

**TMDL Implementation Plan  
HUC 0307010303 - South River and Snapping Shoals Creek  
January, 2003**

**Background**

Hydrologic Unit Code 0307010303 is located in portions of Newton, Rockdale, Henry, and Butts counties and the city of Conyers.

The stream segments of concern in this TMDL implementation plan include Snapping Shoals Creek from Almand Creek to its confluence with the South River, and the South River from Snapping Shoals Creek to Jackson Lake. The primary jurisdictions that drain to the segments of concern include Newton, Henry, Rockdale, and Butts counties and the city of Conyers.

The pollutant of concern is fecal coliform. Snapping Shoals Creek is listed as “not supporting” its designated use for fishing; the South River is listed as “partially supporting” its designated use for fishing.

The streams were listed on the Georgia 303(d) list of impaired water bodies after sampling events in 1999. A Total Maximum Daily Load was established by EPA for the Upper Ocmulgee river in February, 2002, that recommends a reduction in the fecal coliform loading on Snapping Shoals Creek of 75% and on the South River of 35%.

Land use in the watershed was determined in the TMDL to be primarily forest and pasture, with substantial residential development in the Snapping Shoals watershed.

**Coordinated Activities**

The South River has known pollution sources upstream of the segment below Snapping Shoals Creek.

The City of Atlanta discharges illicit combined sewer overflows (CSO) into tributaries of the South River. TMDL's have been developed for the City of Atlanta's CSO's on Intrenchment Creek and North Branch South River. The TMDL's require a 98% reduction in fecal loading from these discharges. The TMDL for HUC 0307010303 has been generated assuming the these requirements are met and that all upstream NPDES (municipal sewer) discharges meet permit requirements that do not negatively impact the fecal coliform pollution on the segments in this plan. In summary, the present TMDL developed for the Snapping Shoals – South River was designed to address only the loading from the drainage of HUC 0307010303, not the input of pollution from upstream.

**Stakeholder Input**

Input from stakeholders indicated the following information about the watershed:

- Approximately 10% to 20% of agricultural cattle operations have animals fenced out of the streams. This is part of the EQIP program and the development of Nutrient Management Plans (NMP). It is expected that another 20% will be added within the next five years, depending on resources from the agricultural support agencies (NRCS, Agricultural Extension, etc.). It is expected that approximately 50% of existing farms in Newton County will be phased out with the aging of the owner-operators, because there is little interest among the next generation in continuing economically viable agriculture in the area.
- Smaller “hobby farms” are on the rise and will proliferate in the basin. They generally do not receive attention from, and do not seek out the assistance of, the agricultural support agencies. They are not susceptible to matching grant programs or the NMP program because they are not operated for profit, so there is no payback of investment in fencing, feeding facilities, etc.
- There is concern from property owners along Jackson Lake that poultry farms are producing significant pollution in Jackson Lake. The NRCS and USDA stakeholders report that poultry farms usually have stack houses, NMP’s, utilize advice on land application rates of chicken manure, and setbacks and buffers on streams. About 80% of farms comply with these BMP’s, and education is continuing. Regulation of chicken litter distribution is expected soon.
- New rules on confined animal feeding operations (CAFO’s) mandate a waste management plan and, for some, lagoons for treating waste. The rules were submitted for public review in November, 2002, and should become effective this year for a five-year period.
- There is no program for agricultural BMP’s for horse farms or pasturing horses for recreational use, and horses are not considered “livestock” by the USDA programs such as EQIP. It is believed by stakeholders that the number of horses in the basin is large and increasing, but its magnitude is unknown.
- It is not known how many illicit connections to storm drains, failed septic tanks, or cases of outright lack of treatment there may be in the basin.
- There are no local ordinances regulating the management of household pets or kennel waste.
- Newton and Butts counties deliver public water supply to both drainages, but there is no public sewer service. Therefore, any solution to septic tank leakage must come from modifications to and maintenance of septic tanks, not replacement by sewerage.

## Implementation

There are several on-going actions either in place or planned by the communities. Besides the agricultural initiatives mentioned above, local governments are in the midst of changing their management of storm water runoff. These actions include the following.

The Metropolitan North Georgia Water District has adopted a suite of water quality ordinances for incorporation into a district water quality management plan. Henry and Rockdale counties and their cities are within the District, and therefore will be adopting the ordinances within the time frame of this implementation plan. Ordinances include Post Development Storm Water Management, Floodplain Management, Open Space, Illicit Discharge and Illegal Connection, and Litter Control. The District will also adopt a strategy for implementation of required and recommended actions. It will include a water quality monitoring plan to measure the success of the plan. The Watershed Management and Implementation Plan can be found at its web site

<http://www.northgeorgiawater.org>.

Newton County is presently carrying out a watershed assessment, as well as planning for NPDES Phase II Stormwater regulation. Since that plan has not proceeded to the point of deciding on implementation options, it is incorporated in this draft implementation plan by reference. Newton County is also planning to begin a county-wide Adopt-a-stream program.

