

Mud Creek Watershed

*Lowndes and Echols County
City of Valdosta
HUC 10 # 0311020211
TMDL Implementation Plan*

The Mud Creek Watershed is located within the Hydrologic Unit Code (HUC) # 0311020211. This includes Lowndes and Echols Counties as well as the City of Valdosta. Within this watershed is Mud Creek. The segment of Mud Creek from downstream Valdosta Mud Creek WPCP to Alapahoochee River is listed on the 303(d)/305(b) list for fecal coliform (FC). Since this segment of Mud Creek is located on the edge of Valdosta's city limits some causes for the high FC may be influenced by industrial discharges, urban and rural development runoff, failing septic tanks, animal waste and improper methods of trash collection and disposal.

In 2001, a Total Maximum Daily Load (TMDL) was prepared for Mud Creek. The TMDL outlines the amount of pollutants a stream can have and still be classified as healthy. For Mud Creek, the TMDL states that 10 miles are impaired and not supporting the use classification of fishing. It also states that a 97% load reduction is required for Mud Creek to fully support the fishing classification.

When developing this plan, professional organizations, such as the University of Georgia Extension Service and the Natural Resource Conservation Service (NRCS) were used to gather information about the stream and identify stakeholders. Local residents were used to gather information about the stream segment since stakeholder input was a critical element in developing this plan. A survey form was designed and distributed so that stakeholders had the option to participate in addressing their concerns privately.

The action plan consists of voluntary practices businesses and individuals can do at home and at work to reduce the amount of pollutants coming from nonpoint sources. The management measures are measures that are currently in place such as land development regulations as well as best management practices (BMPs) for agriculture and forestry. These management measures will ensure proper development of land around Mud Creek, thus controlling the amount of pollutants entering the stream. A few examples of the regulatory measures are NPDES Permits and Well and Septic Ordinance and some voluntary measures are manure management plans and South Georgia Multi-Jurisdictional Solid Waste Management Plan.

One of the key elements of the implementation plan is the monitoring plan, in particular, water quality testing. It is important to continue monitoring Mud Creek to determine if the water quality is improving and the management measures are working. The water quality testing will also determine if the action plan is working or needs to be revised. Currently, there are monitoring plans being done at National Environmentally Sound Production Agriculture Laboratory (NESPAL) and by the City of Valdosta Public Works Department. NESPAL studies streams in the entire Suwannee Basin, however, the most extensive monitoring programs and studies are on the Little River watershed. This work is in conjunction with the USDA-ARS Southeast Watershed Laboratory. The City of Valdosta has been and is currently monitoring Mud Creek for FC and other pollutants/impairments. The University of Georgia's Watershed Group and Carter & Sloope, Inc. also did studies of Mud Creek as well as numerous other streams in Lowndes County for a comprehensive watershed assessment. The two groups started in 1999 and the project was completed in 2002.

“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.”

The EPD has set the final project date as 2012 and we feel that the 10 years from the acceptance of the TMDL Implementation Plan is an appropriate timeframe to achieve and maintain a healthier water quality for the Suwannee River Basin.

