

**STATE OF GEORGIA
RECOMMENDED TIER 2 TMDL IMPLEMENTATION
SOQUEE RIVER**

Chattahoochee River Basin

Local Watershed Governments

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.

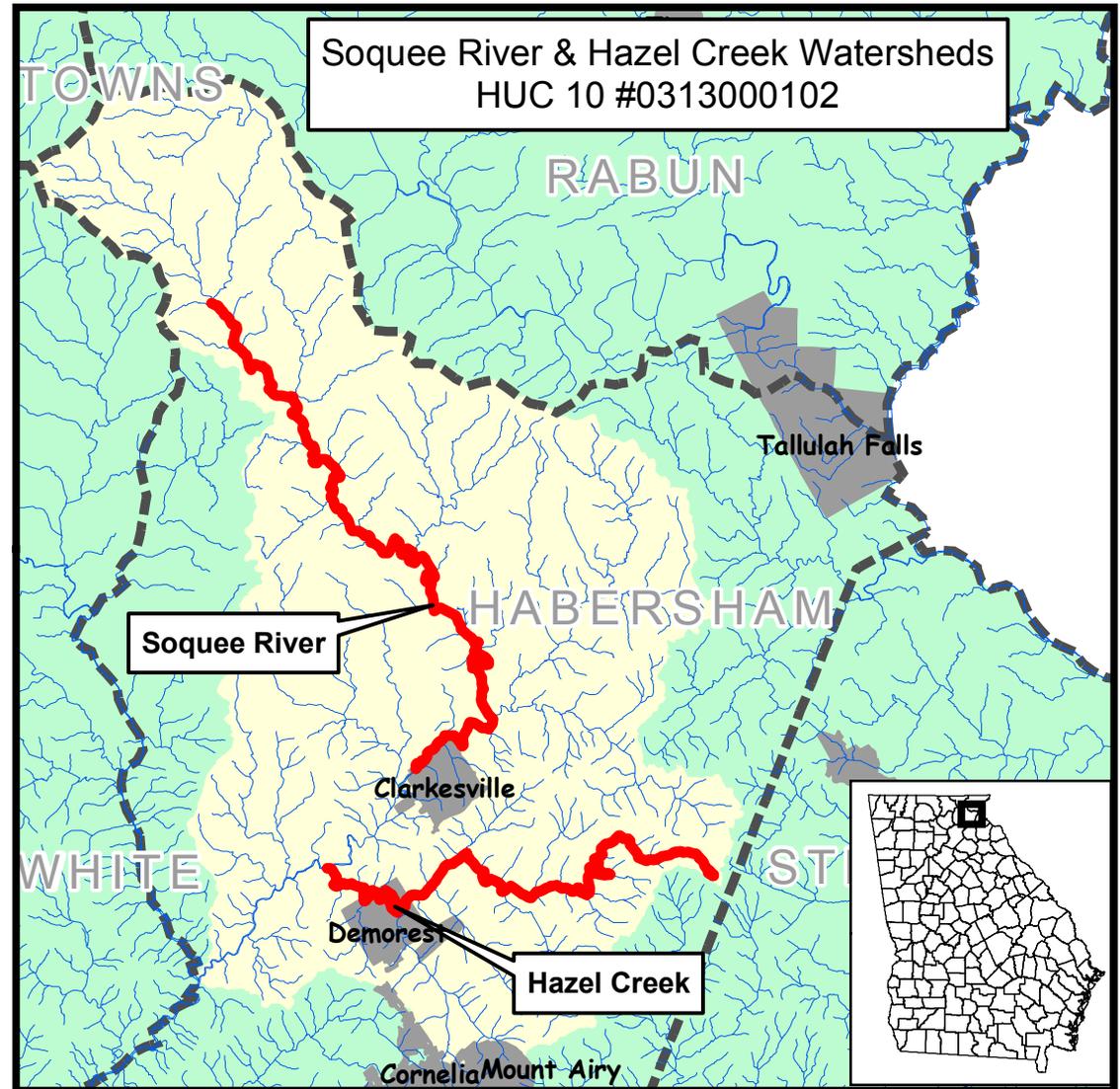


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT
Soquee River	Goshen Creek to SR 17, Clarkesville	Fecal Coliform Bacteria
Hazel Creek	Habersham County	Biota(sediment)

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10#0313000102. 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.

