

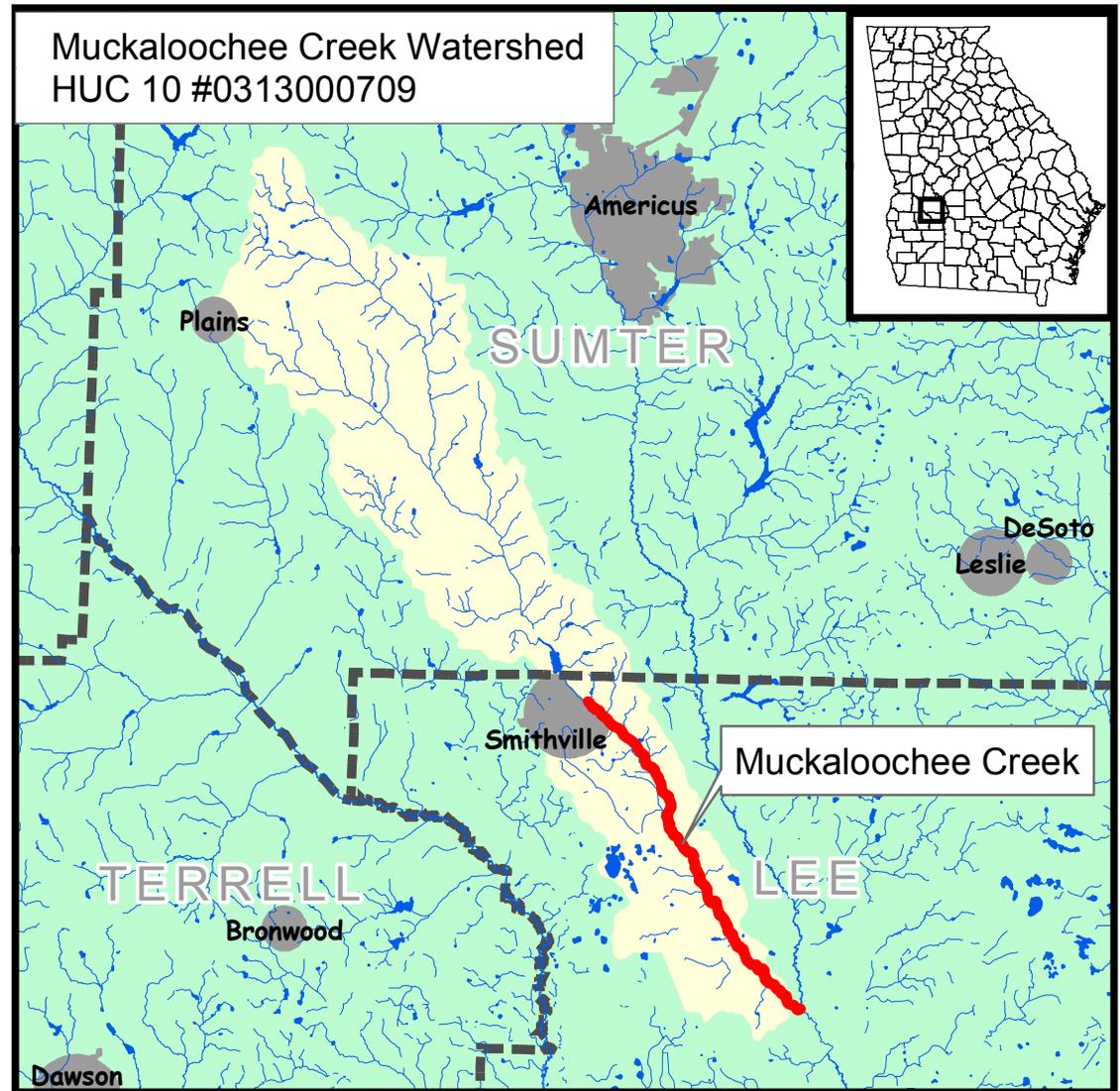
**STATE OF GEORGIA**  
**TIER 2 TMDL IMPLEMENTATION PLAN**    **REVISION \_1\_**  
Muckaloochee Creek  
Flint River Basin