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH

Suwannee River Basin

Local Watershed Governments

- South Georgia RDC
- Echols County
- Lowndes County
- City of Valdosta

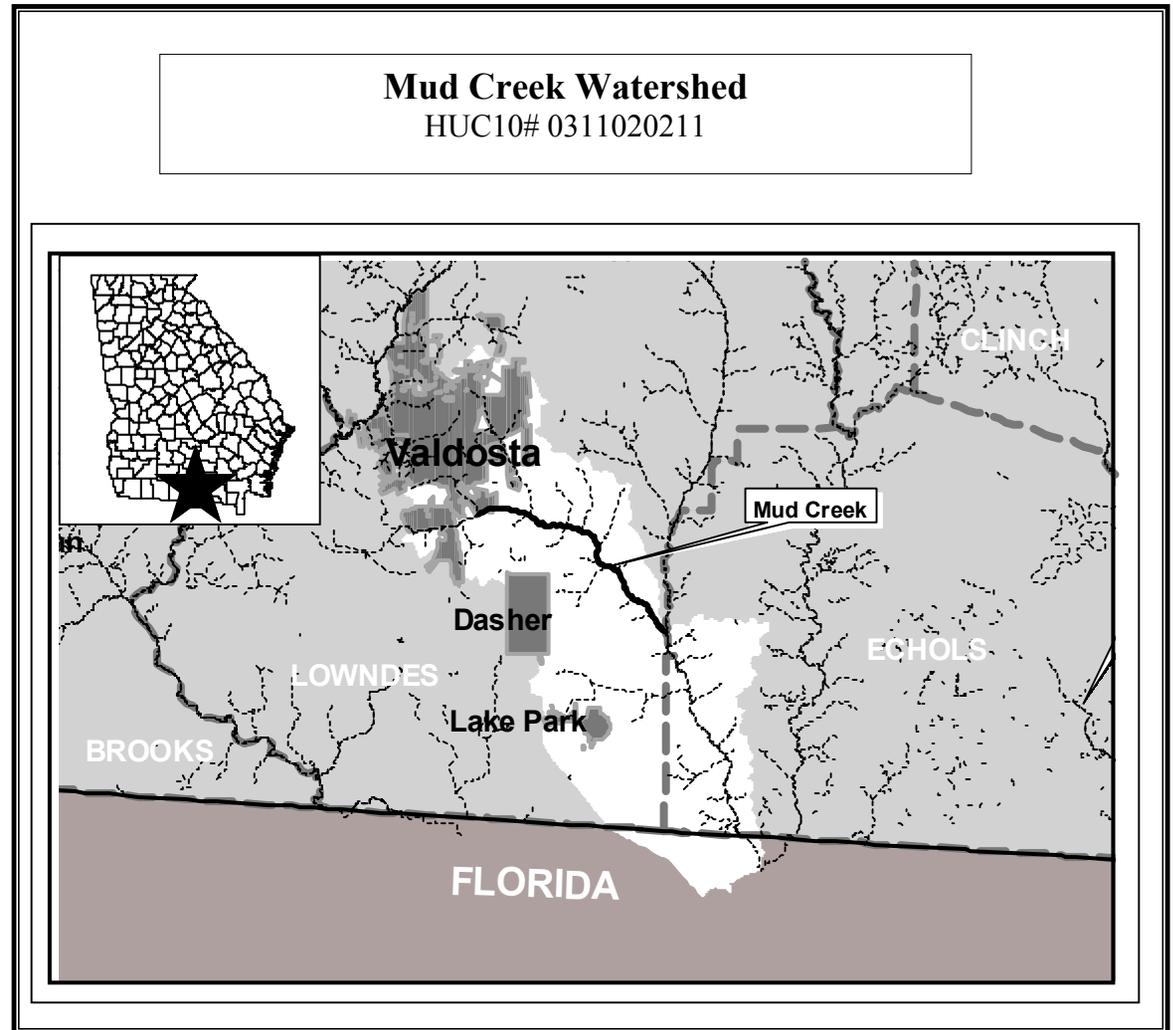


FIGURE 1

Impaired Waterbody	Impaired Stream Location	Impairment
1. Mud Creek	D/S Valdosta Mud Creek WPCP to Alapahoochee River	Fecal Coliform

POLLUTANT:	SOURCE:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input type="checkbox"/> Dissolved Oxygen (DO) <input checked="" type="checkbox"/> Fecal Coliform (FC) <input type="checkbox"/> Sediment <input type="checkbox"/> Metals <input type="checkbox"/> Fish Consumption Guidelines (FCG) <input type="checkbox"/> Other (Please List)	<input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Urban <input checked="" type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forestry <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Other (Please List) Low flow stream conditions	<input checked="" type="checkbox"/> Habitat <input checked="" type="checkbox"/> Recreation <input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> Aesthetics <input type="checkbox"/> Other (Please List)	<p>Lawn and Garden Care:</p> <ul style="list-style-type: none"> Remove and dispose of any pet waste so that it will not be washed away into a water source; i.e., flush it down the toilet, bury it in the yard, put it in the trash, or in compost pile. <p>Home Care:</p> <ul style="list-style-type: none"> Do not use toilets for anything other than their intended use. Check septic tanks for leaks <p>Trash Pickup:</p> <ul style="list-style-type: none"> Visually inspect containers and report damage or leaks Keep container secure at all times Ensure that trash is picked up on a regular schedule <p>Outdoor Groups:</p> <ul style="list-style-type: none"> Practice 'Leave No Trace' habits and hygiene when hiking, camping or any outdoor activities, i.e., dig small holes, away from water sources, to place human and pet waste and then cover up to minimize the number of flies, other disease-carrying insects, and rodents. When boating or traveling, dispose of holding tank and portable toilet wastes properly - at boat pump out and dump stations. 	<p>Municipal Sewage Treatment Plants:</p> <ul style="list-style-type: none"> Follow all applicable regulations as they pertain. There are state and federal requirements that they must follow. Municipalities are subject to strict waste control technology requirements. The requirements, imposed under the federal Clean Water Act, have resulted in significant reductions in pollution from municipalities and other industrial polluters. In addition, human waste (i.e. municipal sludge) must be extensively treated and disinfected before it can be applied to the land. Municipal sewage treatment plants are required to use the best available technologies to treat their waste to reduce water pollution. <p>Sewer Management:</p> <ul style="list-style-type: none"> Routine visual inspections and reports leaks if any noted <p>Trash Pickup:</p> <ul style="list-style-type: none"> Visually inspect containers and report damage or leaks Keep container secure at all times Ensure that trash is picked up on a regular schedule <p>Agricultural:</p> <ul style="list-style-type: none"> Use Best Management Practices (BMP's) for agricultural such as: control soil erosion, treated lagoons, catchment ponds, manage animal waste, tree and grass buffers, pasture management, fences that minimize cattle or wildlife from defecating directly in the water.