Major land uses reported in the TMDL for the 60,218 acre watershed were forest (50,548 ac/84%), pasture/hay (7,176 ac/12%), row crops (1,346 ac/2%), transitional (594 ac/1%), and residential and urban (257 ac). According to the NRCS, there were 316 beef cattle in the Soquee River Watershed in 2000. The NRCS estimated that the livestock population of Habersham County in 2000 was 75 dairy cattle, 1,600 swine, and 46,662,654 broiler-chickens. There were 13,508 total septic systems in the county in 2000 according to Georgia DHRS.

While the land use has not been updated since 1995, major recent changes in land activity have been wide-spread development of subdivisions and increases in poultry production.

The Clarkesville water intake is located on the Soquee River north of the city and the Clarkesville wastewater treatment plant discharges to the river above State Road 17.

{NAME OF STREAM SEGMENT}

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

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Soquee River	Goshen Creek to S.R. 17, Clarkesville	29	Fishing	PS/NPS

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

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

Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Coliform	200 per 100 m/(geometric mean May-Oct) - 1,000 per 100 m/(geometric mean Nov-April)	Point Sources, Agricultural Livestock, Urban Development, Septic Tanks, Wildlife Cropland runoff (10,518 T/ac/yr) Commercial forestry activities (unk) Pastures (2,434 T/ac/yr) Land disturbing activities (unk) Streambank erosion (unk)	34%

PARAMETER 2	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL

PARAMETER 3	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL

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

Major potential sources of bacteria in the watershed are a point source discharge from the Clarkesville wastewater treatment plant, urban development (urban runoff and system malfunctions) in the Clarkesville area, malfunctioning septic tanks, cattle with access to stream, and improper disposal of chicken waste and litter.

The City of Clarkesville, with the support of the Soquee Watershed Partnership, has obtained a Section 319 grant to fund water quality monitoring and a watershed assessment to evaluate nonpoint source impacts on the Soquee River and identify causes and sources of impairments. The monitoring and assessment is scheduled to be completed by December, 2005.

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	Urban development Agricultural livestock Failed septic tanks Wildlife Point Source	Clarkesville area Extensive Scattered Extensive Clarkesville	Major Major Limited Limited Limited	Pending monitoring and watershed assessment will provide definitive information on the sources and causes of impairments by December, 2005.

PARAMETER 2	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS

PARAMETER 3	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS

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.

An initial stakeholder meeting was conducted on May 20, 2004 to introduce the TMDL Implementation Plan preparation process and solicit general comments on possible sources, solutions, and future activities for the Soquee River and Hazel Creek. The observations and recommendations of the stakeholder group were as follows:

Possible Sources

During the presentation, attendees noted that for the most part, homebuilders and graders are abiding by the new E&S law and are using appropriate BMPs.

The lower reaches of the Soquee River have significant streambank erosion. NOTE: the lower reaches of the Soquee River are on the “partially supporting” list of impaired waters instead of the “not supporting” list.

Possible Solutions

During the presentation, attendees began discussing some possible programs like rewarding builders and graders who are performing above and beyond in order to focus on the positives instead of the negatives OR publicly announcing environmentally friendly builders or graders as such. Some attendees said that some of the builders and graders who are not following regulations or using appropriate BMPs are not even from Habersham County (most of the time).

Possible Activities

Form a new Keep America Beautiful (KAB) affiliate. The last time a KAB affiliate was located in Habersham County was approximately five years ago.

Meeting Announcements

It was suggested that we try to distribute announcements to the stakeholders by the 1st Friday of each month for the HBA of Habersham and White Counties newsletter.

Public Outreach

All agreed that public outreach is very important for homebuilders and the public. When Project WET was brought up during the presentation, audience members mentioned Brenda Hunt, a Life Sciences 7th grade teacher from North Habersham Middle School, as a good resource for environmental education. She has been working with Justin Ellis, from the SRWA.

Questions and Comments

Are there are plans for dredging or correcting some of the problems associated with the Habersham Mills Lake? This lake is downstream from the “not supporting” segment of the Soquee River. In recent months, there has been local discussion about the dam breaching. Tiffannie said that she would research this and report back to the group at the next stakeholders meeting.

The stakeholder group will be again convened and review and comment on this recommended TMDL Implementation Plan as provided in Section VIII, Planned Outreach.

