

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH
Ochlockonee River Basin

Local Watershed Governments

Grady County
 City of Cairo
 Other: City of Whigham

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. **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.

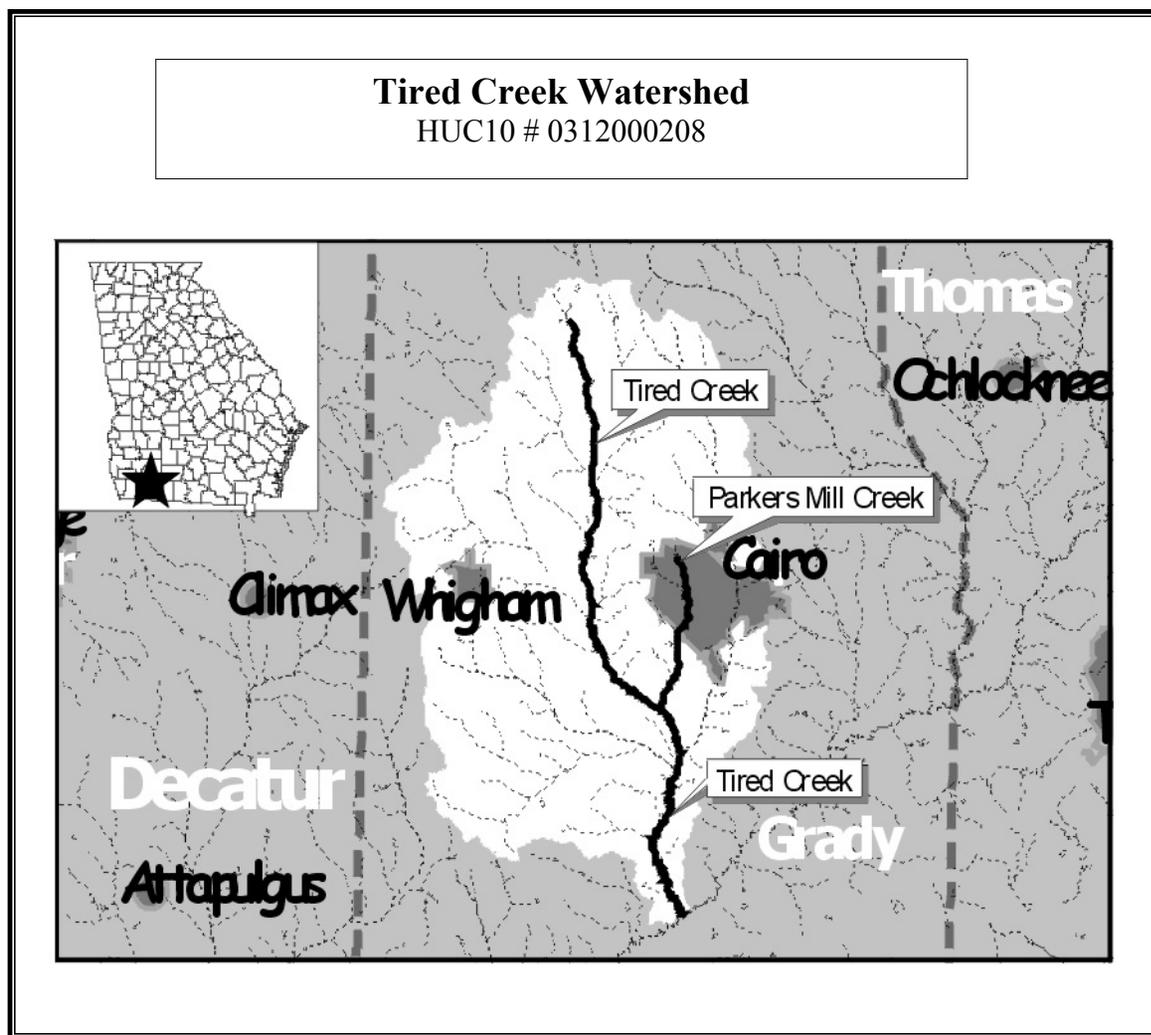


FIGURE 1

Impaired Waterbody*	Impaired Stream Location	Impairment
1. Parkers Mill Creek	Headwaters to Tired Cr., Cairo	Fecal Coliform Bacteria
2. Tired Creek	Turkey Cr. to Ochlockonee River	Fecal Coliform Bacteria
3. Little Tired Creek	SR 188 downstream Cairo to Tired Creek	Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the Implementation Plan.

		EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input checked="" type="checkbox"/> Dissolved Oxygen (DO)	<input type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Habitat	Do not let water and/or chemicals run off your property.	Monitor the quality of water above and below your property.
<input checked="" type="checkbox"/> Fecal Coliform (FC)	<input checked="" type="checkbox"/> Urban	<input type="checkbox"/> Recreation	Do not dump trash, appliances, or dead animals off the bridges.	Install/maintain buffers to protect the wetlands.
<input type="checkbox"/> Sediment	<input type="checkbox"/> Agriculture	<input type="checkbox"/> Drinking Water	Participate in river educational events.	Follow the Georgia Best Management Practices in land management.
<input type="checkbox"/> Metals	<input type="checkbox"/> Forestry	<input type="checkbox"/> Aesthetics	Use the Georgia Best Management Practices in land management.	Support educational activities in your community.
<input type="checkbox"/> Fish Consumption Guidelines (FCG)	<input type="checkbox"/> Residential	<input type="checkbox"/> Other (Please List)		Be sure that your employees and contractors follow the BMPs.
<input type="checkbox"/> Other (Please List)	<input checked="" type="checkbox"/> Other (Please List) Natural			

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)
Georgia EPD	Adopt-A-Stream	Entire Basin	All Residents	11/02
Friends of the Ochlockonee River	No-profit organization serving the stakeholders	Entire Basin	All Residents	11/02
Ga Forestry Commission	Field Day for Land Owners to demonstrate Georgia BMPs	Entire Basin	All Landowners	02 or 03/03
Thomas University	Develop and Implement educational materials	Entire Basin	All School Children & TV audiences	Pre-proposal: 12/02

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
Georgia EPD	4220 Inter. Pkwy Suite 101	Atlanta	GA	30354	404.675.1614	Ted_Mikalsen@mail.dnr.state.ga.us
Grady County	250 N. Broad St.	Cairo	GA	39828	229.377.1512	
Southwest Georgia FDC	30 West Broad St.	Camilla	GA	31730	229.522.3552	amacdonald@swgrdc.org
Ga. Forestry Commission	3561 Highway 112	Camilla	GA	31730	229.522.3580	gfindley@gfc.state.ga.us
USDA NRCS	65 11 th Av. NE	Cairo	GA	31728	229.377.6282	
City of Cairo	119 N. Broad St.	Cairo	GA	31728	229.377.1722	
City of Whigham	108 W. Broad St.	Whigham	GA	31797	229.762.4215	
The Nature Conservancy	18 North Main St.	Moultrie	GA	31768	229.985.8117	www.Georgiaconservancy.org
Tall Timbers Research Station	13093 Henry Beadel Dr.	Tallahassee	FL	32312	850.893.4153	www.talltimbers.org
International Paper	719 Southlands Rd.	Bainbridge	GA	31717	229.246.3642	Rebecca.winn@paper.com
Friends of the Ochlockonee	1501 Millpond Rd.	Thomasville	GA	31792	229.226.1621	
POWR	No regular address				229.762.3290	www.POWR2002@aol.com
Tim Golden	321 Legislative Office Bldg	Atlanta	GA	30334		
Wallace Sholar	P.O. Box 868	Cairo	GA	39828	229.277.6200	
John Bullock	Bullock Rd.	Meigs	GA	31765	229.683.3420	
The Torrington Co.	2525 Torrington Dr. NE	Cairo	GA	31728	229.377.6650	
Eco South Inc.	P.O. Box 1587	Covington	GA	30015	770.385.1849	
Raymond Dalton	Rt 3	Cairo	GA	31728		
Nelda Aycock	298 Pine Cone Lane	Cairo	GA	39828	229.377.5956	
Luther Dollar	2809 Slash Avenue	Cairo	GA	31738	229.377.5857	www.LutherDollar@msn.com
Rick McCaskill	P.O. Box 387	Cairo	GA	31728	229.378.8166	
Grady Farm Bureau	Box 547	Cairo	GA	31728	229.377.4142	
Grady Cty Health Dept.	1030 4 th St. SE	Cairo	GA	31728	229.377-2992	

Watershed	Tired Creek
HUC 10	0312000208

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)
Parkers Mill Creek	Headwaters to Tired Cr., Cairo	5	Fishing	NS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Grady			Point/Nonpoint	

Pollutants	Water Quality Standards	Required Reduction	TMDL ID	Date TMDL Established
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April)	88%		6/2000
Bacteria	200 per 100 ml (geometric mean May-Oct)			

Waterbody Name #2	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Tired Creek	Turkey Cr. to Ochlockonee River	6	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Grady			Nonpoint	

Pollutants	Water Quality Standards	Required Reduction	TMDL ID	Date TMDL Established
Fecal Coliform	1,000 per 100 ml (geometric mean Nov-April)	19%		6/2000
Bacteria	200 per 100 ml (geometric mean May-Oct)			

Waterbody Name #3	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Little Tired Creek	SR 188 downstream Cairo to Tired Cr.	6	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Grady			Nonpoint	