Rockdale County has developed TMDL implementation strategies that include:

- Conducting a watershed assessment program in support of wastewater treatment plant permit.
- Aggressive sediment and erosion control ordinance inspections and enforcement.
- Recent revisions to the stormwater and water quality ordinances.
- New zoning and development ordinances will emphasize water quality.
- Rockdale County will be under the NPDES Phase II stormwater regulations in 2003. In developing a plan to implement the regulations, water quality must be addressed.
- Planning a septic tank assessment program.
- Required eight hours of training for persons responsible for implementing soil erosion and sedimentation control plans for developments in the county.

The City of Conyers has adopted or plans to adopt several strategies as well, including:

- Planned requirement for eight hours of training for persons responsible for implementing soil erosion and sedimentation control plans for developments in the city.
- Implementation of a comprehensive stormwater management program.

Rockdale County has instituted or plans to implement several water quality programs that affect fecal coliform pollution in Snapping Shoals Creek. They include:

- Implementation of NPDES Phase II Stormwater Management Plan.
- Ordinance revisions to include updating the comprehensive land use plan, a design competition to develop overlay districts, creating uniform development codes, and developing a GIS inventory of stormwater control structures.

Henry County has also adopted strategies and implementation tools affecting fecal coliform pollution, including:

- NPDES Phase II Storm Water Management Plan and implementation package
- Illicit Discharge ordinance.
- Comprehensive storm water mapping
- Inventory and mapping of industrial storm water discharge permit holders
- Dry weather outfall screening program
- Developing septic tank maintenance standards
- Land disturbance certification program
- Revisions to land development ordinances

It was the consensus of stakeholders that the specific sources of fecal coliform must be identified before action is required. Likely sources of fecal coliform identified were failed or absent septic tanks, leaking sewer lines, agricultural runoff, agricultural pollution from cattle with direct access to streams, pet and kennel discharges, “hobby farms” keeping large animals in direct contact with the streams, and miscellaneous runoff from storm water from urbanized areas. The stakeholders recommended that the extent of the contribution from specific sources be identified before “remedial” action is advised.

The plan therefore identifies the following steps for load reduction:

- Continued implementation of recent and proposed ordinance adoptions and revisions.
- Detailed sampling of the streams to localize the sources of pollutant, beginning with a general survey and following on with more and more localized and detailed sampling until specific sources can be identified.
- Implementation of BMP’s specific to the identified sources, as indicated, including septic tank maintenance, sewer leak detection, Nutrient Management Plan implementation on the remaining agricultural operations, a kennel ordinance, a large-animal density ordinance (or equivalent provisions in existing zoning ordinances).
- The development of a storm water utility to fund BMP’s for existing and future development was discussed, but not adopted as part of the plan at this time.
- Implementation of a stream monitoring program based on the regime to be adopted by the North Georgia Metropolitan Water District and the Alcovy River Watershed Protection Plan.
- Ongoing educational efforts will proceed under the auspices of Newton County, Rockdale County, Butts County, the NRCS, Agricultural Extension, and the City

of Conyers. These will include identifying and contacting “hobby farm” and horse owners and educating them about stream buffers and limiting access; continued promotion of agricultural BMP’s; and distribution of brochures on septic tank maintenance.

- The effectiveness of the implementation plan should be evaluated after five years by incorporating the implementation activities that have taken place, updated land use information, and additional monitoring data into the BASINS model with which the TMDL was prepared.
- The proposal was made to re-form the multi-county Upper Ocmulgee Soil and Water Conservation District, or some council of a similar kind, to coordinate water quality activities in Newton, Butts, Rockdale, Henry, and Walton counties. No specific action was decided on at this time.