Sumter County Commissioners, Plains City Council,  
Smithville City Council, Lee County Commissioners

**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
Muckaloochee Creek	Smithville Pond [aka Wells Mill Pond] to Muckalee Creek	Fecal Bacteria

## **II. GENERAL INFORMATION ABOUT THE WATERSHED**

Write a narrative describing the watershed, HUC 10# 0313000709. 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.

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**The Muckaloochee Creek from Smithville Pond (Wells Mill Pond) to Muckalee Creek is located in the lower portion of the Flint basin in Lee County, Georgia. The Smithville Pond is located just southeast of Smithville, Georgia.**

**The predominant land use around the stream corridor is Agriculture. The local governments with an interest in this segment are Smithville, Leesburg and Lee County, Georgia. Included with this plan is a County Land Use map that is based upon both data collected by the SWGRDC and the Lee County Commissioners Office in 2000.**

**Muckaloochee Creek is listed for not meeting water quality standards for Fecal Coliform. The Georgia Environmental Protection Division will address non-point sources through a watershed protection strategy. 41,847 acres or 93% of the HUC 10# 0313000709 is devoted to either Silvicultural or Agricultural uses.**

**In June 2004, the EPD has added a Fecal Coliform bacteria limit to the permit for Smithville pond along with a 24 month schedule to decrease emissions by 65 % as a prerequisite to reissuing the permit. It is believed that curtailing the fecal coliform/particle emissions of the previously under regulated Smithville Pond will cause a corresponding decrease in the presence of Fecal Coliform in the Muckaloochee Creek.**



**Smithville Pond (Waste Water Treatment Facility), looking east toward Muckaloochee Creek. Note shallow containment.**



**Smithville Pond (Waste Water Treatment Facility), looking east toward Muckaloochee Creek**

**Muckaloochee 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
Muckaloochee Creek	Smithville Pond to Muckalee Creek	10 miles/ 43623 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	NEEDED REDUCTION FROM TMDL
Faecal Coliform Coliform	The use classification water quality standards for faecal coliform bacteria as stated in Georgia's Rules and Regulations for Water Quality Control Chapter 391-3-6-.03(6)(a) and 391-3-.03(6)(c) is : (a) Drinking Water Supplies : Those waters approved as a source for public drinking water systems permitted or to be permitted by the Environmental Protection Division. Waters classified for drinking water supplies will also support the fishing use and any other use requiring water of a lower quality. (i) Bacteria : For the months of May through October, when water contact recreation activities are expected to occur, faecal coliform not to exceed a geometric mean of 200 per 100 ml based on at least four samples collected from a	Smithville Pond (Water Pollution Control Facility)	65%

given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show faecal coliform levels from non human sources exceed 200/100ml (geometric mean) occasionally, then the allowable geometric mean faecal coliform shall not exceed 300 per 100 ml in lakes and reservoirs and 500 per 100 ml in a free flowing freshwater streams . For the months of November through April, faecal coliform not to exceed a geometric mean of 1,000 per 100 ml based on at least four samples collected from a given sampling site over a 30 day period at intervals not less than 24 hours and not to exceed a maximum of 4,000 per 100 ml for any sample. The State does not encourage swimming in surface waters since a number of factors which are beyond the control of any State Regulatory agency contribute to elevated levels of faecal coliform.

(c) Fishing : Propagation of Fish, Shellfish, Game and Other Aquatic Life ; secondary contact recreation in and on the water ; or for any other use requiring water of lower quality.