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
Habersham County BOC	City of Clarkesville Council City of Demorest Council	Clarkesville Demorest	GA GA	30523 30535		
Habersham Co. Chamber of Commerce	668 Hwy. 441 Bus.	Cornelia	GA	30531		
Dr. Sue Kelly	Piedmont College					skelly@piedmont.edu
Dr. Brent Beall	N. Ga. Technical College Hwy. 197 N.	Clarkesville	GA	30523		
Darcie Boden	Upper Chattahoochee Riverkeeper, 615 F Oak St., Ste. 1000	Gainesville	GA	30501		
Justin Ellis	Soquee River Watershed Assoc., P.O. Box 1901	Clarkesville	GA	30523		
Habersham County Schools	P.O. Box 70	Clareksville	GA	30523S		
Mike Giles	Ga. Poultry Federation P.O. Box 763	Gainesville	GA	30503		
Dave Wicker	Fieldale Farms Corp. P.O. Box 558	Baldwin	GA	30511		
Karen McLain	HBA of Habersham Co.					FAX 706-778-2492
Habersham Co. Farm Bureau	3395 Camp Creek Rd.	Mt. Airy	GA	30523		
Stephen Patrick	Habersham Co. Extension Office, 555 Monroe St., Unit 20, Box 13	Clarkesville	GA	30523		
Steve Patton	Habersham Co. Planning Office, 185 B. Scoggins Dr.	Demorest	GA	30535		
Linda Eubanks	Habersham Co. Extension Office, 555 Monroe St., Unit 50, Box 13	Clarkesville	GA	30523		
Steve Leslie	Chestatee-Chattahoochee RC&D, 170 Scoggins Dr.	Demorest	GA	30535		

The Nature Conservancy	1330 W. Peachtree St., #410	Atlanta	GA	30309		
Chattowah Open Land Trust	135 N. Christopher's Run	Alpharetta	GA	30004		
Trust for Public Land	1447 Peachtree St., NE, Suite 601	Atlanta	GA	30309	404-873-7306	FAX 404-875-9099
US Fish & Wildlife	247 Milledge St.	Athens	GA	30605		
Georgia Forestry Commission	P.O. Box 819	Macon	GA	31202	478-751-3485	
Georgia Forestry Association	500 Pinnacle Court, Ste. 505	Norcross	GA	30071	770-416-7621	
Southeastern Wood Producers	P.O. Box 9	Hilliard	FL	32046	904-845-7133	
American Forest & Paper Assoc.						

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)
Part V Environmental Criteria	Habersham County	County Land Development Resolution amended to include Wetlands Protection Regulations	Local	Current (active)	11/20/00	Very Effective
Part V Environmental Criteria	Habersham County and Clarkesville	County Land Development Resolution amended and city ordinance adopted to enact water supply, watershed protection	Local	Active	11/20/00	Very Effective
Watershed Protection Plan	City of Clarkesville	Comprehensive Watershed Protection Plan including examples of protection methods	Local	Active	2001 - 2002	Moderately Effective
Source Water Assessment Plan	City of Clarkesville	SWAP is designed to meet state and federal requirements for conducting assessments including contaminant inventory	Local & EPD	Active	July, 2002	Very Effective
Nutrient Management Planning Certification	Ga. Dept. of Agriculture	Planners and operators must be certified by the Department of Agriculture	Private	Currently Enforced	2001	Very Effective
NPDES or LAS Permits for CAFOs ("Dry Litter Rule")	GA DNR-EPD, US EPA	Ga. DNR Board plans to review poultry wet manure handling systems beginning in January, 2000 to assess need to regulate manure management practices. It is probable that EPA and DNR will soon extend their attention to day layer manure systems	Private	Currently Enforced	2001	Very Effective
NPDES Wastewater Point Source Pollution	GA DNR-EPD	Water Protection Branch that oversees the permitting and compliance of NPDES sites	Local	Active-Enforced	2001	Very Effective
CONTINUED						

<p>County Sewage Disposal Rules and Regs.</p>	<p>Habersham Co. Health Dept. GA/DHR</p>	<p>Septic tank permit has to be obtained from the county health department. A copy of such septic tank permit shall be furnished to the county building inspection department prior to the issuance of the building permit</p>	<p>Local</p>	<p>Currently Enforced</p>	<p>1969</p>	<p>Moderately Effective</p>
---	--	--	--------------	---------------------------	-------------	-----------------------------