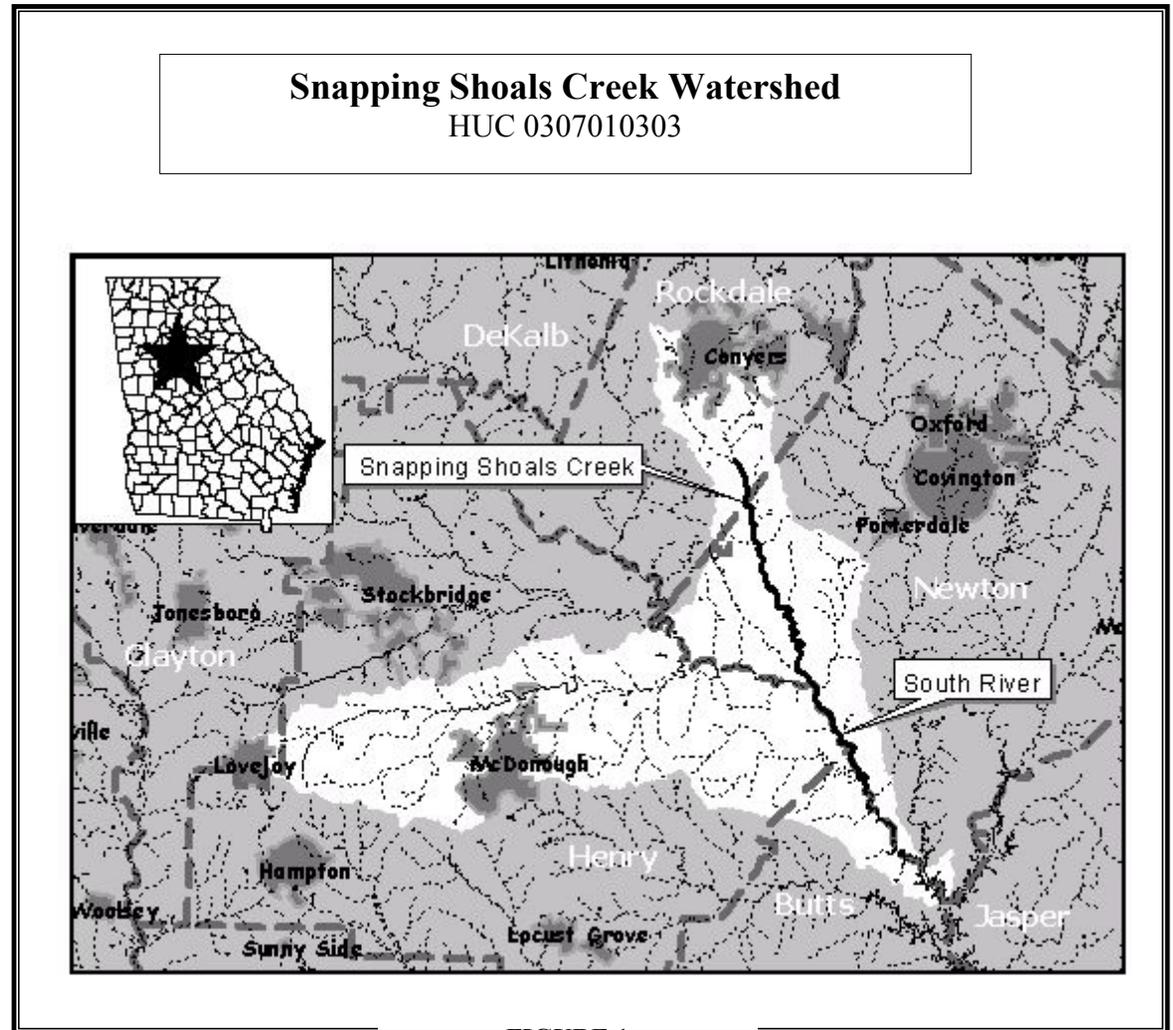
**STATE OF GEORGIA  
REVISED TMDL  
IMPLEMENTATION PLAN  
WATERSHED APPROACH  
Ocmulgee River Basin**

Local Watershed Governments

- Northeast Georgia RDC
- Newton County
- Henry County
- Butts County
- City of Porterdale
- City of McDonough
- City of Conyers

TMDL Implementation Plans are platforms for establishing a course of actions to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired streams and the corresponding pollutants.** The impaired streams are located in the same sub-basin identified by a HUC10 code (Figure 1).

This Implementation Plan addresses an action plan, education/outreach activities, stakeholders, pollutant sources, and potential funding sources affecting the sub-basin. In addition, the Plan describes (a) regulatory and voluntary practices/control actions (*management measures*) to reduce target pollutants, (b) milestone schedules to show the development of the management measures (*measurable milestones*), (c) a monitoring plan to determine the efficiency of the management measures and measurable milestones, and (d) criteria to determine whether substantial progress is being made towards reducing pollutants in impaired waterbodies. The overall goal of the Plan is to define a set of actions that will help achieve water quality standards in the state of Georgia. Following this section is information regarding individual segments.



**FIGURE 1**

Impaired Waterbody*	Impaired Stream Location	Impairment
1. South River	Snapping Shoals Creek to Jackson Lake	Fecal Coliform
2. Snapping Shoals Creek	Almand Branch to South River	Fecal Coliform (FC)

\*These Waterbody Numbers are referenced throughout the Implementation Plan.

# Action Plan for Snapping Shoals Creek Watershed

POLLUTANT:	SOURCE:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input type="checkbox"/> Dissolved Oxygen (DO)	<input type="checkbox"/> Industrial	<input type="checkbox"/> Habitat		
<input checked="" type="checkbox"/> Fecal Coliform (FC)	<input type="checkbox"/> Urban	<input type="checkbox"/> Recreation		
<input type="checkbox"/> Sediment	<input type="checkbox"/> Agriculture	<input type="checkbox"/> Drinking Water		
<input type="checkbox"/> Metals	<input type="checkbox"/> Forestry	<input type="checkbox"/> Aesthetics		
<input type="checkbox"/> Fish Consumption Guidelines (FCG)	<input type="checkbox"/> Residential	<input type="checkbox"/> Other (Please List)		
<input type="checkbox"/> Other (Please List)	<input type="checkbox"/> Other (Please List)			

## INFORMATION/EDUCATION/OUTREACH ACTIVITIES

An education/outreach component will be used to enhance public understanding of and participation in implementing the TMDL Implementation Plan.

