Robert Merrell	124 Old Franklin Road	Roopville	GA	30170

UT= Upper Tallapoosa

LT= Lower Tallapoosa

BC= Buffalo Creek