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)
US Fish and Wildlife	The U.S. Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The US Fish and Wildlife has numerous activities that relate to water quality, fish, sedimentation and many more that are available on their website.	1	Everyone	Current
Upper Suwannee River Watershed Initiative (USRWI)	Non-Point organizations charged with education / outreach / water related activities within the Suwannee River Basin	1	Established organizations / clubs / citizens of the Suwannee River Basin	Will depend on group interests and funding sources
National Environmentally Sound Production Agriculture Laboratory (NESPAL)	Research and education efforts to build a better environment for agriculture and rural America	1	Agriculture and rural America	Current
Seven Rivers Resource Conservation & Development	Non-Profit agency that is involved with a variety of programs, i.e. Water quality issues	1	Local government officials / citizens / agricultural organizations	Will depend on group interests and funding sources
South Georgia RDC	The SGRDC offers technical assistance with development regulations	1	Local government officials / Developers	In-progress
South Georgia RDC	To help assist with educational outreach to our local governmental jurisdictions, i.e. City, county and interested individuals	1	Local government officials / citizens	Current
Georgia Adopt-A-Stream	The SGRDC would like to see each school district team up with Georgia Adopt-A-Stream and commit to adopting a stream or streams within their county	1	Established organizations / clubs and/or those interested	Will depend on group interests and funding sources
South Georgia RDC / Lowndes and Echols County School Districts	The SGRDC would help Lowndes and Echols County School Districts target a group or club of interested students, educate them on the water issues that they are faced with, and to encourage them to participate in water monitoring	1	Established organizations / clubs and/or those interested	Will depend on group interests and funding sources
South Georgia RDC / Georgia Department of Community Affairs	Facilitate and educate outreach on water resource related activities, i.e. Water Resource Tool Kit and Water First Program	1	Local government officials / citizens	Current
Keep Lowndes / Valdosta Beautiful	A group of volunteers that help to clean, beautify, and improve their neighborhoods. Their mission is to achieve education programs and activities, community wide involvement, and public-private partnerships with citizens, businesses and governments to provide a healthier, safer and livable community environment.	1	Lowndes County citizens	Current
Lowndes County Greenspace Program	To permanently protect land and water, including agricultural and forestry land that is undeveloped. Some goals are: water quality protection for rivers, streams, and lakes; flood protection; wetlands protection; reduce erosion; and protection of riparian buffers	1	Lowndes County citizens	Current

Georgia Cooperative Extension Services, Lowndes and Echols Counties	To provide timely, unbiased research-based information to the public as it relates to agricultural and family consumer science. To improve the quality of the life for all communities in the State of Georgia. The County Extension Agent's duty is to deliver new information and technology from the University of Georgia's Coastal Plain Research Center to the community.	1	Everyone	Current
Natural Resource Conservation Service (NRCS), Lowndes and Echols Counties	The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.	1	Everyone	Current
University of Georgia 4-H Club, Lowndes and Echols Counties	The mission of Georgia 4-H is to assist youth in acquiring knowledge, developing life skills, and forming attitudes that will enable them to become self-directing, productive and contributing members of society. This mission is accomplished, through "hands on" learning experiences, focused on agricultural and environmental issues, agriculture awareness, leadership, communication skills, foods and nutrition, health, energy conservation, and citizenship. The Lowndes County 4-H Club participated in a recent competition that required the youth to gain knowledge about waste and the environment. BMP's, point and non-point solutions were learned and causes for poor water quality.	1	Students and youth	Current
City of Valdosta Water, Sewer and Drainage Department	Rehabilitating sewer interceptor along Dukes Bay.	1	City	Current
Georgia Forestry Commission	Conduct forestry Best Management Practices educational training at Master Timber Harvester and continuing logger education programs, civic programs, and landowner meetings.	1	Foresters, timber buyers and loggers, site preparation contractors, landowners	Continuous
Hahira Elementary School	Hahira Middle School has participated in a number of activities to help educate the students on environmental issues. For example, members of Lowndes County, the school system, and a contractor cleaned up the wetland area from debris right beside the Hahira Middle School. The dirt that was removed from the area was used for the school. The students built a boardwalk and now there is a wetland and pond right beside the school. Hahira Middle School also received a \$5000.00 grant from Wal-Mart to build a pavilion for the students. The school has also been involved with the planting of Oak and Pine Trees.	1	Hahira Middle School students	Current
Moulton-Branch Elementary School	Moulton-Branch Elementary School has participated in a number of activities to help educate the students on environmental issues. For example, Moulton-Branch has an outdoor classroom so that the students can look at soils, the environment, different types of plant life and a fishpond for the students. They also have the Recycling Magician come to teach the students on recycling as well as participate in recycling cans, pop-tops, and paper.	1	Moulton-Branch Elementary School students	Current
Lake Park Elementary School	Lake Park Elementary School has participated in a number of activities to help educate the students on environmental issues. For example, Lake Park Elementary has built a nature trail for the students that has a number of different stations (e.g. raccoon crossing). The Recycling Magician has also come to teach the students on recycling.	1	Lake Park Elementary School students	Current