List of all previous and planned information/education/outreach activities.

Responsible Organization Or Entity	Description	Impacted Waterbodies*	Target Audience	Anticipated Dates (MM/YY)
Natural Resource Conservation Service (NRCS)	Provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment	1, 2	Private land owners	Continuous
Rockdale County Water Resources	Ongoing and planned education program on septic tank maintenance, pet waste elimination, and water quality issues in general	1, 2	Public	2003 and Continuous
Keep Newton County Beautiful	Planned Adopt-a-stream program; ongoing educational program for citizens and schools.	1, 2	Public	2004 and Continuous
Rockdale Water Resources	Airing GA EPD's "Watershed Wisdom: Georgia's TMDL Program" video on the county's cable access channel	2	Public	Ongoing
Rockdale Water Resources/Rockdale Co. Health Dept.	Septic Tank Educational Mailer/Bill Insert	2	Public	Spring 2003
GA Waterwise Council	The Water Sourcebook	1, 2	Grades K-12	Ongoing
NEGRDC and Rockdale Water Resources	Distributing ACCG/DCA Water Resources Toolkit CD-ROM	1, 2	Public, local governments	Ongoing

## STAKEHOLDERS

EPD encourages public involvement and the active participation of stakeholders in the process of improving water quality. Stakeholders can provide valuable information and data regarding their community and the impaired water bodies and can provide insight and/or implement management measures.

List of local governments, agricultural organizations or significant landholders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

Name/Organization	Address	City	State	Zip	Phone	E-Mail
Upper Ocmulgee SWCD	11093 Highway 36	Covington	GA	30209	770-786-3667	Jennifer.rutledge@rockdalecounty.org
Ed Baker, Butts Co. Planning & Zoning	431 E. College St.	Jackson	GA	30233	770-775-8003	Steve.cannon@rockdalecounty.org
Sheri Hudson, Butts Co.	114 Hickory Drive	Jackson	GA	30233		
Lou DuFresne, Jackson Lake Homeowners Association	133 Sky rod.	Jackson	GA	30233		
Anthony Pelliccia/Welker&Assoc.,Inc	445 Manget ST	Marietta	GA	30061	770-422-1902	
Jackie Smith/Newton Board of Commissioners	1113 Usher St NE	Covington	GA	30014	770-784-2000	
Ray Spencer/NRCS	205 E. Jefferson St	Madison	GA	30650	800-593-3192	
Aaron Varner/Newton Board of Commissioners	1113 Usher St NE	Covington	GA	30014	770-784-2000	
Ricky Wheeler/Newton Coop Ext Ser.	2186 Elm St	Covington	GA	30014	770-784-2010	
Matthew Harper/ARC	40 Courtland St, NE	Atlanta	GA	30303	404-463-3267	
Julie Owens/GA-EPD	4220 International Pkwy, Ste 101	Atlanta	GA	30354	404-675-1651	
Steve Cannon Rockdale Water Resources	958 Millstead Ave.	Conyers	GA	30012	770-918-6535	
Jose Pagan/NRCS	PO Box 8	Monroe	GA	30655	770-267-8363	
Rockdale Water Resources	958 Milstead Ave.	Conyers	GA	30012	770-602-4344	
Rockdale County Board of Commissioners	962 Milstead Ave.	Conyers	GA	30012	770-929-4001	
Rockdale County Health Dept.	958 Milstead Ave.	Conyers	GA	30012	770-785-5936	

**WATER BODIES/STREAMS COVERED IN THIS PLAN:**

These impaired streams are located in the same sub-basin identified by a HUC10 code. Most of the information contained in this section comes from the 303(d) list and has been completed by employees of the EPD Water Protection Branch. Data that placed stream on 303(d) list will be provided upon request.

<b>Waterbody Name #1</b>	<b>Location</b>	<b>Miles/Area Impacted</b>	<b>Use Classification</b>	<b>Partially Supporting/ Not Supporting (PS/NS)</b>
<b>South River</b>	Snapping Shoals to Jackson Lake	7	Fishing	Partially Supporting
<b>Primary County</b>	<b>Secondary County</b>	<b>Second RDC</b>	<b>Source (Point/ Nonpoint)</b>	
Newton	Henry/Butts	ARC/McIntosh Trail	Nonpoint	
<b>Pollutants</b>	<b>Water Quality Standards</b>	<b>Required Reduction</b>	<b>TMDL ID</b>	<b>Date TMDL Established</b>
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geometric mean May-Oct)	50%		February 2002

<b>Waterbody Name #2</b>	<b>Location</b>	<b>Miles/Area Impacted</b>	<b>Use Classification</b>	<b>Partially Supporting/ Not Supporting (PS/NS)</b>
<b>Snapping Shoals Creek</b>	Almand Branch to South River	10 miles	Fishing	NS
<b>Primary County</b>	<b>Secondary County</b>	<b>Second RDC</b>	<b>Source (Point/ Nonpoint)</b>	
Newton	Rockdale	ARC	Nonpoint (Urban Runoff)	
<b>Pollutants</b>	<b>Water Quality Standards</b>	<b>Required Reduction</b>	<b>TMDL ID</b>	<b>Date TMDL Established</b>
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geometric mean May-Oct)	75%		February 2002

## POLLUTANT SOURCES

It is important to recognize the potential source(s) causing water quality impairment. Each source must be controlled to comply with target TMDL/Load Allocations for each pollutant. Included is a description of how the sources contribute to the impairment and the waterbody that is impaired.

