

STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN **REVISION** ___

Red Oak Creek
 Flint River Basin

Local Watershed Governments: Meriwether County,
 Town of Gay

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.

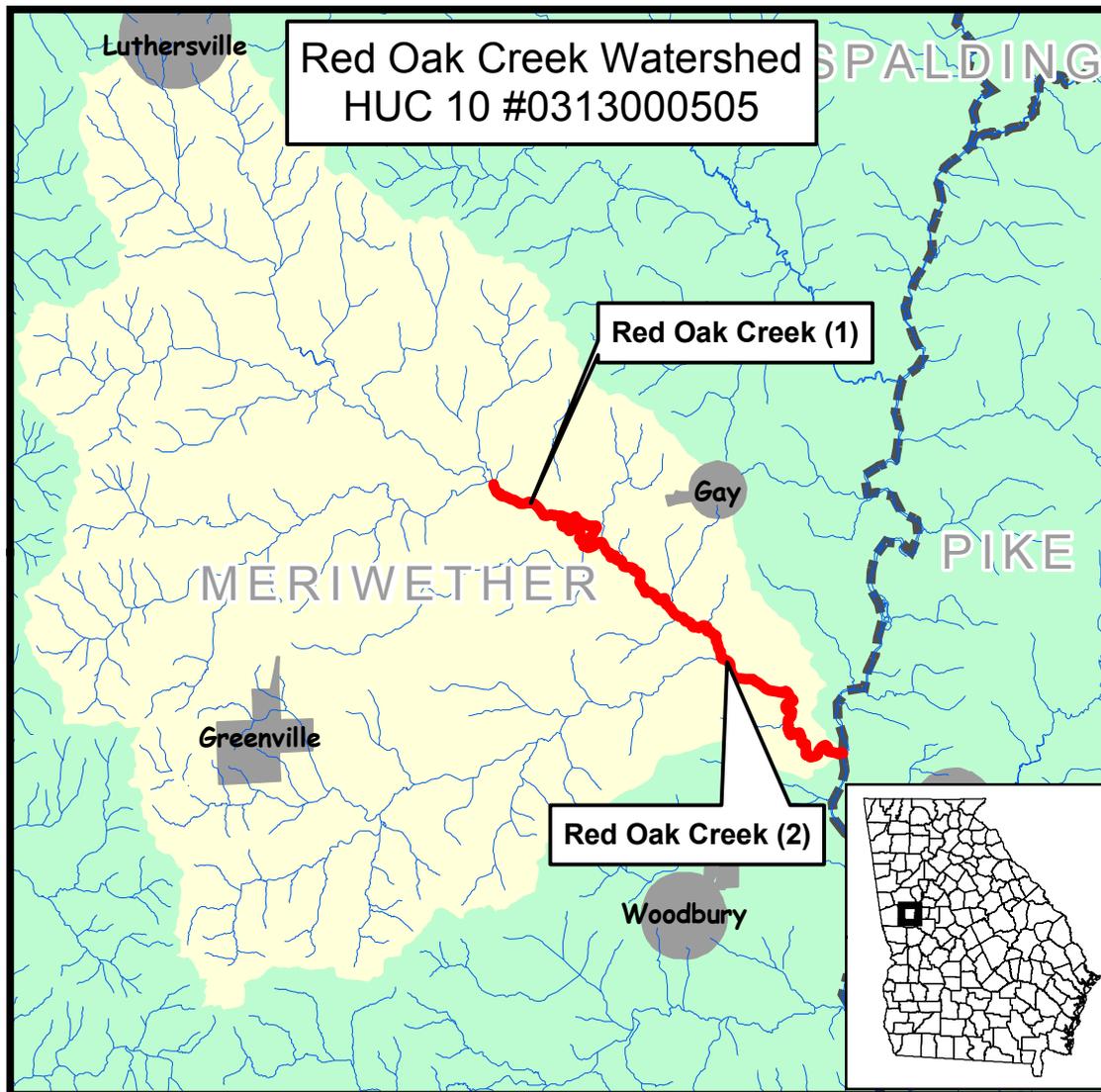


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT
Red Oak Creek (1)	Meriwether County(EPA)	Biota(sediment)
Red Oak Creek (2)	Little Red Oak Creek to Flint River near Imlac(EPA)	Biota(sediment)
Red Oak Creek*	Little Red Oak Creek to Flint River near Imlac	Fecal Coliform Bacteria

* Plan will be written by GA EPD

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed. 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.