(iii) Bacteria : For the months of May through October, when water contact recreation activities are expected to occur, faecal coliform not to exceed a geometric mean of 200 per 100 ml based on at least for samples collected from a given sampling site over a 30 day period at intervals not less than 24 hours. Should water quality and sanitary studies show faecal coliform levels from non-human sources exceed 200/100 ml (geometric mean)

	<p>occasionally, then the allowable geometric mean faecal coliform shall not exceed 300 per 100 ml in lakes and reservoirs and 500 per 100 ml in free flowing freshwater streams. For the months of November through April, faecal coliform not to exceed a geometric mean of 1,000 per 100 ml based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours and not to exceed a maximum of 4,000 per 100 ml for any sample. The State does not encourage swimming in surface waters since a number of factors which are beyond the control of any State regulatory agency contribute to elevated levels of Faecal coliform. For waters, designated as approved shellfish harvesting waters by the appropriate State agencies, the requirements will be consistent with those established by the State and Federal agencies responsible for the National Shellfish Sanitation Program. The requirements are found in the National Shellfish Sanitation Program Manual of Operation, Revised 1988. Interstate Shellfish Sanitation Conference, U.S. Department of Health and Human Services (PHS /FDA), and the Center for Food Safety and Applied Nutrition. Streams designated as generally supporting shellfish are listed in Paragraph 391-3-.03(14).</p>		
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#### **IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT**

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

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

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**A meeting was held August 19, 2004, in Camilla, Georgia to review the TMDL in the impacted stream segment and the stream's potential source for disease. Stakeholders and committee members were asked for their input on potential causes of pollution.**

**Unfortunately representatives from Smithville, Lee County and Sumter County were unable to attend this meeting.**

**RDC Planning Staff conducted a visual field survey along various portions of the stream segment.**

**It was noted by staff and committee members that EPD had added limits for Fecal Coliform Bacteria to the NPDES Permit for Smithville Pond in June.**

**Surveys show the watershed's area's land use is primarily Agricultural and Silvicultural. There are also portions of Smithville Road, just north of State Route and 195 residential homes on individual lots within the confines of the watershed. In addition, it must be noted that no sanitary sewer is available in this area.**

**The EPD's restrictions on the Smithville Pond facility and inspection of septic tanks between Muckalee and Muckaloochee Creeks may solve most of the fecal coliform problem in the impacted stream area.**

**Area Newspapers who carried Public Meeting Notification:**

**Albany Herald  
Athens Herald  
Valdosta Times Local  
Columbus Ledger  
Moultrie Observer  
Cairo Messenger  
Camilla Enterprise  
Pelham Journal  
Sylvester Local  
Bainbridge Post Searchlight  
Dawson News**

Donalsonville News  
Thomasville Times  
Lee County Ledger  
Early County News  
Miller County Liberal

**Advertising Copy Text ran:**

**Meeting Concerning Clean Water, August 19, 2004  
(TMDL Regional Advisory Group)**

The TMDL Regional Advisory Group (on Clean Water) will meet on Thursday, August 19<sup>th</sup> 2004 at the Southwest Georgia Regional Development Center in Camilla. The meeting will be held from 3:00 p.m. to 5 p.m. Both new and established members are encouraged to attend. The group is intended to provide technical support for implementation plans for polluted stream segments in addition to modifying the Regional TMDL Implementation Plan. Therefore, it is important that the various stakeholder groups in this region have proper representation. It is hoped that these meetings will help stakeholders form relationships and make connections with others in the region.

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	Smithville Pond	90%	Large	It appears that previously, there had been no monitoring or regulation on the Smithville Pond WPCF for Fecal Coliform, the new regulations and implementation of BPT's

				BCT's and BAT's should decrease current loads.
Fecal Coliform	Septic Tanks	.01-1.5%	Small	Although uncommon, it's possible for Septic systems to rupture, overflow or by other means contaminate the water supply. However, a proposed policy of increased monitoring and regulation should minimize the risk to the water supply posed by Septic Systems.
Fecal Coliform	Farm Animals	9 %	Small	18% of the land within the watershed is used as either Pasture or for Hay, it's conceivable that rainfall and runoff would contain animal faeces.