List of major nonpoint source categories and sub-categories or individual sources (Urban Runoff, Agriculture, Forestry, Municipal Sewage Treatment Plant )

Pollutant	Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
Fecal coliform	Urban areas	Failed septic tanks cause runoff from pooled sewage; infiltration of untreated material through soils or erosion channels.	1,2
Fecal coliform	Urban areas	Illicit discharges: intentional or negligent discharge of sewage directly into streams or indirectly via storm sewers.	1,2
Fecal coliform	Agriculture	Unrestricted access of cattle to streams	1,2
Fecal coliform	Urban areas	Pet kennels and unrestricted deposition by pets onto surfaces, especially impervious surfaces	1,2
Fecal coliform	Suburban and transitional areas	“Hobby farms” and horse farms with unrestricted animal access to streams	1,2
Fecal coliform	Agriculture	Chicken litter deposited for fertilization	1,2
Fecal coliform	Municipal Sewage Treatment Plant	Permitted discharge as background loading of stream; spills and leaks	1,2

## MANAGEMENT MEASURES, MEASURABLE MILESTONES AND SCHEDULE

**(i.e. Local codes and ordinances, Erosion and Sedimentation Control, Storm Water Management, Local water resource monitoring)**

The following table lists management measures that have been or will be implemented to achieve water quality standards and the load reductions established in the TMDL. The management measures, including regulatory or voluntary actions or other controls by governments or individuals, specifically apply to the pollutant and the waterbody for which the TMDL was written. A description is provided of how these management measures are/will be accomplished through reliable and effective delivery mechanisms, and how these management measures are/will help achieve the target TMDL. Included is the source of the pollutant, anticipated/past effectiveness of the management measure (very effective, somewhat effective, not effective), the current status (i.e. enforced, in-progress, planning), and measurable milestones and schedule. Milestones are used to measure progress in attaining water quality standards and to determine whether management measures are being implemented.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Enhanced development ordinance and storm water ordinance	Rockdale County, City of Conyers	Improved water quality provisions of existing ordinances; enhanced erosion & sedimentation control implementation; new & improved ordinances based on MNGWD plan.	Present/Ongoing	Adopted and planned	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform	Urban runoff	1,2	Very effective

Measurable Milestones	Schedule		Comments
	Start	End	
All new development will be regulated	Previous	Ongoing	Acres under development must be recorded and data maintained.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Stream monitoring	USGS	Implement stream monitoring as specified in the MNGWD TMDL and Water Quality Implementation Plans	2004/Ongoing	Planned	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform	All	TBD	Somewhat effective

Measurable Milestones	Schedule		Comments
	Start	End	
Water quality as measured at designated stations to be determined	2004	Ongoing	The water quality predicted by the MNGWD water quality models should improve over the course of this implementation time frame.

Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Stream sampling	Walton County, Newton County, Rockdale County	Use E. coli or fecal coliform sampling scheme to identify specific sources	2003/2004	Planned	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform	Unknown	1,2	Very effective

Measurable Milestones	Schedule		Comments
	Start	End	
Survey sampling of the streams and their tributaries	2003	2003	Preliminary geographic coverage to identify tributaries or reaches of concern
Detailed sampling of streams and tributaries	2003	2004	Detailed geographic coverage of tributaries and reaches of concern to identify specific sources

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
NRCS and Ag Extension BMPs	NRCS, USDA	Education about, and cost-shared implementation of agricultural BMPs to minimize introduction of fecal material to streams	Ongoing	In progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform	Agriculture	1,2	Very effective

Measurable Milestones	Schedule		Comments
	Start	End	
Measure percent of animals in watershed restricted from direct access and under a nutrient management plan	2003	2007	Goal of 80% of agricultural enterprises will have BMP's in place to reduce animal contact with streams and excess litter distribution, by 2007.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/Voluntary
Georgia Water Quality Control Act (OCGA 12-5-20)	GA DNR EPD	Makes it unlawful to discharge excessive 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	1964	Enforced	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform			

Measurable Milestones	Schedule	Comments
Start	End	
EPD acts on complaints from affected parties	Ongoing	Ongoing
Detailed sampling of streams and tributaries	2003	2004

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/Voluntary
NPDES Phase II MS4 Stormwater Permit	Municipal Rockdale County, Newton County, Henry County, City of Conyers	Requires jurisdiction to have a comprehensive stormwater program that includes public education and participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, pollution prevention, permitting and reporting, and program implementation plans.	2003	In progress, planned	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform	various	1, 2	Very effective

Measurable Milestones	Schedule	Comments
Start	End	

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Ordinance revisions	Rockdale County	Updating the comprehensive land use plan, coordinating a design competition to develop overlay districts, creating uniform development codes, and developing a GIS inventory of the county's stormwater control structures		In progress	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform	Various	2	Very effective.