Clyattville Elementary School	Clyattville Elementary has participated in a number of activities to help educate the students on environmental issues. For example, they have a nature trail and also participate in the recycling program sponsored by Keep Lowndes/Valdosta Beautiful.	1	Clyattville Elementary School students	Current
Lowndes High School	Lowndes High School has participated in a number of activities to help educate the students on environmental issues. For example, the Science Department has created a nature trail and each homeroom is required to have a service project, such as recycling paper and cans.	1	Lowndes High School students	Current
James L. Dewar Elementary School	James L. Dewar Elementary School has participated in a number of activities to help educate the students on environmental issues. For example, the students have participated in recycling programs.	1	James L. Dewar Elementary School students	Current
Hahira Middle School	Hahira Middle School has participated in a number of activities to help educate the students on environmental issues. They have an outdoor classroom with a pond and a board trail for environmental awareness	1	Hahira Middle School students	Current
Pine Grove Elementary School	Pine Grove Elementary School has participated in a number of activities to help educate the students on environmental issues. They have an Outdoor Classroom Grant that provided funds to plant trees, shrubs, flowering plants, etc. They also teach recycling lessons.	1	Pine Grove Elementary School students	Current
Lowndes Middle School	Lowndes Middle School has participated in a number of activities to help educate the students on environmental issues. They have an outdoor classroom along with lessons on environmental awareness in the Science classes.	1	Lowndes Middle School students	Current
Parker Mathis Elementary School	Parker Mathis Elementary School has participated in a number of activities to help educate the students on environmental issues. Every Wednesday is Recycling Day. The fifth graders collect items from their parents and students. They also have an environmental club that attends 4-H every year.	1	Parker Mathis Elementary School students	Current

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
Hon. Rod Casey, Chairman, Lowndes County	P.O. Box 1349	Valdosta	GA	31603	(229) 671- 2400	
Hon. James H. Rainwater, Mayor, City of Valdosta	P.O. Box 1125	Valdosta	GA	31603	(229) 247- 7780	
Hon. Myron Crowe, Mayor, City of Hahira	102 S. Church St.	Hahira	GA	31632	(229) 794- 2330	
Hon. Al Brooks, Mayor, City of Remerton	1757 Popular St.	Remerton	GA	31601	(229) 247- 2320	
Hon. Keith Sandlin, Mayor, City of Lake Park	120 N. Essa St.	Lake Park	GA	31636	(229) 559- 7625	
Hon. Ronald Hood, Mayor, Town of Dasher	P.O. Box 220	Lake Park	GA	31636	(229) 559- 1343	
Joe Pritchard, Lowndes County Manager	P.O. Box 1349	Valdosta	GA	31603	(229) 671- 2400	
Larry Hanson, Valdosta City Manager	P.O. Box 1125	Valdosta	GA	31603	(229) 247- 7780	
Bonnie Tindall, Hahira City Manager	102 S. Church St.	Hahira	GA	31632	(229) 794- 2330	
Marvin Lee, Public Works Director, Lowndes County	P.O. Box 1349	Valdosta	GA	31603	(229) 671- 2400	
Leon Weeks, Director of Water and Sewer Services, City of Valdosta	P.O. Box 1125	Valdosta	GA	31603	(229) 247- 7780	
Hon. Lamar Raulerson, Chairman, Echols County	P.O. Box 190	Statenville	GA	31648	(229) 559- 7844	
South Georgia RDC	327 W. Savannah Ave.	Valdosta	GA	31601	(229) 333- 5277	sgrdc@sgrdc.com

Rory Richardson- NRCS District Conservationist	2108 E Hill Ave	Valdosta	GA	31601	(229) 242-0575 Ex. 3	
Mickey Fourakers- Lowndes County Extension Agent	PO Box 639 or Civic Center, HWY 84 E	Valdosta	GA	31603-0639	(229) 333-5185	
Russ Hamlin- Echols County Extension Agent	109 Courthouse Street	Statenville	GA	31648	(229) 559-5562	
Bobby Mathis- Georgia Forestry Commission	3011 US HWY 84 E	Valdosta	GA	31606	(229) 333-7817	bmathis@gfc.state.ga.us Bobby Mathis
Georgia Farm Services Agency	Federal Building Room 102 355 East Hancock Avenue	Athens	GA	30601	(706) 546- 2266	
Lowndes County Farm Service Agency	Valdosta Service Center 2108 E. Hill Ave	Valdosta	GA	31601	(229) 242- 0575	
Echols County Farm Service Agency	Valdosta Service Center 2108 E. Hill Ave	Valdosta	GA	31601	(229) 242- 0575	
National Environmentally Sound Production Agriculture Laboratory (NESPAL)	P.O. Box 748	Tifton	GA	31794	(229) 386- 7274	scrow@tifton.cpes.peachnet.edu Susan Crow
Lowndes County Community Greenspace Program	325 West Savannah Avenue P.O. Box 1349	Valdosta	GA	31603	(229) 671- 2424	
Keep Lowndes / Valdosta Beautiful	325 West Savannah Avenue	Valdosta	GA	31601	(229) 671- 2499	astrickland@lowndescounty.com Aaron Strickland
The Watershed Group: The University of Georgia and Carter & Sloope, Inc.	608 Driftmier Engineering Center UGA	Athens	GA	30602	(706) 542- 0256	hsmith@engr.uga.edu Hillary Smith
City of Valdosta Public Works Department, Pete Pyrzenski, Director	1017 Myrtle Street	Valdosta	GA	31603	(229) 259- 3592	
Lowndes County Utilities Director, Mike Allen	P.O. Box 1349	Valdosta	GA	31603	(229) 671- 2501	mallen@lowndescounty.com
Lowndes County 4-H	P.O. Box 639	Valdosta	GA	31603	(229) 333-5185	
Echols County 4-H	109 Courthouse Street	Statenville	GA	31648	(229) 559-5562	