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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**An initial meeting was held with August 19, 2004 to determine possible sources of pollution and to solicit input on the preventive land and correction measures in place or planned for the area. RDC Staff sent out individuals notices to Advisory Board Members, other interested parties and local government officials.**

**Unfortunately representatives from Lee County, Smithville and Sumter County couldn't attend this meeting.**

**A notice was sent out to local area papers to invite the general public to attend. Seven concerned citizens attended the meeting. Additional input was gathered from the RDC Environmental Committee at the regularly scheduled meeting. Members and citizens present at both of these meetings felt additional testing should be conducted.**

**GIS mapping allowed members and others present at the public hearing to look at the impacted segment, with the % of acreage/landuse in each watershed. The next step will be to hold additional public meetings and educated local stakeholders about the TMDL process and gain greater input on better land management practices.**

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

**Table 4. COMMITTEE MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
David Burke	Oil Dri Corp				229-574-4271	<a href="mailto:davidburke@oildri.com">davidburke@oildri.com</a>
David Dixon	Miller Brewing Company				229-420-5096	David.Dixon@mbco.com
Ron Dudley	Stevenson & Palmer Engineering				229-883-0332	
Greg Findley	Georgia Forestry Commission				229-533-380	<a href="mailto:gfindley@gfc.state.ga.us">gfindley@gfc.state.ga.us</a>
John Fisher	Spring Creek Water Safety Task Force				229-246-9739	
Tynik (Nikki) Fox	Dougherty Co. Environmental Health Dept.				229-438-3942	<a href="mailto:tlfox@gdph.state.ga.us">tlfox@gdph.state.ga.us</a>
David Hamilton	City of Albany				229-438-3942	Davidhamilton31707@yahoo.com
Alan Isler	Georgia Forestry Commission				229-533-3580	<a href="mailto:aisler@gfc.state.ga.us">aisler@gfc.state.ga.us</a>
Mel Jones, Jr.	Public Health Division, District Health				229-430-4129	<a href="mailto:mfjones@gdph.state.ga.us">mfjones@gdph.state.ga.us</a>
Roger King	City of Moultrie				229-890-5432	
Nancy O'Quinn	UGA/REDP				229-386-7376	<a href="mailto:noquinn@arches.uga.edu">noquinn@arches.uga.edu</a>
Susan Reyher	Dougherty Co. Environmental Health Dept.				229-438-3943	<a href="mailto:smreyher@gdph.state.ga.us">smreyher@gdph.state.ga.us</a>
Burt A Spence	Mitchell Co.				229-336-	<a href="mailto:BA.Spence@gdph.state.ga.us">BA.Spence@gdph.state.ga.us</a>

	Environmental Health Dept.				2055	
Roger Thighpen	Georgia Pacific Corp.				229-327-5029	rgthigpe@gapac.com
Russell Tinning	Georgia Soil & Water Conservation Commission					rtonning@gaswcc.org
Rob Weller	GAWRD				229-886-1451	Rob.Weller@mail.dnr.state.ga.us
Rebecca Winn	International Paper					Rebecca.Winn@ipaper.com
RDC Staff						
Paul Forgey	Planning Director SW GA RDC				229-522-3552	pforgey@swgrdc.org

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**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
GA Growth Planning Act (OCGA 12-2-8)	Lee County, Sumter County City of Smithville	Authorized GA DNR to develop minimum planning standards that local jurisdictions could adopt and enforce pertaining to the protection of river corridors, mountain tops, water supply watersheds/resevoirs, groundwater recharge areas and wetlands	Gen. Fund/State	Ongoing	1991	Moderate
Federal Clean Water Act	City of Smithville, Lee County, EPA	Requires normal agricultural and silvicultural practice to adhere to BMPs and 15 baseline provisions for road construction and maintenance in across the waters of the US. Also sets National Pollutant Discharge Elimination System permit program which monitors and sets effluent limits on waste treatment facilities.		Current	November 1995	Moderate to Very (depending on enforcement)
Georgia Water Quality Control	GA DNR EPD	Makes it unlawful to discharge excessive		Current	1964	Moderate