Pollutants	Water Quality Standards	Required Reduction	TMDL ID	Date TMDL Established
Dissolved Oxygen	5mg/l (daily average) 4 mg/l (minimum) Natural DO lower than state standard. Calculated target DO 2.66 mg/l.	0% TOC (lb/yr) 0% TN (lb/yr) 0% TP (lb/yr)		12/2001

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	Mun. Sewage Treatment prior to March 1998	Excessive Fecal Coliform count- creek did not support fishing	Parkers Creek Mill Creek
Fecal Coliform	Non-point source	Excessive Fecal Coliform count- creek partially supports fishing	Tired Creek
Dissolved Oxygen	Urban Runoff	Runoff contributes to reduced dissolved oxygen. EPA designated sampling station is upstream from a long established beaver dam. The dam is impeding the flow of water at least one mile north up the stream. Lack of Flow is also contributing to the low dissolved oxygen measurements.	Little Creek Tired Creek
Low DO	Natural	Stream below critical conditions: High temperatures and low flow contribute to low levels of dissolved oxygen in the stream.	Lt. Tired Ck

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
The City of Cairo established a Spray field to eliminate the discharge of effluent into Parkers Mill Creek.	City of Cairo	Establishment of a spray field to the west of town.	03/98	Enforced	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Waste Water Treatment	Parkers Mill Creek	Not effective

Measurable Milestones	Schedule		Comments
	Start	End	
Redesign of Waste Water Treatment System	01/03		Waiting for Federal Funding Assistance

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/Voluntary
USDA programs applicable to protecting riparian corridors such as the Conservation Reserve Program, Wetlands Reserve Program and Conservation Buffer Initiatives	USDA/NRCS	These programs serve to protect or restore riparian buffers which. These buffers may contain canopies that reduce sunlight penetration, stream warming and reduction of oxygen saturation. The buffers also filter fertilizer and organic wastes from runoff, which may in turn cause excessive algae growth and eventually depressed dissolved oxygen levels. By removing organic wastes, such as manure, the possibility of pathogen introduction is also reduced.	Current	In Progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Non point	All streams	

Measurable Milestones	Schedule		Comments
	Start	End	
Decrease in concentration of FC Increase in concentration of DO	01/03	01/05	Education of land owners & Buffer funding requests & adaptive monitoring

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/Voluntary
Ordinance adopting BMPs	City of Cairo	Adopted BMPs for Land Disturbing Activities as per the Manual for Erosion and Sediment Control in Georgia.	09/28/02	Enforced	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
DO, FC	Runoff from LDAs	All streams	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Increase in Dissolved Oxygen above and below the Beaver dam on the Little Tired Creek. Decrease in the concentration of FC.	09/02	09/04	Ordinance should reduce runoff – Reducing the sediment and nutrient load- thereby increasing the dissolved oxygen.

Watershed	Tired Creek
HUC 10	0312000208

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Forestry Best Management Practices	GA Forestry Commission GA EPD if enforcement	Protect streamside management zones and maintain canopy during harvesting	Current	In-progress	Voluntary (Violations of "Georgia Water Quality Act" may be pursued)

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
DO, FC	Nonpoint	Streams in watershed	EPA identifies silviculture as the lowest contribution source of nonpoint pollution

Measurable Milestones	Schedule		Comments
	Start	End	
Increase in concentration of DO Decrease in concentration of FC	01/03	01/05	Education of land owners & Buffer funding requests & Adaptive monitoring
Little Tired Creek DO > 2.66 mg/L FC < 200 / 100 mL	01/05	01/12	Continued efforts of land owners Manure spreading operations

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Reduce Dumping off bridges	Grady County	Reduce trash and carcasses being dumped into the river tributaries- Education and enforcement programs	??	Proposed	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
DO	Oils, greases, carcasses	All streams	Not effective

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the amount of trash observed	01/03	01/05	Educational programs, signs, monitoring via photography
Continued reduction of trash observed	01/05	01/12	Continue above actions

Watershed	Tired Creek
HUC 10	0312000208

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Reduce runoff from bridges	Grady Cty	Implement measures to reduce runoff from un-Improved and improved county roads	01/05	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
DO, FC	Runoff from roads	All streams	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
Experimental designs started	01/05	01/08	Application for EPA Wetlands Protection grant- pre-proposal 12/02
Begin monitoring test sites	01/05		

Watershed	Tired Creek
HUC 10	0312000208

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Planning Act	GA DNR, Local governments	To help prevent groundwater contamination, the Georgia Planning Act identifies groundwater recharge areas as critical natural resources and directs steps to help prevent contamination of groundwater. DNR has established minimum criteria for protection of groundwater recharge areas. DNR's minimum standards are to be used in developing and implementing local comprehensive plans. Local governments are directed to incorporate provisions for protection of groundwater recharge areas in local comprehensive plans and to adopt protective ordinances at least as stringent as the state standards developed by DNR. This protection of groundwater recharge should also have a positive although indirect impact on surface water quality.	ASAP	Planning	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Runoff & over well pumping	All streams in the basin	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
			Regulations are in force