Tim Hughes	709 Tince Road	Lake Park	GA	31636		
Kevin Coggins	4827 Hickory Grove Road	Valdosta	GA	31606		
Mike Coggins	2429 Culpepper Road	Lake Park	GA	31636		
Anthony Coggins	268 Coggins Farm Road	Lake Park	GA	31636		
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	
Moulton –Branch Elementary School	5725 Perimeter Road	Valdosta	GA	31601	(229) 245- 2294	
Hahira Elementary School	350 Claudia Drive	Hahira	GA	31632		
Clyattville Elementary School	5386 Madison Hwy	Valdosta	GA	31601		
Westside School	2470 James Road	Valdosta	GA	31602		
Lowndes High School	1112 N. St. Augustine Road	Valdosta	GA	31601		
James L. Dewar Elementary School	3539 Mt. Zion Church Road	Valdosta	GA	31605	(229) 219- 1370	
Hahira Middle School	P.O. Box 686	Hahira	GA	31632		
Lowndes Middle School	2379 Copeland Road	Valdosta	GA	31605		
Lake Park Elementary	604 W. Marion Ave	Lake Park	GA	31636	(229) 559- 5153	
The Langdale Company	P.O. Box 1088	Valdosta	GA	31603	(229) 333- 2544	jbarrett@surfsouth.com
Cheryl George, Packaging Corporation of America	P.O. Box 1048	Valdosta	GA	31603	(229) 559- 2370	Cgeorge@PackagingCorp.com
Bob Hubbard	3750 Creekwood Drive	Valdosta	GA	31602	(229) 247- 8794 (229) 386- 3893	

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.

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Mud Creek	D/S Valdosta Mud Creek WPCP to Alapahoochee River	10	Fishing	Not Supporting
Primary County	Secondary County	Second RDC	Source (Point/ Non-point)	
Lowndes County	Echols County		Non-point (Urban Runoff) Point (WPCP)	
Polluants	Water Quality Standards (WQS)	Required Reduction	TMDL ID	Date TMDL Established
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geometric mean May-Oct)	97%		May 2000

POTENTIAL 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, and Municipal Sewage Treatment Plant)

Pollutant	Potential Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
Fecal Coliform	Manufacturing / Industrial discharges	Manufacturing / Industrial runoff that is washed away into nearby water sources, i.e. Chemical runoff or thermal discharge and waste materials.	1
Fecal Coliform	Urban / Rural Development Runoff	Urban runoff from the City of Valdosta and including rural runoff that is washed away into nearby water sources, i.e. Chemical runoff from lawns, improper removal of trash, organic material such as leaves and yard trimmings, storm water runoff, fluids from parking areas, roads, sediment erosion, and chemicals.	1
Fecal Coliform	Failing septic tanks	Effluent leakage due to overflowing sewage systems and leaking collection lines.	1
Fecal Coliform	Animal waste	Animal waste that is deposited and then not properly removed or from catchment ponds or lagoons that are not working properly and is then washed into water bodies.	1
Fecal Coliform	Improper methods of trash collection and disposal	Spillage and incorrect disposal of substances into the water bodies or on the surface that is washed into drainage systems or water bodies.	1
Fecal Coliform	Water Pollution Control Plant (WPCP)	The City of Valdosta Mud Creek WPCP and Withlacoochee WPCP discharges into Mud Creek. The discharge must meet water quality standards.	1

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
NPDES Permit Nos. GA0020222 & GA0033235	GAEPD	Permit for the City of Valdosta Mud Creek WPCP and Withlacoochee WPCP to discharge to Mud Creek. The discharge must meet water quality standards.	06/05/02	Enforced	Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	WPCP	1	Very Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Refer to permit for milestones			

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Well and Septic Ordinances	Lowndes County	Onsite permit process for well and septic tanks		Enforced	Regulatory
	City of Valdosta			Enforced	Regulatory
	Echols County			Enforced	Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Septic systems	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Continued compliance with well / septic installation / repair / maintenance. Any public service site is tested on a routine basis to maintain a healthy site. Inspections on private services are checked on a complaint basis only.			Continuous

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Land Subdivision Ordinance	Lowndes County City of Valdosta	Land Subdivision Ordinances initiate plan review for proposed subdivision. This typically includes sedimentation and water control measures. The lot size of land plays an important role in the amount of runoff that comes from urban and rural areas, i.e. storm water runoff, septic tank leaks or overflow, and erosion controls.		Enforced Enforced	Regulatory Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban/Rural Runoff	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Periodic reassessment of effectiveness of ordinance. The ordinances are updated on a periodic basis as developments progress. This is done to prevent overgrowth of developments.	Continuous		SGRDC assists with the administration of this code

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Zoning Ordinance	Lowndes County City of Valdosta	To divide an area into zones or sections reserved for different purposes such as residence, business, and manufacturing to best suit the growth and land uses, also to help with the protection of sensitive areas such as water sources. Promotion of the proper location, height, stories, and size of open spaces along with the density and land uses.		Enforced Enforced	Regulatory Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban/Rural Runoff	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Periodic reassessment of effectiveness of ordinance.	Continuous		SGRDC assists with the administration of this code