Watershed Characteristics, Size and Location: Red Oak Creek is in eastern Meriwether County in the Southern Lower Piedmont Region of Georgia. The affected segment is 10 miles long and the watershed encompasses 15,300 acres. The creek discharges into the Flint River. A small part of the watershed lies within the town of Gay. The watershed is characterized by hilly terrain and clay soils that are easily erodable if disturbed. There are no NPDES permitted sites, hazardous waste or drinking water intakes within the watershed.

Land Use Land Cover: The most recent land use data is the data collected for the TMDL. During this study 1999 aerial photos were used to verify land use. The county is currently gathering data for an Existing Land Use Map, which will be completed by fall 2004. parcel based existing land use information was gathered for most parcels in the watershed. This information can be used to update the Implementation Plan.

Relevant Watershed Planning and Management Activities:

E & S Program: Meriwether County is revising their Soil Erosion & Sedimentation Control Ordinances to meet new state rules that require land disturbing permits of activities over 1 acre. The Ordinance is administered by the zoning administrator who reviews E&S plans & conducts preliminary site visit for developments. Violations are either reported to zoning administrator or observed during inspections. Because there has been little development, there has never been a fined violation. The County plans to hire a certified inspector in the next 3-5 years.

Georgia Forestry Commission Activities: In an effort to minimize erosion and stream sedimentation from forestry practices, the GFC has an agreement with the Georgia Department of Natural Resources Environmental Protection Division (GADNR EPD) to educate the forest community and promote the use of forestry Best Management Practices (BMPs). A specially trained forester located in each of the 12 district offices statewide carries out this service.

Since January 2003, the GFC is conducting monthly BMP Assurance examinations in an effort to provide "reasonable assurance " that forestry operations are complying with the BMPs and meet any TMDL requirements. Active sites are identified through aerial or ground observations, requests by landowners, companies or operators, or by county tax records and then inspected for BMP implementation with the landowner's permission. This effort will hopefully educate landowners about BMPs and their responsibilities and liabilities with state water quality laws and also provide on-the-ground assistance to loggers or operators before potential problems occur.

Red Oak Creek

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Red Oak Creek	Meriwether County	10 mi./15,300 acres	Fishing	NS

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

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard 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 AS TOTAL TONS/YEAR	NEEDED REDUCTION FROM TMDL
Biota	No degradation to fish community	Row Crops 6296.7, Roads 1300, Woody Wetlands 240.33, Transitional 132.53, Pasture 130.55, Evergreen Forest 29.27, Mixed Forest 22.99, Deciduos Forest 22.26, Com/Ind 1.49, LIR 1.08, Emergent Herbacuos Wetlands .92, Other Grasses .06	20%

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

NOTE: Georgia Environmental Protection Division has stated that the reduction in farmland in Georgia since 1950 "...suggests that the sedimentation observed in the impaired streams may be legacy sediment resulting from past land use practices. It is believed that if sediment loads are maintained at acceptable levels, streams will repair themselves over time." (*TMDL Evaluation, Flint River Basin (Biota Impacted)*, 2003).

Row Crops: The TMDL attributes 912 acres of land use and 6,296.7 tons per year of the sediment load to row cropping. Stakeholders stated that there is little or no row cropping in the watershed. During the field survey in June 2004, one area of concern was noted. This area was a large Peach Orchard off Imlac Road. New trees were planted on rolling hills and bare earth was exposed over large areas, some unplanted. Conservation practices did not appear to be in use. If proper controls are not in place, this area could be a major contributor to the sediment load.

Roads: the TMDL estimates a 1,300-tons/year-sediment load to roads. There are at least five road crossings in the watershed. The majority of the roads are dirt. Most appeared to be in good condition, however, some areas of concern were noted. Portions of Gaston, Murray and Lucile Roads were all in poor condition. These areas, which have a high percentage of low-density residential use, have numerous failing ditch crossings that are causing soil loss.

Woody Wetlands: the TMDL attributes 1,086.36 acres of land use and 240.33 tons per year of the sediment load to woody wetlands. At this time there is no further data on this land cover. For the purpose of this implementation plan it is assumed that the TMDL data is accurate.