Watershed HUC 10	Tired Creek 0312000208
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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Adaptive monitoring and watershed assesment	Thomas University	Collecting samples upstream from established sites to isolate and identify sources of pollution. EPD will contract with USGS to sample sites initially sampled in 1998. They will employ revised protocols to sample sites to avoid the impacts of extreme low flow or ponding which may have influenced DO samples collected in 1998 and the subsequent assessments for listing on the 303(d).	01/03	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
DO	To be determined	Entire basin	Anticipated- very effective

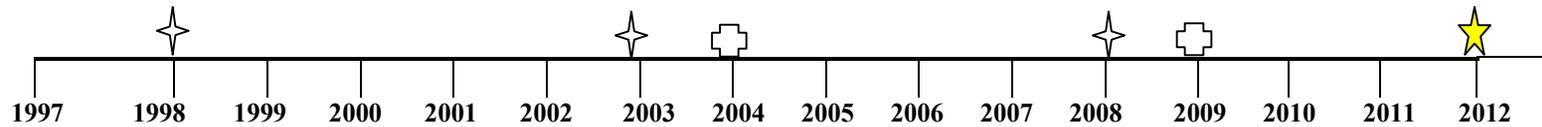
Measurable Milestones	Schedule		Comments
	Start	End	
Adaptive monitoring 1 st cycle completed	01/03	01/04	Individuals, local govts, and EPd will be notified of the results
Decrease in concentration of FC Increase in concentration of DO	01/03	01/12	

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*
Georgia EPD	Thomas University	In Planning	??	Entire basin
Archebold hospital Foundation	Friends of the Ochlockonee River	In Planning	??	Entire basin
EPA Wetlands Protection Program Grant	Thomas University	Preliminary Proposal Due on 02/12/02	To be determined	Entire basin
EPA 319 Grant	Thomas University & Local Govts	In Planning	To be Determined	Entire Basin
Williams Family Foundation	Friends of the Ochlockonee River	In Planning	To be Determined	Entire Basin
Woodruff Foundation	Thomas University To develop educational Materials	In Planning	To Be Determined	Entire Basin

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 Waterbodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
Initial monitoring	USGS/EPD	Entire Basin	DO & FC	To establish TMDLs	01/98	12/98	Previous
Selective Monitoring	Thomas University	Entire Basin	DO & FC	To develop monitoring Protocols And establish new monitoring sites	09/02	12/03	Current
EPD Monitoring	Thomas University	Established Sites	DO & FC/EC	To monitor the effectiveness of the above plans	01/03	01/04	Proposed
Adaptive Monitoring	Thomas University	303b streams	DO,FC, Turbidity Nutrients, etc	Identify and locate sources of pollutants in each identified stream	01/03	??	Proposed
Individual Industries	Industries	Various	DO, FC, Turbidity Nutrients	Monitor the affected stream above and below the industry for water quality	01/03	??	Voluntary program

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) Increasing trend of DO over a period of one year. (Little Tired Creek)
Decreasing trend in FC over a period of one year. (Parkers Mill & Little Tired Creek)
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) Little Tired Creek DO > 2.66 mg/L.
Parkers Mill Creek FC < 200 gm/ 100 mL
Tired Creek FC < 200 gm/ 100 mL

- Regulatory controls or activities installed (ordinances, laws) Antidumping ordinances enacted by all counties, (similar to Thomas County)
BMPs for forestry, agriculture and land disturbing activities integrated in all of the county ordinances,

- Best management practices installed (agricultural, forestry, urban) Forestry BMPs being followed-data from courtesy visits of the district forester,
Agricultural BMPs being followed- data from stream buffer initiative and NRCS data, Urban BMPs being followed- increased DO, and decreased FC downstream.

COMMENTS

Before definitive actions can be undertaken, specific offenders, land owners, and industries must be identified. The proposed adaptive monitoring procedures will aid in identifying the specific sources of pollutants in streams that have non point pollution sources. With this knowledge, local and state governments will be able to enact or enforce existing statutes to correct the problems.

Watershed	Tired Creek
HUC 10	0312000208

Prepared By:	Dan Sanford		
Agency:	Thomas University		
Address:	1501 Millpond Rd.		
City:	Thomasville	ZIP:	31792
	GA		
E-mail:			
Date Submitted to EPD:	12/19/02 as per EPD modifications		

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 of the Federal Water Pollution Control Act, as amended.

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

TOGETHER WE CAN MAKE A DIFFERENCE!