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Local Wetlands Policy Ordinance	Lowndes County City of Valdosta Echols County	Georgia Planning Act Part V: Environmental Criteria. This ordinance regulates development of areas designated as wetlands as defined by the U.S. Army Corps of Engineers as jurisdictional wetlands.	2001	Enforced Enforced Enforced	Regulatory Regulatory Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban/Rural Runoff and illegal dumping of trash	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Ongoing protection of sensitive land not open for development	Continuous		SGRDC assists with the administration of this code

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Storm water Detention / Retention Standards	Lowndes County City of Valdosta	An ordinance that regulates the runoff of storm water off of a developed property		Enforced Enforced	Regulatory Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban/Rural Runoff	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
N/A	Continuous		SGRDC assists with the administration of this code

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Groundwater Recharge Area Development Ordinance	Echols County	Georgia Planning Act Part V: Environmental Criteria. This ordinance regulates development of areas designated as high pollution susceptibility due to their location in the regional landscape. A BMP for groundwater protection is sand filters such as vegetation or sand to filter and settle pollutants.	2001	Enforced	Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban/Rural Runoff and illegal dumping of trash	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Ongoing protection of sensitive land open for development.	Continuous		SGRDC assists with the administration of this code. Groundwater Recharge areas area very sensitive to pollution and directly effect the quality of all water sources that are related to them.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Protected River Corridor Plan Ordinance	Echols County	Georgia Planning Act Part V: Environmental Criteria. This ordinance regulates development of areas designated as protected river corridors as they related to development and disturbance of land along protected river corridors.	2001	Enforced	Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Urban/Rural Runoff and illegal dumping of trash	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Ongoing protection of sensitive land open for development along identified river corridors	Continuous		SGRDC assists with the administration of this code

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Suwannee River Basin Management Plan	Georgia Department of Natural Resources	Detailed management plans for the Suwannee River Basin. The purpose of the plan is to develop and implement a basin-planning program to protect, enhance and restore the waters for the State of Georgia, which will provide for effective monitoring, allocation, use, regulation, and management of water resources.	Final draft pending approval March 2002	Pending State approval	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Various Sources	1	Very Effective

Measurable Milestones	Schedule		Comments
	Start	End	
1. Implement Monitoring Plan and Compile Detailed Information/Data.	2003-	2004	
2. Analyze and Evaluate Detailed Information, Update Basin Assessment and Priority Issues List, Develop Strategies for Priority Issues, and Stakeholder meeting.	2004-	2005	
3. Continue to Develop Strategies for Priority Issues and Prepare and Update Draft River Basin Plan.	2005-	2006	
4. Agency and Public Review and Hearings, Finalize River Basin Plan, Implement River Basin Plan, and Stakeholder meeting.	2006-	2007	
5. Continue to Implement River Basin Plan and Stakeholder meeting.	2007-	Continuous	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Farm Bill 2002	Natural Resources Conservation Service (NRCS)	The Farm Security and Rural Investment Act of 2002 is landmark legislation for conservation funding and for focusing on environmental issues. The conservation provisions will assist farmers and ranchers in meeting environmental challenges on their land. This legislation simplifies existing programs and creates new programs to address high priority environmental and production goals. The 2002 Farm Bill enhances the long-term quality of our environment and conservation of our natural resources.	2002	Current	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Various Sources	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
N/A	Continuous		