Act (OCGA 12-5-20)		pollutants (sediments, nutrients, pesticides, animal waste, 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.				
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**MEASURES APPLICABLE TO INDIVIDUAL PARAMETERS**

PARAMETER 1	MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Fecal Coliform	Redrafting NPDES permit for Smithville Pond	EPD	Setting permitted limit of Fecal Coliform emission (200-400)	General Fund		June 4, 2004	Very

**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	
Fecal Coliform	GA EPD	Planned	2005	2010	Monitoring/Permitting Smithville Pond

**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
Lee County	Educational Activity/Regulatory Controls	All	Ongoing
City of Smithville	Educational Activity/Regulatory Controls	All	Ongoing
Lee Co. Health Dept.	Educational Activity/Regulatory Controls	All	Ongoing
Sumter County	Educational Activity/Regulatory Controls	All	Ongoing

**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:

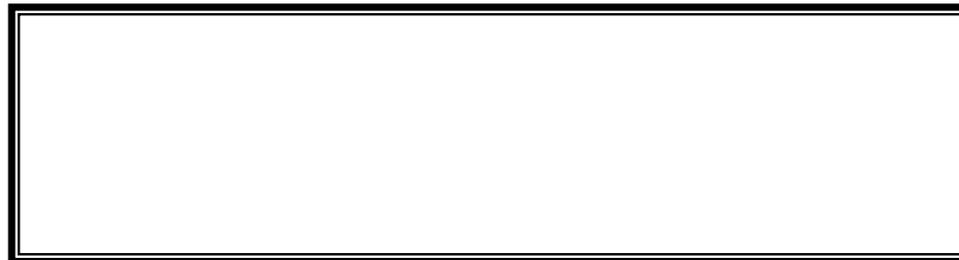
- accomplishment of management practices or activities
- outreach activities
- installation of BMPs

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
Review Permitting Smithville Pond	City of Smithville/EPD	2005		Monitoring of Plant
Decreasing Smithville Pond Emissions by 60%	EPD	June 2006		
Septic Tank System Controls	County	2005		Monitor septic systems