Transitional: The TMDL attributes 324.02 acres of land use and 132.53 tons per year of the sediment load to transitional land use. At this time there is no further data on this land cover. For the purpose of this implementation plan it is assumed that the TMDL data is accurate.

Pasture/Hay: the TMDL attributes 1,756 acres of land use and 130.55 tons/year of the sediment load to pasture land use. Large areas of pasture were noted during the field survey in June 2004. Most appeared to be in exceptional condition, however one overgrazed area was observed upstream from a small pond. Stakeholders stated that pasture in the watershed tends to be on steep slopes and could be a larger contributor to the sediment load. These conditions were observed throughout the watershed. It is also customary in this area for cattle to have access to the stream. Due to its prevalence in the watershed and the conditions noted above, pasture land use probably is a larger contributor than stated in the TMDL.

Forest: The TMDL attributes 10,622.54 acres of land use and 74.52 tons/year of the sediment load to forest land use. The June 2004 field survey confirmed that forest is the predominate land cover. No recent timber harvesting was observed.

Commercial /Industrial/Transportation: the TMDL attributes 25.13 acres of land use and 1.49 tons/year of the sediment load to this land use. At this time there is no further data on this land cover. For the purpose of this implementation plan it is assumed that the TMDL data is accurate.

Low intensity Residential: The TMDL attributes 16.46 acres of land use and 1.08 tons/year of the sediment load to low intensity residential land use. Residential land use is higher than stated in the TMDL. During the June 2004 field survey pockets of established residential land use were noted throughout the watershed. The majority of erosion from residential areas is related to ditch crossings from dirt roads onto residential properties as noted above.

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
Sediment	Row Cropping	Lower watershed	Moderate	Orchard noted above, if no soil conservation practices are in place.
	Roads	Mid to lower watershed	Moderate	Related to residential ditch crossings & dirt farm roads on private property
	Pasture	Mid to lower watershed	Moderate	Due to prevalence of land use in watershed
	Low Density Residential	Throughout	Small	
	Woody Wetlands	Lower watershed	Small	
	Forest	Throughout	Small	
	Transitional	Throughout	Negligible	
	Commercial/Industrial		Negligible	

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. An article describing the project also appeared in all the local newspapers. The letter received by individual stakeholders and the article described three ways for interested parties to engage in the process; 1) attend one of five county stakeholder meetings, 2) contact CFRDC staff directly through e-mail or by phone, and 3) view and comment on the draft plans on the CFRDC website between June 28th and July 14th 2004.

Meetings: Meetings were held in each of CFRDC's five counties (see attachment). CFRDC staff developed presentation boards for the meetings that contained a map of each of the nine affected streams, land use data that had been provided in the TMDL, and preliminary findings, if any. Sampling data was also provided for all the streams. After a short presentation, participants were asked to examine and comment on the data and offer insight into current watershed conditions. Participants were supplied with comment sheets. Several stakeholders attended the Meriwether County meeting. Stakeholders from the Georgia Forestry Commission, the NRCS and other agencies with an interest in Red Oak Creek Watershed attended the other county meetings. Information about all nine watersheds was presented at each meeting because many stakeholders had an interest in watersheds in more than one county.

Press Releases: Two Press Releases ran in local newspapers during the course of the project. The first ran in early May 2004. It alerted readers to the project, meeting times and ways to participate. The second ran in early October 2004. It gave an update on the project and asked for participation through direct contact with staff or by reviewing the plans on CFRDC's website.

Comments from Website: the nine TMDL Implementation Plans were posted on CFRDC's website on June 28th 2004 for the purpose of receiving comment. Stakeholders who attended meeting of contacted CFRDC staff directly were asked to visit the website and comment on the draft plans.

Advisory Group: CFRDC formed a Water Issues Committee (WIC) in 2000 for the purpose of guiding the agency on TMDL, Source Water Assessment Plans (SWAP) and other water related issues. The WIC consists of two or more representatives from each county who were appointed by the local governments. During this TMDL process, this group met in mid July 2004 to review draft plans and develop public outreach activities.

Major Findings and Comments from Stakeholder Involvement:

Comments as received on Comment Sheets and on website:

QUESTION: Does the information provided about land use seem accurate? If not, how is it different?

“No, % of row crops seems high in both Meri. County Watersheds.”

Additional Comments:

I think the data needs to be updated and the causes determined, before making recommendations on how to improve.”