ATTACHMENT A:
STREAM APPROACH

**STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
OCHLOCKONEE RIVER BASIN**

STREAM APPROACH

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. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired waterbodies and the corresponding pollutant(s).** The following impaired waterbodies are located in the same sub-basin identified by a HUC10 code (Figure 1).

This portion of the Implementation Plan addresses individual waterbodies and the corresponding pollutant sources, stakeholders, education/outreach activities, and potential funding sources. 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 on reducing target pollutants (*measurable milestones*), and (c) a monitoring plan to determine the efficiency of the management measures and measurable. 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.

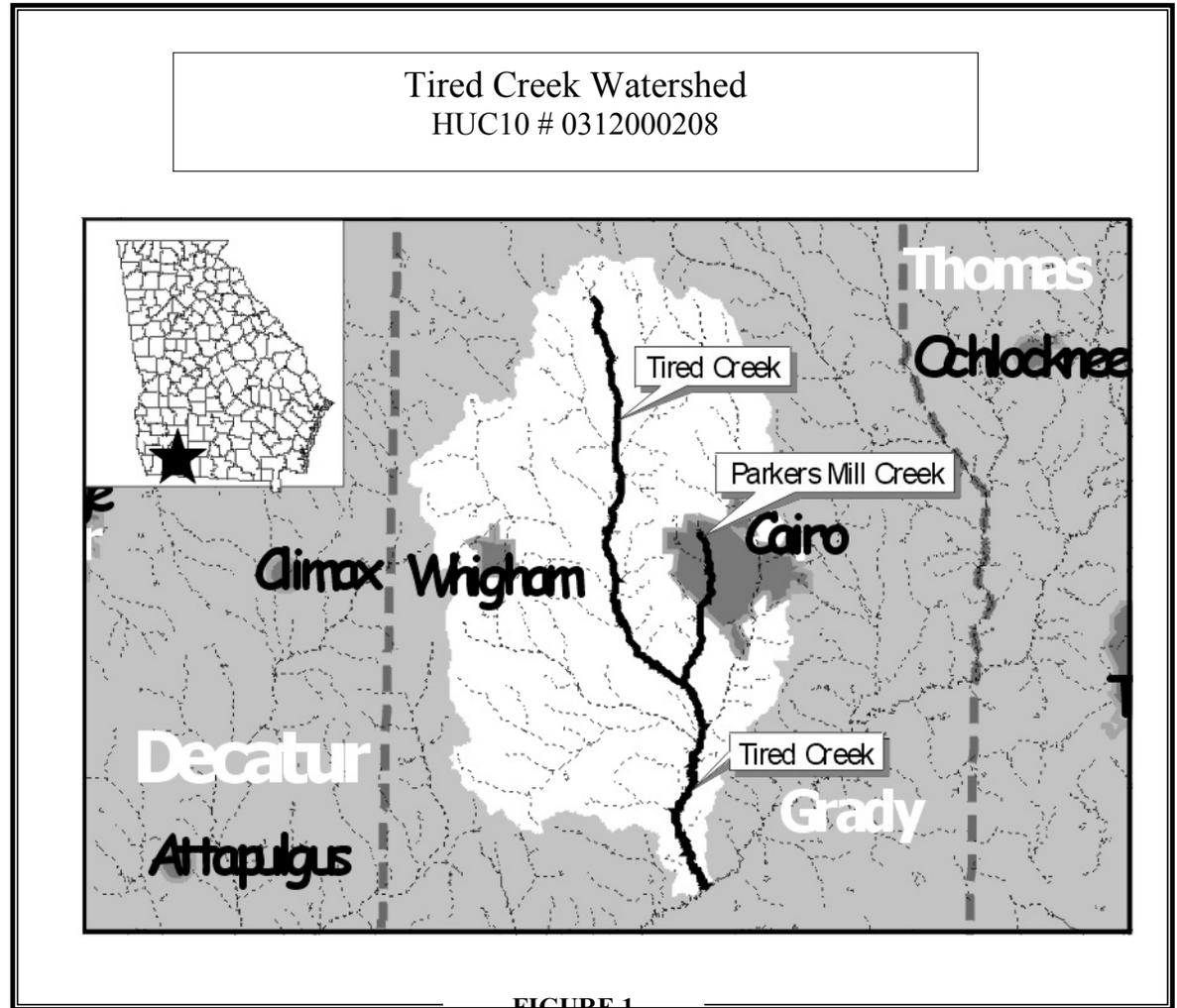


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2. Tired Creek	Turkey Cr. to Ochlockonee River	Fecal Coliform Bacteria
3. Little Tired Creek	SR 188 downstream Cairo to Tired Creek	Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the implementation plan.