Measurable Milestones	Schedule		Comments
	Start	End	
Update Comprehensive Plan	2002	Feb. 2003	
Design competition to develop overlay districts		Summer 2003	
Create Uniform Development Code		Summer 2003	
GIS Inventory of Stormwater Control Structures	2002	Ongoing	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Ocmulgee River Basin Management Plan	Georgia EPD	Detailed management plan for the Ocmulgee River Basin. The purpose of the plan is to develop and implement a river basin planning program to protect, enhance, and restore waters for the State of Georgia, which will provide for effective monitoring, allocation, use, regulation, and management of water resources.			

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal coliform	Multiple	1,2	Very effective

Measurable Milestones	Schedule		Comments
	Start	End	
• Prepare/Update Draft River Basin Plan	2003	2003	Plan is in draft form; will be available mid-2003

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Illicit Discharge Ordinance	Henry County Government	The ordinance should establish specific guidelines for detection, elimination, and enforcement of non-stormwater discharges to the storm sewer system.	12/03	Planning	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Illicit Discharges	1	Although illicit discharges are not thought to be a significant source of water pollution within the county, the ordinance would help prevent future development and redevelopment from creating illicit/illegal discharges.

Measurable Milestones	Schedule		Comments
	Start	End	
Continue review of existing ordinances dealing with prevention and enforcement. Develop/Adopt changes.	Dec 2003		
Review regulations and develop/adopt changes	2005		

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Comprehensive Map/Inventory of Stormwater Management System	Henry County Government	A comprehensive storm sewer mapping/GIS program will be implemented. Items to be mapped and compiled into the GIS program include storm system conveyances, inlets, outfalls, stormwater detention ponds, drainage basin, and receiving waters.	Ongoing	In-progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	A comprehensive mapping/GIS program allows the county to have extensive knowledge of the locations for all stormwater structures and conveyances.

Measurable Milestones	Schedule		Comments
	Start	End	
Continue mapping/GIS program already in progress. Evaluate funding needed for the next year. Complete 20% of total work.		Dec 2003	
Continue mapping/GIS program already in progress. Evaluate funding needed for the next year. Complete 50% of total work.		Dec 2004	
Continue mapping/GIS program already in progress. Evaluate funding needed for the next year. Complete 75% of total work.		Dec 2005	
Continue mapping/GIS program already in progress. Evaluate funding needed for the next year. Complete 100% of total work.		Dec 2006	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Comprehensive inventory of industries & businesses with stormwater discharges	Henry County Government	Field visits and evaluations of all industries and businesses in the unincorporated and incorporated areas of the county will be conducted. A database of the facilities and the results of the inspections will be maintained.	June 2004	Planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	Maintaining a comprehensive inventory/database of all industries and businesses with stormwater discharges will allow the county to keep track of the types of industries, how many exist, and their location. Having this information will assist in developing priority locations for spills, prevention, and/or containment plans and potential contributors/sources of pollution should a problem be observed.

Measurable Milestones	Schedule		Comments
	Start	End	
Develop a database and field form		June 2004	
Visit and evaluate 20% of the industries and businesses within the county		Dec. 2004	
Visit and evaluate 40% of the industries and businesses within the county		Dec. 2005	
Visit and evaluate the remaining 40% of the industries and businesses within the county		Dec. 2006	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Dry-weather Screening Program	Henry County Government	Initiate a screening program for visual inspection of the stormwater outfalls. Initial inspections will be developed that will assist in the process of determining, through visual observation, potential illegal/illicit discharge connections. Laboratory testing should occur if dry weather flow is observed. Analyses should be conducted, at a minimum, for fecal coliform, BOD, DO, nutrients (phosphorous & nitrogen), and heavy metals.	December 2003	Planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Illicit Discharges	1	Dry-weather screening allows the true extent of any illicit discharges throughout the county to be assessed.

Measurable Milestones	Schedule		Comments
	Start	End	
Inspect 20 % of the outfalls (20 % of total completed)	Dec. 2003	2004	
Inspect 30 % of the outfalls (50 % of total completed)		2005	
Inspect 25 % of the outfalls (75 % of total completed)		2006	
Inspect 25% of the outfalls (100 % of total completed)		2007	
Continue dry-weather screening		2008	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
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Develop Septic System Maintenance Standards	Henry County Government	Coordination with the county's Department of Environmental Health will allow resources to combine and will greatly increase the amount of people that may be informed on septic system maintenance techniques and procedures.	2003	Planning	Voluntary
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Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Leaking/Failing Septic Systems	1	Septic systems are a primary source for increased nitrogen concentrations within many surface waters. In many cases, the property owner does not maintain the system properly. This causes problems to occur that many times result in septic system discharging into nearby streams and rivers.