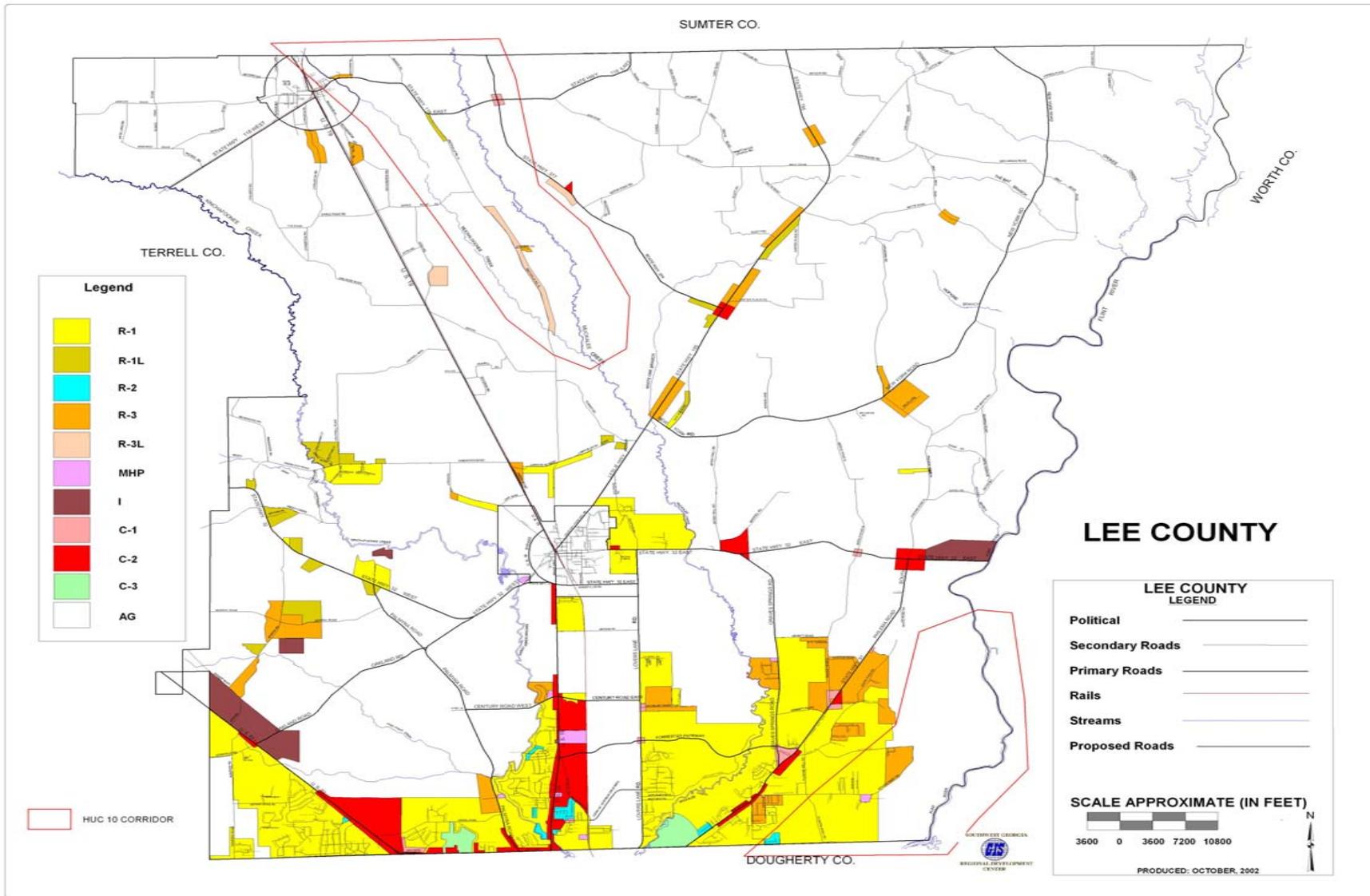
Prepared By:	Greg Weathersby		
Agency:	Southwest Georgia RDC		
Address:	30 West Broad		
City:	Camilla	ST: GA	ZIP: 31730-0346
E-mail:			
Date Submitted to EPD:	11-05-04	Revision: 12-6-04	C. Maycock



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
Lee County Commission	P.O. Box 889	Leesburg	GA	31763	229759-6000	ldholbrook@lee.ga.us
Lee County Administrator	P.O. Box 889	Leesburg	GA	31763	229-759-6000	
Lee Co. Clerk	P.O. Box 889	Leesburg	GA	31763	229-759-6000	<a href="mailto:cdockery@lee.ga.us">cdockery@lee.ga.us</a>
City of Smithville	P.O. Box 180	Smithville	GA	31787	229-846-2101	
Lee Co. Environmental Health Office	112 Parks St.	Leesburg	GA	31787	229-759-3014	



Please note red outline of affected area in the upper north-west quadrant of this map. Description of the legend code attached.

**LEGEND CODE**

AG-1 Active Agricultural  
R-1L Low Density, single-family Residential  
R-1 Single Family Residential  
R-2 Multi- Family Residential  
R-3L Low Density, Mixed Use Single Family Residential  
R-3 Mixed Use, Single Family Residential  
C-1 Neighborhood Commercial  
C-2 General Commercial  
C-3 Commercial Recreation  
C-4 Transitional Office  
I-1 Light Industry  
I-2 Heavy Industry  
MHP Manufactured Home Park