Ochlockonee River Basin
TMDL Implementation Plan
Tired Creek Watershed
HUC 10 0312000208

Parkers Mill Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Parkers Mill Creek	Headwaters to Tired Cr., Cairo	5	Fishing	NS

PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)
Grady			Point/Nonpoint

POLLUTANTS	WATER QUALITY STANDARDS	REQUIRED REDUCTION
Fecal Coliform Bacteria	1,000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geometric mean May-Oct)	88%

TMDL ID #	DATE TMDL ESTABLISHED
	6/2000

Ochlockonee River Basin
TMDL Implementation Plan
Tired Creek Watershed
HUC 10 0312000208

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-Mail
Georgia EPD	4220 Inter. Pkwy Suite 101	Atlanta	GA	30354	404.675.1614	Ted_Mikalsen@mail.dnr.state.ga.us
Grady County	250 N. Broad St.	Cairo	GA	39828	229.377.1512	
Southwest Georgia FDC	30 West Broad St.	Camilla	GA	31730	229.522.3552	amacdonald@swgrdc.org
Ga. Forestry Commission	3561 Highway 112	Camilla	GA	31730	229.522.3580	gfindley@gfc.state.ga.us
USDA NRCS	65 11 th Av. NE	Cairo	GA	31728	229.377.6282	
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City of Whigham	108 W. Broad St.	Whigham	GA	31797	229.762.4215	
The Nature Conservancy	18 North Main St.	Moultrie	GA	31768	229.985.8117	www.Georgiaconservancy.org
Tall Timbers Research Station	13093 Henry Beadel Dr.	Tallahassee	FL	32312	850.893.4153	www.talltimbers.org
International Paper	719 Southlands Rd.	Bainbridge	GA	31717	229.246.3642	Rebecca.winn@paper.com
Friends of the Ochlockonee	1501 Millpond Rd.	Thomasville	GA	31792	229.226.1621	
POWR	No regular address				229.762.3290	www.POWR2002@aol.com
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Grady Farm Bureau	Box 547	Cairo	GA	31728	229.377.4142	
Grady Cty Health Dept.	1030 4 th St. SE	Cairo	GA	31728	229.377-2992	

EDUCATION/OUTREACH ACTIVITIES

Entity	Description	Impacted Waterbodies*	Target Audience	Anticipated Dates (MM/YY)
Georgia EPD	Adopt-A-Stream	Entire Basin	All Residents	11/02
Friends of the Ochlockonee River	No-profit organization serving the stakeholders	Entire Basin	All Residents	11/02
Ga Forestry Commission	Field Day for Land Owners to demonstrate Georgia BMPs	Entire Basin	All Landowners	02 or 03/03
Thomas University	Develop and Implement educational materials	Entire Basin	All School Children & TV audiences	Pre-proposal: 12/02

Ochlockonee River Basin
TMDL Implementation Plan
Tired Creek Watershed
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POLLUTANT SOURCES

Pollutant	Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
FC	Failing Septic Tanks	Malfunctioning septic tanks causing surface water contamination with bacteria,	All streams
Fecal Coliform	Mun. Sewage Treatment prior to March 1998	Excessive Fecal Coliform count- creek did not support fishing	Parkers Mill Creek

MANAGEMENT MEASURES, RESPONSIBLE PARTIES, AND MEASURABLE MILESTONES

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Ordinance adopting BMPs	City of Cairo	Adopted BMPs for Land Disturbing Activities as per the Manual for Erosion and Sediment Control in Georgia.	09/28/02	Enforced	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Runoff from LDAs	All streams	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Increase in Dissolved Oxygen above and below the Beaver dam on the Little Tired Creek. Decrease the concentration of FC	09/02	09/04	Ordinance should reduce runoff – Reducing the sediment and nutrient load- thereby increasing the dissolved oxygen.

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Forestry Best Management Practices	GA Forestry Commission GA EPD if enforcement	Protect streamside management zones and maintain canopy during harvesting	Current	In-progress	Voluntary (Violations of "Georgia Water Quality Act" may be pursued)

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Nonpoint	Streams in watershed	EPA identifies silviculture as the lowest contribution source of nonpoint pollution

Measurable Milestones	Schedule		Comments
	Start	End	
Decrease the concentration of FC	01/03	01/05	Education of land owners & Buffer funding requests & Adaptive monitoring
FC < 200 /100mL	01/05	01/08	Continued efforts of land owners Manure spreading operations

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/Voluntary
USDA programs applicable to protecting riparian corridors such as the Conservation Reserve Program, Wetlands Reserve Program and Conservation Buffer Initiatives	USDA/NRCS	These programs serve to protect or restore riparian buffers which. These buffers may contain canopies that reduce sunlight penetration, stream warming and reduction of oxygen saturation. The buffers also filter fertilizer and organic wastes from runoff, which may in turn cause excessive algae growth and eventually depressed dissolved oxygen levels. By removing organic wastes, such as manure, the possibility of pathogen introduction is also reduced.	Current	In Progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Non point	All streams	