Measurable Milestones	Schedule		Comments
	Start	End	
Continue coordination efforts and discuss potential efforts for additional teaming	2003	Ongoing	
Develop standards for septic system maintenance		Dec 2006	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
As-built checklist for stormwater infrastructure information	Henry County Government	A checklist will be developed to specify requirements for all as built drawings regarding the stormwater system/facilities to maintain/update the stormwater system inventory in a GIS.	2003	In-progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	The county currently requires as-built drawings on all new developments with the survey tied to county survey monuments. By standardizing the stormwater related information that is included on these drawings, the county and cities will be able to easily update the comprehensive inventory with the new structures in the county's and cities' GIS.

Measurable Milestones	Schedule		Comments
	Start	End	
Develop an as-built checklist		Dec 2003	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
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Land Disturbance Activities Training and Certification Program	Henry County Government	Develop a training and certification program for individuals involved with land disturbance activities. The program should include local engineers, developers, contractors, builders, county personnel, landscape architects, and others who intend to perform similar construction.	2004	Planning	Regulatory
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Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	A certification program for erosion and sediment control and stormwater management ensures everyone involved in land disturbing activities is aware of proper construction, maintenance, and importance of sediment and erosion control measures and stormwater management facilities.

Measurable Milestones	Schedule		Comments
	Start	End	
Evaluate funding and requirements for a certification program		Dec 2004	
Adopt program as part of regulations/requirements		May 2005	
Establish certification dates	2005		Certification Dates: February 2005, August 2005
Implement / require certification	2006		Certification Dates: February 2006, August 2006
Program required	2007		Certification Dates: February 2007, August 2007

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Ordinance Revisions	Henry County Government	Review the current Erosion & Sediment control ordinance and modify as appropriate. Include requirements for professionals involved in erosion and sediment control design and construction to be certified by Henry County. Include requirements for pollution prevention at the construction site through the preparation of an Erosion, Sedimentation & Pollution Control Plan to address issues such as trash, construction debris, leaking vehicles, storage of chemicals, etc.	2003	In-progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	There are proposed changes to the state's erosion and sediment control program. Ordinance medications will probably be required to implement these changes. In addition, channel protection and conservation subdivision ordinances will provide further guidelines for construction activities.

Measurable Milestones	Schedule		Comments
	Start	End	
Continue review of existing ordinances dealing with construction site runoff. Develop / adopt changes.	2003	Dec 2003	
Review regulations and develop / adopt changes.	2007	Dec 2007	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Adopt the Georgia Stormwater Management Manual (GSMM)	Henry County Government	Adopt the Georgia Stormwater Management Manual (GSMM) as the county's stormwater design manual. The county and cities may also develop an addendum to the manual which has county specific requirements that are not covered by the GSMM.	2003	Planning	Voluntary

<b>Pollutant(s) Affected</b>	<b>Sources of Pollutant(s)</b>	<b>Impacted Waterbodies*</b>	<b>Anticipated or Past Effectiveness</b>
Fecal Coliform	Urban Runoff	1	The county staff reviewed the manual and believes the design methodologies would benefit the county's water quality.

<b>Measurable Milestones</b>	<b>Schedule</b>		<b>Comments</b>
	<b>Start</b>	<b>End</b>	
Adoption of the GSMM		Dec 2003	
County specific addendum to GSMM		Dec 2005	

<b>Regulation/Ordinance or Management Measure</b>	<b>Responsible Government, Organization or Entity</b>	<b>Description</b>	<b>Enacted/ Projected Date</b>	<b>Status</b>	<b>Regulatory/ Voluntary</b>
Stormwater Ordinance (Article IV. Stormwater Runoff, Henry County Code Sec. 3-6-61)	Henry County Planning & Zoning	Ordinance to address non-point source pollution.	1994	In-progress	Regulatory

<b>Pollutant(s) Affected</b>	<b>Sources of Pollutant(s)</b>	<b>Impacted Waterbodies*</b>	<b>Anticipated or Past Effectiveness</b>
Fecal Coliform	Urban Runoff	1	Gives the inspectors a way to address non-point source pollution that is discharged into the MS4 system.

<b>Measurable Milestones</b>	<b>Schedule</b>		<b>Comments</b>
	<b>Start</b>	<b>End</b>	
Conduct development plan review to ensure compliance with County stormwater runoff regulations	1994	Ongoing	

<b>Regulation/Ordinance or Management Measure</b>	<b>Responsible Government, Organization or Entity</b>	<b>Description</b>	<b>Enacted/ Projected Date</b>	<b>Status</b>	<b>Regulatory/ Voluntary</b>
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Stormwater Management Audit / Assessment	Henry County Government	Internal assessment of stormwater pollution prevention plan (map of facility and responsibilities for upkeep): municipal operations, automobile maintenance, car washing, illegal dumping control, landscaping and lawn care, parking lot and street cleaning, roadway and bridge maintenance, septic system controls, storm drain system cleaning, stormwater detention basins maintenance, alternative products, hazardous materials storage, road salt application and storage, spill response and prevention, used oil recycling, materials management, leaking fluids from vehicles, and street sweeping.	Dec 2004	Planning	Voluntary
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Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	The county needs to ensure that they are meeting all applicable stormwater requirements.