MEASURES APPLICABLE TO INDIVIDUAL PARAMETERS

PARAMETER 1	MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Fecal	Part V Environmental Criteria	Habersham County	County Land Development. Resolution amended to include groundwater recharge area protection	Local	Active	11/20/00	Very Effective
Fecal	Homeowner BMP Workshop	Georgia Mountains RDC & Habersham Co.	Homeowners Workshop promoting State DCA BMPs for septic system operation and maintenance	State-DCA	Completed		Moderately Effective
Fecal	NPDES Permit for Clarkesville WWTF	City of Clarkesville	NPDES permits require that treated effluent meet water quality standards for fecal coliform	Local	Ongoing	Implemented	Very Effective

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	
Multiple including suspended solids, bacteria, biology and water chemistry	Soquee Watershed Partnership and City of Clarkesville	Funded, staffed, quality assisted plan submitted to EPA for review	10/04	10/06	Conduct a baseline assessment of water quality conditions and identify sources and causes of nonpoint source inputs to the system with emphasis on sediment and bacteria. Basin-wide monitoring of the Chattahoochee-Flint basin group
Multiple	Georgia EPD	Proposed	01/06	12/06	

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
Georgia Mountains RDC	Review recommended TMDL Implementation Plan with Stakeholder Group and revise plan as appropriate	Soquee River and Hazel Creek Stakeholder Advisory Group	01/05 – 05/05
Georgia Mountains RDC	Complete plan outreach activities specified in Section 106 grant funded contract	Local governments, major stakeholders, public	01/05 – 05/05
Soquee Watershed Partnership	Specified in Section 319(A) funded contract	Stakeholders, public	10/04 – 08/07

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

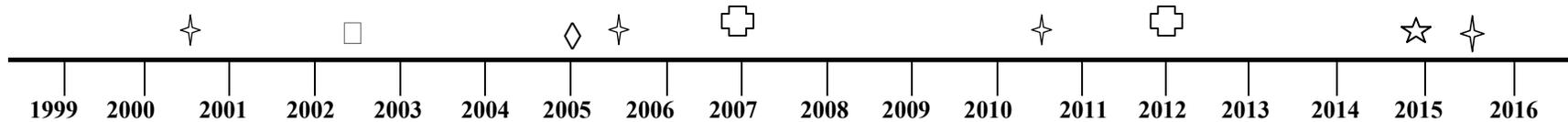
to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used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

Table 8. MILESTONES

MANAGEMENT MEASURE				
Approve Soquee quality assurance plan and conduct monitoring	Clarkesville, Soquee Watershed Partnership	X		Quality assurance plan prepared and submitted to EPA for review
Complete Soquee watershed assessment	Clarkesville, Soquee Watershed Partnership	X		Assessment has been funded with a Section 319 grant
Conduct and complete Soquee and complete Soquee outreach activities	Clarkesville, Soquee Watershed Partnership	X		Outreach has been funded by above grant
Outreach activities	Georgia Mountains RDC	X		Funded by Section 106 grant
Part V Env. Criteria – Wetlands	Habersham County, Cornelia, Clarkesville		X	Ordinances adopted and enforced by local governments – very effective
Part V Env. Criteria – Water Supply Watershed	Habersham County, Cornelia, Clarkesville, Habersham County		X	Ordinances adopted and enforced by local governments – very effective. Moderate community support
Part V Env. Criteria – Mountain Protection	Habersham County		X	Ordinance adopted and enforced by county – very effective – strong community support
NPDES Permit	Georgia EPD		X	Georgia EPD oversees and monitors program
Permit Tracking	Habersham County and Soquee Watershed Assoc.	X		Recommended action in SRWA/Riverkeeper Restoration Project
Federal Clean Water Act Section 404 (Ag and Forestry)			Continuous	GFC can report status on accomplishments or complaints investigated involving this act to the RDC as needed.
Memo to the Field: Application of BMPs to mechanical silvicultural site preparation activities for the establishment of pine plantations in			Continuous	GFC can provide status reports as needed

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 □
- TMDL Implementation Plan Accepted ◇

Prepared By:	Larry Sparks & Tom O'Bryant		
Agency:	Georgia Mountains RDC		
Address:	P.O. Box 1720		
City:	Gainesville	ST: GA	ZIP: 30503
E-mail:	lsparks@gmrdc.org ; tobryant@gmrdc.org		
Date Submitted to EPD:	December 20, 2004	Revision:	

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.