Measurable Milestones	Schedule		Comments
	Start	End	
Decrease in concentration of FC Increase in concentration of DO	01/03	01/05	Education of land owners & Buffer funding requests & adaptive monitoring

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/Voluntary
Reduce Dumping off bridges	Grady County	Reduce trash and carcasses being dumped into the river tributaries- Education and enforcement programs	??	Proposed	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Oils, greases, carcasses	All streams	Not effective

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the amount of trash observed	01/03	01/05	Educational programs, signs, monitoring via photography
Continued reduction of trash observed	01/05	01/12	Continue above actions

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Reduce runoff from bridges	Grady Cty	Implement measures to reduce runoff from un-Improved and improved county roads	01/05	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Runoff from roads	All streams	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
Experimental designs started	01/05	01/08	Application for EPA Wetlands Protection grant- pre-proposal 12/02
Begin monitoring test sites	01/05		

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Planning Act	GA DNR, Local governments	To help prevent groundwater contamination, the Georgia Planning Act identifies groundwater recharge areas as critical natural resources and directs steps to help prevent contamination of groundwater. DNR has established minimum criteria for protection of groundwater recharge areas. DNR's minimum standards are to be used in developing and implementing local comprehensive plans. Local governments are directed to incorporate provisions for protection of groundwater recharge areas in local comprehensive plans and to adopt protective ordinances at least as stringent as the state standards developed by DNR. This protection of groundwater recharge should also have a positive although indirect impact on surface water quality.	ASAP	Planning	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Runoff & over well pumping	All streams in the basin	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
State EPD to enforce regulations	ASAP		Regulations are in force

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Adaptive monitoring and watershed assesment	Thomas University	Collecting samples upstream from established sites to isolate and identify sources of pollution. EPD will contract with USGS to sample sites initially sampled in 1998. They will employ revised protocols to sample sites to avoid the impacts of extreme low flow or ponding which may have influenced DO samples collected in 1998 and the subsequent assessments for listing on the 303(d).	01/03	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	To be determined	Entire basin	Anticipated- very effective

Measurable Milestones	Schedule		Comments
	Start	End	
Adaptive monitoring 1 st cycle completed	01/03	01/04	Individuals, local govts, and EPd will be notified of the results
Decrease in the concentration of FC	01/03	01/12	

POTENTIAL FUNDING SOURCES

Funding Source	Responsible Authority	Status	Anticipated Funding Amount	Impacted Waterbodies*
Georgia EPD	Thomas University	In Planning	??	Entire basin
Archebold hospital Foundation	Friends of the Ochlockonee River	In Planning	??	Entire basin
EPA Wetlands Protection Program Grant	Thomas University	Preliminary Proposal Due on 02/12/02	To be determined	Entire basin
EPA 319 Grant	Thomas University & Local Govts	In Planning	To be Determined	Entire Basin
Williams Family Foundation	Friends of the Ochlockonee River	In Planning	To be Determined	Entire Basin
Woodruff Foundation	Thomas University To develop educational Materials	In Planning	To Be Determined	Entire Basin

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MONITORING PLAN

Name Of Regulation / Ordinance Or Management Measure	Organization	Impacted Waterbodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
Initial monitoring	USGS/EPD	Entire Basin	DO & FC	To establish TMDLs	01/98	12/98	Previous
Selective Monitoring	Thomas University	Entire Basin	DO & FC	To develop monitoring Protocols And establish new monitoring sites	09/02	12/03	Current
EPD Monitoring	Thomas University	Established Sites	DO & FC/EC	To monitor the effectiveness of the above plans	01/03	01/04	Proposed
Adaptive Monitoring	Thomas University	303b streams	DO,FC, Turbidity Nutrients, etc	Identify and locate sources of pollutants in each identified stream	01/03	??	Proposed
Individual Industries	Industries	Various	DO, FC, Turbidity Nutrients	Monitor the affected stream above and below the industry for water quality	01/03	??	Voluntary program

COMMENTS: Before definitive actions can be undertaken, specific offenders, land owners, and industries must be identified. The proposed adaptive monitoring procedures will aid in identifying the specific sources of pollutants in streams that have non point pollution sources. With this knowledge, local and state governments will be able to enact or enforce existing statutes to correct the problems.