Measurable Milestones	Schedule		Comments
	Start	End	
Begin assessment of county operations	Dec 2004	Dec 2006	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Stormwater BMP Guidance Document for Municipal Operations	Henry County Government	Following the audit / assessment, prepare a BMP procedures and guidance manual for Henry County and the cities' departments to minimize impact of municipal operations on stormwater runoff. This document should address all of the activities identified in the audit / assessment and focus on any common problem areas identified.	June 2006	Planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	A consolidated document that addresses all of the activities that the cities and county performs that have an impact on stormwater would help county and city employees be an example to the community.

Measurable Milestones	Schedule		Comments
	Start	End	
Develop BMP guidance document		June 2006	Distribute BMP Guidance Document and educate all appropriate Henry County and city staff in the use of the Stormwater BMP guidance document.
Conduct first training session		Dec 2006	
Complete BMP Guidance document training for all appropriate county staff		Dec 2007	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
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Stormwater Complaint Database	Henry County Government	The master stormwater complaint database will be administered by the stormwater hotline operator but should be accessible by all departments involved in stormwater related activities. The stormwater hotline operator would log all complaints in the database and direct the call to the correct department. The database will include at least the following information: source of the complaint, name of the person or business, address, phone number, description of the complaint, data fields to track the investigation and resolution of the complaint. The master stormwater complaint database can be tied to the county's GIS.	2004	Planning	Voluntary
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Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	This allows personnel responsible for this program to maintain a record of complaints, dumping locations, industrial discharges, and how they were resolved over an extended period of time. As the program progresses the procedures may be revised to better suit the needs of the county and public.

Measurable Milestones	Schedule		Comments
	Start	End	
Develop a master complaint database		Dec 2004	
Record all new complaints and stormwater related information and track until a resolution is reached.	Dec 2004	Ongoing	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
IAW O.C.G.A. 290-5-26	Henry County Environmental Health	Rules and regulations for installation and repair of on-site sewage management systems.	June 30, 1980	Enforced	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban Runoff	1	This program ensures septic systems are installed and repaired in accordance with established procedures and specifications.

Measurable Milestones	Schedule		Comments
	Start	End	
Ensure that properties with onsite sewage management systems are properly reviewed for permits. Continue the process of reviewing the installation of septic systems as a part of the development review process	1980	Ongoing	
Continue to identify and respond to instances of septic system failure. Enforcement responses to failing septic systems are by complaint only. Home and business owners who don't have a complaint lodged against them can consult with Environmental Health about their failing systems and can pay for an onsite assessment for repair.	1980	Ongoing	

## POTENTIAL FUNDING SOURCES

The identification and discussion of dedicated funding is important in determining the economic feasibility of the above-mentioned management measures.

<b>Funding Source</b>	<b>Responsible Authority</b>	<b>Status</b>	<b>Anticipated Funding Amount</b>	<b>Impacted Waterbodies*</b>
General Revenues	Clayton County	Ongoing	To be determined	1
Water and Sewer Rates	Clayton County Water Authority	Ongoing	To be determined	1
General Revenues	Henry County	Ongoing	To Be Determined	1





**CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE**

The following set of criteria will be used to determine whether any substantial progress is being made towards reducing pollutants in impaired waterbodies and attaining water quality standards. Discussion on each criteria is recorded in the space provided. Additional relevant criteria are presented in comments.

Percent of concentration or load change (monitoring program) \_\_\_\_\_  
The fecal coliform load on the impaired water bodies should be decreased by 75% in Snapping Shoals Creek and 50% in the South River. Incorporation of updated land use data, features of the implementation plan put in place, and further monitoring should be incorporated into the TMDL model to determine if the goal is met. Analysis should take place in 2007 (five years) and subsequently every five years to monitor effectiveness.  
\_\_\_\_\_  
*If monitoring results show that it is unlikely that the TMDL will be adequate to meet water quality standards, revision of the TMDL may be necessary.*

- Categorical change in classification of the stream (delisting the stream is the goal) \_\_\_\_\_  
\_\_\_\_\_

- Regulatory controls or activities installed (ordinances, laws) \_\_\_\_\_  
The Rockdale County, Henry County, McDonough, and Conyers ordinances governing Post Development Storm Water Management, Floodplain Management, Open Space, Illicit Discharge and Illegal Connection, and Litter Control, and Land Development will be monitored for the acreage affected. The ordinances should affect 100% of new development following their adoption.  
When Newton County has completed its Phase II Stormwater and Watershed Assessment projects, and adopted the relevant ordinances, 100% of new development should be affected.  
\_\_\_\_\_

- Best management practices installed (agricultural, forestry, urban) \_\_\_\_\_  
Existing agricultural BMP's, plus additional installed BMPs, in combination with the replacement of agriculture with residential and commercial development, is expected to result in 80% of active agricultural enterprises using recommended BMP's by 2007.  
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**COMMENTS**

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