“More ground pounding needs to be done by the people that can get things done. Seeing the presence of GFC, EPD in a friendly way helps much. Too much of what is seen of EPD is only on TV or in a few law enforcement cases.

More ground pounding needs to be done by people gathering and using the data for watershed management plans. Using satellite imagery is great for figuring land use statistics only as long as it is checked on the ground.

Consideration has to be given to the fact that it took hundreds of years of human misuse to cause our problems we see today and no law or education is going to change things in only a few years. We as citizens need to get serious about solving the problems instead of just looking like we are solving them. There is more talk, monitoring, and laws about soil disturbances than ever, but nearly every construction site I see is still putting silt in streams because of improper installation or maintenance of sediment control structures. Sometimes just the installation of silt fence causes a major problem. These comment sheets are a good start if used.”

“County road maintenance contributes to sediment.”

“Good formatting for TMDL reporting. I note that we might add Georgia's Better Back Road Program (What is it?) to Management Measures for Town Creek, Cavender Creek, Long Branch Creek, and the Tributary of Flat Shoals Creek, especially if it addresses both public county and private unsurfaced roads. Primarily, unsurfaced county road crews must be educated. Are there no possible management measure for Off Highway Vehicle abuse of utility easements and elsewhere? There is a National Off Highway Vehicle Conservation Council (NOVHCC) and a Georgia Association of Recreational Trail Riders Association (GARTRA) that may address this as stakeholders. How might we review the GA EPD developed TMDL reports?”

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	ST	ZIP	PHONE (W)	PHONE (H)
Denny Ivey/CFRDC Water Issues Committee	103 Carroll Circle	Carrollton	GA	30117	770-832-2171	
Brenda Rice/CFRDC Water Issues Committee	300 Old Goldmine Road	Villa Rica	GA	30180	770-830-6673	
Loren McCune/CFRDC Water Issues Committee	PO Box 428	Newnan	GA	30264	770-253-2020	770-253-9357
David Brown/CFRDC Water Issues Committee	1770 Al Robert Road	Senoia	GA	30276		770-599-1830
Robert Blackburn/CFRDC Water Issues Committee	200 Joe Ben Lee Road	Newnan	GA	30263	770-253-6990	770-253-6728
Bob Jones/CFRDC Water Issues Committee	252 Jones Road	Franklin	GA	30217	706-675-3053	706-675-3049
Doug Craven/CFRDC Water Issues Committee	2404 Armstrong Mill Road	Franklin	GA	30217		770-854-8186
C.E. Withrow/CFRDC Water Issues Committee	940 Linda Lane	Manchester	GA	31816	706-846-3525	
Bill Tomlin/CFRDC Water Issues Committee	807 McCurdy Boulevard	Manchester	GA	31816		706-846-2717
A.J. McCoy/CFRDC Water Issues Committee	571 Alvaton Road	Gay	GA	30218	404-506-0919	772-927-9055
Arthur Holbrook/CFRDC Water Issues Committee	215 Cofield Road	LaGrange	GA	30240		706-884-7905
Buck Davis/CFRDC Water Issues Committee	1134 Young's Mill Road	LaGrange	GA	30240		706-884-1621
David Brown/CFRDC Water Issues Committee	Post Office Box 430	LaGrange	GA	30241	706-883-2000	

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

MEASURES APPLICABLE TO SEDIMENT

NOTE: The TMDL states that the “ It is recommended that the Flint watershed be considered a high priority for riparian buffer zone restoration and other sediment reduction BMPs, especially for road crossings, agricultural activities, and construction activities. Further ongoing monitoring needs to be completed to monitor progress and to assess further degradation does not occur.” (*TMDL for Sediments in the Flint River Basin*, 2003 EPA)

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Implementation of E & S Ordinance	Meriwether County	Requires erosion control plans for all new development over 1.1 acres	County	Underway	Summer 2004	Very effective if properly enforced.
NPDES Permitting	EPD Permittee	Permittee monitors discharges to determine if they are within allowable limits and files a report to EPD	State Permittee	Underway		Weak None in watershed
Georgia's Better Back Road Program	Two Rivers RC&D Council	Demonstration sites, Statewide training & publication of <i>Unpaved Road Maintenance Manual</i>		Underway	Project runs from spring 2004 to spring 2005	Very, if program is implemented in Meriwether County
Implementation of GFC's Forestry BMPs	GFC,	Inform landowners, foresters, timber buyers, logger site and reforestation effective practices contractors and others about commonsense, economical and effective practices to minimize nonpoint pollution	GFC	Underway	1997	Moderate to weak. EPA identifies siculture as the lowest contributor to np pollution.
GFC Monthly BMP Assurance Exams	GFC	GFC offers monthly assurance exams of active sites, particularly those located in impaired watersheds.	GFC	Current	Jan 2003	Moderate to weak. EPA identifies siculture as the lowest contributor to np pollution.