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Farm Services Agency	State of Georgia / Local FSA	Stabilizing farm income, helping farmers conserve land and water resources, providing credit to new or disadvantaged farmers and ranchers, and helping farm operations recover from the effects of disaster are the missions of the U.S. Department of Agriculture's Farm Service Agency (FSA).	Ongoing	Ongoing	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Agriculture Runoff	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
The 1996 Act removed the link between income support payments and farm prices by providing for a one-time sign-up for a Production Flexibility Contract whereby producers receive seven annual fixed but declining production flexibility contract payments through 2002. This program, entitled the Agricultural Market Transition Act (AMTA), reflects FSA's direction over the next seven years whereby farm commodity prices will be largely determined by market factors, rather than government subsidies and production controls. To receive payments and loans on program commodities, producers must have entered into a 7-year contract by August 1, 1996. More than 98 percent of the eligible acres enrolled. Program commodities include wheat, corn, sorghum, barley, oats, upland cotton, and rice. The contract requires producers to comply with existing conservation plans for the farm, wetland provisions, and planting flexibility provisions, as well as to keep the land in agricultural use. Except for fruits and vegetables, any commodity or crop may be planted on contract acreage on a farm.		Continuous	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Conservation Reserve Program (CRP)	United States Department of Agriculture (USDA)	The Conservation Reserve Program (CRP) provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with Federal, State, and tribal environmental laws, and encourages environmental enhancement. The program is funded through the Commodity Credit Corporation (CCC). The Conservation Reserve Program reduces soil erosion, protects the Nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filter strips, or riparian buffers. Farmers receive an annual rental payment for the term of the multi-year contract. Cost sharing is provided to establish the vegetative cover practices.		Current	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Various Sources	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
CRP is administered by the Farm Service Agency, with NRCS providing technical land eligibility determinations, Environmental Benefit Index Scoring, and conservation planning.	Continuous		Utilized in this region due to high amount of farm production.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Environmental Quality Incentives Program (EQIP)	United States Department of Agriculture (USDA)	The Environmental Quality Incentives Program (EQIP) was reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill) to provide a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible national goals. EQIP offers financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural land.		Current	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Various Sources	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
EQIP offers contracts with a minimum term that ends one year after the implementation of the last scheduled practices and a maximum term of ten years. These contracts provide incentive payments and cost-shares to implement conservation practices. Persons who are engaged in livestock or agricultural production on eligible land may participate in the EQIP program. EQIP activities are carried out according to an environmental quality incentives program plan of operations developed in conjunction with the producer that identifies the appropriate conservation practice or practices to address the resource concerns. The practices are subject to NRCS technical standards adapted for local conditions. The local conservation district approves the plan.	Continuous		NRCS EQIP Funds and provide for cross fencing, paddock development, rotational grazing, and nutrient and pest management. It helps to provide healthier pastures and more efficient use of grasses.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Manure Management Plan	Individual	A manure management plan can help provide the most use of the nutrients in manure while protecting the water quality, and meeting manure-handling requirements.	Ongoing	Ongoing	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Manure	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Keeping records of manure applications and continuous soil samples.	Continuous		Utilized in this region due to high amount of farm production.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Soil Testing	University of Georgia Cooperative Extension Services and Individual	Soil samples are taken to determine what nutrients are needed for any agricultural or silvicultural use. This reduces or avoids any unnecessary applications of fertilizers, herbicides, pesticides, etc. so to minimize harmful runoff.		Current	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Nitrates, Phosphates, Pesticides Runoff	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Soil samples are taken on a regular basis.	Continuous		Utilized in this region due to high amount of farm production.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Lowndes County Community Greenspace Program	Lowndes County / Greenspace Advisory Committee	Greenspace means to permanently protect land and water, including agricultural and forestry land that is undeveloped. Some goals are: water quality protection for rivers, streams, and lakes; flood protection; wetlands protection; reduce erosion; and protection of riparian buffers	1999	In-Progress	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Urban/Rural Runoff	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Already purchased land for greenspace	Continuous		

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Rules and Regulations for Water Quality Control (391-3-6)	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 Revised June 2002	Enforced	Regulatory

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Industry/Non-industry Runoff	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Compliance with rules and various permits issued under rules.	Continuous		

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
South Georgia Multi-Jurisdictional Solid Waste Management Plan	Lowndes County Echols County	10 Counties participate and currently seek to coordinate solid waste management activities throughout the South Georgia Region and to cooperate in the activities of local Comprehensive Plans. The prime focus here is the collection and disposal of waste in a manner, which prevents pollution of surface and sub-service water resources.	1992 1992	In-progress In-progress	Voluntary Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Anticipated or Past Effectiveness
Fecal Coliform	Solid Waste	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
This management measure is currently being updated.	Continuous		N/A

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
The Watershed Restoration Action Strategy Development and Implementation in the Alapahoochee River Watershed	Seven Rivers Resource Conservation and Development Council	The project will provide an avenue for citizens of the Alapahoochee River Watershed to address water quality concerns. The approach is to bring citizens into the watershed restoration planning process so that they understand watershed processes and how land uses impact water quality and aquatic habitat. With significant input into the plan and its implementation, citizen monitoring and restoration activities will contribute significantly to reducing pollutant loads and increasing aquatic biodiversity in their watershed.	Grant Applied	Pending approval	Voluntary

Pollutant(s) Affected	Potential Sources of Pollutant(s)	Impacted Water bodies*	Anticipated or Past Effectiveness
Fecal Coliform	Various sources	1	Very Effective

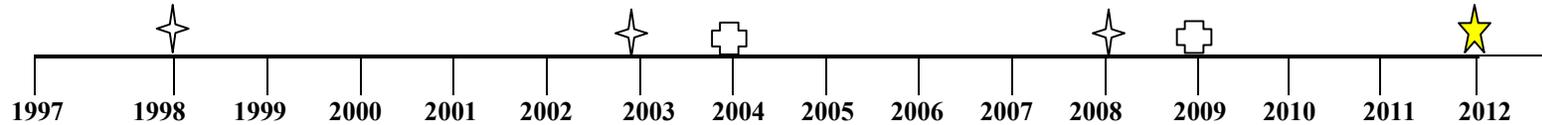
Measurable Milestones	Schedule		Comments
	Start	End	
1. Execute contract/interagency agreement with GA-EPD, Hire Watershed Coordinator, Contact and coordinate with watershed citizen groups, assemble and analyze information of WRAS.	2002-		
2. Write draft Watershed Restoration Plan, Submit semi-annual report for GRTS update, develop and install BMP demonstration projects, develop BMP education and outreach materials and exhibits, present BMP exhibit at local Ag and forestry meeting, submit semi-annual report for GRTS update.	2003-		
3. Submit semi-annual	2004-2005		