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
NRCS BMP Programs	NRSC Property Owner	Various voluntary programs to assist landowners with BMPs	Federal Property Owner	Underway		Very
Public Outreach	CFRDC	CFRDC will distribute findings of Implementation Plans to local governments, agencies and citizen groups.	Local	Planned	Sept-Dec. 2004	Moderate

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

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	Basin Monitoring

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
CFRDC	TMDL section on CFRDC web page will contain all Implementation Plans, information about the TMDL process, links to other web pages and an area for comments	Local governments and some citizens	Starts July 2004 and continues indefinitely
CFRDC	News releases in all local papers when final plans are approved	Residents and stakeholders	December 2004

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	
Implementation of E & S Ordinance	Meriwether County	Revised 2004	Adopted 2004	
NPDES Permitting	EPD Permittee	N/A	N/A	Ongoing Program
Georgia's Better Back Road Program	Two Rivers RC&D Council	2003	2005	Program will monitor a test site in Heard County
Implementation of GFC's Forestry BMPs	GFC,	N/A	N/A	Ongoing
GFC Monthly BMP Assurance Exams	GFC	N/A	2002	On going
NRCS BMP Programs	NRSC Property Owner			Ongoing
TMDL Section on CFRDC Website	CFRDC	May 2004	July 2004	On-going

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Date Submitted to EPD:	November 30 2004	Revision:	

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
Ms. Karen May	4084 Stovall Road	Greenville	GA	30222	-NA-	-NA-
Ms. Melanie Paul Quercus Properties LLC	P.O. Box 245 585 Quercus Farms Road	Gay	GA	30218	-NA-	-NA-
Keith Family Partners LLL	1813 South Main Street	Moultrie	GA	31768	-NA-	-NA-
Pine Mountain land & Timber LLC	P.O. Box 215	Gay	GA	30218	-NA-	-NA-
Mr. Richard S. Davis	107 McGavock Pike	Nashville	TN	37214	-NA-	-NA-
Ms. Pinky G. Elliot	P.O. Box 103	Woodbury	GA	30293	-NA-	-NA-
Thomas T Neely Family LLC	Rte 1, Box 210 E	Mauk	GA	31058	-NA-	-NA-
Mr. John C. Mann	P.O. Box 112	Gay	GA	30218	-NA-	-NA-
Mr. Michael M. Blondeau	1546 Hwy. 42 South	McDonough	GA	30252	-NA-	-NA-
Mr. A.G. Estes, III	P.O. Box 247	Gay	GA	30218	-NA-	-NA-

Plan for Red Oak Creek
HUC 10 #:0313000505

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Mr. H.R. Bowles, Jr.	2468 North Pickard Road	Thomaston	GA	30286	-NA-	-NA-
Ms. Christine Seefried	3325 Woodhaven Road, NW	Atlanta	GA	30305	-NA-	-NA-
Mr. Laney & Jonathon Hargett	P.O. Box 1815	Newnan	GA	30264	-NA-	-NA-
Ms. Marjorie Handley	P.O. Box 116	Fayetteville	GA	30214	-NA-	-NA-
Mr. Dan Stribling	507 Dan Road	Woodbury	GA	30293	-NA-	-NA-
Mr. Gary Jones	1062 Stribling Road	Woodbury	GA	30293	-NA-	-NA-
Mr. Emmett Collins, Jr. Meriwether County Cattlemen's Association	2808 Cedar Rock Road	Woodbury	GA	30293	-NA-	-NA-
Ms. Cindy Gordy Meriwether County Farm Bureau	401 LaGrange Street	Greenville	GA	30222	-NA-	-NA-
Mr. Gary Degler Georgia Forestry Commission	78 Firetower Road	Greenville	GA	30222	-NA-	-NA-

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.

Attachments

Meeting Time & Places Flier (hard copy only)
Sample Press Release # 1 (hard copy only)
Sample Press Release #2 (hard copy only)