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

Funding Source	Responsible Authority	Status	Anticipated Funding Amount	Impacted Waterbodies*
319 (h) Grant	EPD/State of Georgia	Must Apply	Unknown	1
Greenspace Funds	Georgia Department of Natural Resources	Must Apply	Unknown	1
Conservation Reserve Program	USDA	Must Apply	Unknown	1
Environmental Quality Incentive Program (EQIP)	Natural Resources Conservation Service	Must Apply	Unknown	1
Wildlife Habitat Incentive Program	Natural Resources Conservation Service	Must Apply	Unknown	1
Urban Resources Partnership (URP)	Forest Service, the Natural Resources Conservation Service, the National Park Service, the Environmental Protection Agency, and the Department of Housing and Urban Development	Must Apply	Unknown	1
Toxics Grant	Jessie Smith Noyes Foundation	Must Apply	Unknown	1
Sustainable Agriculture Grant	Jessie Smith Noyes Foundation	Must Apply	Unknown	1
Sustainable Communities Grant	Jessie Smith Noyes Foundation	Must Apply	Unknown	1
Progressive Fund	The Fund for Southern Communities	Must Apply	Unknown	1
Brownfields Assessment Demonstration Pilots	EPA Office of Solid Waste and Emergency Response	Must Apply	Unknown	1
Pollution Prevention Grants	EPA Office of Pollution Prevention and Toxics	Must Apply	Unknown	1
DCA Educational Outreach	Department of Community Affairs	Must Apply	Unknown	1

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 EPD.



EPD Monitoring 
 Evaluate TMDL & Attainment Date 
 Project Attainment 

MONITORING PLAN

The purpose of this monitoring plan is to determine the effectiveness of the target TMDL and the management measures being implemented to meet water quality standards. List of previous, current or planned/proposed sampling activities or other surveys. (Monitoring data that placed stream on 303(d) list will be provided if requested.)

Name Of Regulation / Ordinance Or Management Measure	Organization	Impacted Water Bodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
NPDES Permits	GAEPD	1	Fecal Coliform	Refer to Permit for Monitoring Details			Current
Water Quality Monitoring	Georgia Adopt-A-Stream	1	Fecal Coliform	To help educate and improve/or maintain a streams quality	TBA	TBA	Proposed
Water Quality Testing	USGS	1	Fecal Coliform	Assess Water Quality	N/A	Continuous	Current
Scrap Tire Management Program	Local government	1	Fecal Coliform	To reduce the illegal dumping of scrap tires, reduction in solid waste, and other environmental issues by hiring an enforcement / education officer to respond and monitor	TBA	TBA	Proposed
Water Quality Testing	Local / County Governments	1	Fecal Coliform	Local testing to ensure quality on impaired streams as they relate to effluent discharge	N/A	Continuous	Ongoing
Monitoring Program	National Environmentally Sound Production Agriculture Laboratory (NESPAL) and USDA-ARS Southeast Watershed Laboratory	1	Fecal Coliform	To study the water quality of the entire Suwannee Basin	N/A	N/A	Current

Name Of Regulation / Ordinance Or Management Measure	Organization	Impacted Water Bodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
Watershed Assessments and Source Water Assessments	The Watershed Group: University of Georgia (UGA), Carter & Sloope, Inc., and City of Valdosta Water, Sewer and Drainage Department	1	Fecal Coliform	The State of Georgia's Environmental Protection Division (GAEPD) requires a comprehensive watershed assessment for the Lowndes County area in order to obtain the permits necessary to begin the expansion of the South Lowndes Regional WWTF and land application site. Lowndes County chose The University of Georgia's Watershed Group and Carter & Sloope, Inc. to conduct the watershed assessment. The watershed assessment will determine the current health of Lowndes County's waterways and will help predict health of streams and rivers after expansion of the County's wastewater treatment facilities	1999	2002	Previous
Water Quality Testing	City of Valdosta Water, Sewer and Drainage Department	1	Fecal Coliform	The City of Valdosta has several sample sites that they test. The Mud Creek WPCP checks Mud Creek at Perimeter, for their upstream and Mud Creek at Johnson Road for their downstream location. They collect monthly and analyze for DO, pH, and FC.	N/A	N/A	Current
The Watershed Restoration Action Strategy Development and Implementation in the Alapahoochee River Watershed	Seven Rivers Resource Conservation and Development Council	1	Fecal Coliform	The project will provide an avenue for citizens of the Alapahoochee River Watershed to address water quality concerns. The approach is to bring citizens into the watershed restoration planning process so that they understand watershed processes and how land uses impact water quality and aquatic habitat. With significant input into the plan and its implementation, citizen monitoring and restoration activities will contribute significantly to reducing pollutant loads and increasing aquatic biodiversity in their watershed.	Grant applied	2005	Proposed

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) _____

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)

- Best management practices installed (agricultural, forestry, urban)

COMMENTS

On behalf of the stakeholders of the Suwannee River Basin, the South Georgia RDC suggest further studies on each of the streams that have been listed on the 303(d) list since there have been numerous concerns about when the samples were taken and the number of samples taken from each stream. We also feel that the natural range of dissolved oxygen levels in the streams of the South Georgia Coastal Plains need to be further studied and established specifically for this region. Until the standard is developed, there are currently several organizations that have been involved with monitoring studies related to this region and their data could be used to help develop a proper standard for this region.

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**Environmental Protection Division of the Department of Natural Resources,
State of Georgia.**

TOGETHER WE CAN MAKE A DIFFERENCE!