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Tired Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Tired Creek	Turkey Cr. to Ochlockonee River	6	Fishing	PS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Grady			Nonpoint	

POLLUTANTS	WATER QUALITY STANDARDS	REQUIRED REDUCTION
Fecal Coliform Bacteria	1,000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geometric mean May-Oct)	19%

TMDL ID #	DATE TMDL ESTABLISHED
	6/2000

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SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-Mail
Georgia EPD	4220 Inter. Pkwy Suite 101	Atlanta	GA	30354	404.675.1614	Ted_Mikalsen@mail.dnr.state.ga.us
Grady County	250 N. Broad St.	Cairo	GA	39828	229.377.1512	
Southwest Georgia FDC	30 West Broad St.	Camilla	GA	31730	229.522.3552	amacdonald@swgrdc.org
Ga. Forestry Commission	3561 Highway 112	Camilla	GA	31730	229.522.3580	gfindley@gfc.state.ga.us
USDA NRCS	65 11 th Av. NE	Cairo	GA	31728	229.377.6282	
City of Cairo	119 N. Broad St.	Cairo	GA	31728	229.377.1722	
City of Whigham	108 W. Broad St.	Whigham	GA	31797	229.762.4215	
The Nature Conservancy	18 North Main St.	Moultrie	GA	31768	229.985.8117	www.Georgiaconservancy.org
Tall Timbers Research Station	13093 Henry Beadel Dr.	Tallahassee	FL	32312	850.893.4153	www.talltimbers.org
International Paper	719 Southlands Rd.	Bainbridge	GA	31717	229.246.3642	Rebecca.winn@paper.com
Friends of the Ochlockonee	1501 Millpond Rd.	Thomasville	GA	31792	229.226.1621	
POWR	No regular address				229.762.3290	www.POWR2002@aol.com
Tim Golden	321 Legislative Office Bldg	Atlanta	GA	30334		
Wallace Sholar	P.O. Box 868	Cairo	GA	39828	229.277.6200	
John Bullock	Bullock Rd.	Meigs	GA	31765	229.683.3420	
The Torrington Co.	2525 Torrington Dr. NE	Cairo	GA	31728	229.377.6650	
Eco South Inc.	P.O. Box 1587	Covington	GA	30015	770.385.1849	
Raymond Dalton	Rt 3	Cairo	GA	31728		
Nelda Aycock	298 Pine Cone Lane	Cairo	GA	39828	229.377.5956	
Luther Dollar	2809 Slash Avenue	Cairo	GA	31738	229.377.5857	www.LutherDollar@msn.com
Rick McCaskill	P.O. Box 387	Cairo	GA	31728	229.378.8166	
Grady Farm Bureau	Box 547	Cairo	GA	31728	229.377.4142	
Grady Cty Health Dept.	1030 4 th St. SE	Cairo	GA	31728	229.377-2992	

EDUCATION/OUTREACH ACTIVITIES

Entity	Description	Impacted Waterbodies*	Target Audience	Anticipated Dates (MM/YY)
Georgia EPD	Adopt-A-Stream	Entire Basin	All Residents	11/02
Friends of the Ochlockonee River	No-profit organization serving the stakeholders	Entire Basin	All Residents	11/02
Ga Forestry Commission	Field Day for Land Owners to demonstrate Georgia BMPs	Entire Basin	All Landowners	02 or 03/03
Thomas University	Develop and Implement educational materials	Entire Basin	All School Children & TV audiences	Pre-proposal: 12/02

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POLLUTANT SOURCES

Pollutant	Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
Fecal Coliform	Non-point source	Excessive Fecal Coliform count- creek partially supports fishing	Tired Creek
FC	Failing Septic Tanks	Malfunctioning septic tanks causing surface water contamination with bacteria.	

MANAGEMENT MEASURES, RESPONSIBLE PARTIES, AND MEASURABLE MILESTONES

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Ordinance adopting BMPs	City of Cairo	Adopted BMPs for Land Disturbing Activities as per the Manual for Erosion and Sediment Control in Georgia.	09/28/02	Enforced	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Runoff from LDAs	All streams	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Increase in Dissolved Oxygen above and below the Beaver dam on the Little Tired Creek. Decrease the concentration of FC	09/02	09/04	Ordinance should reduce runoff – Reducing the sediment and nutrient load- thereby increasing the dissolved oxygen.

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Forestry Best Management Practices	GA Forestry Commission GA EPD if enforcement	Protect streamside management zones and maintain canopy during harvesting	Current	In-progress	Voluntary (Violations of "Georgia Water Quality Act" may be pursued)

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Nonpoint	Streams in watershed	EPA identifies silviculture as the lowest contribution source of nonpoint pollution

Measurable Milestones	Schedule		Comments
	Start	End	
Decrease the concentration of FC	01/03	01/05	Education of land owners & Buffer funding requests & Adaptive monitoring
FC < 200 /100mL	01/05	01/08	Continued efforts of land owners Manure spreading operations

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
USDA programs applicable to protecting riparian corridors such as the Conservation Reserve Program, Wetlands Reserve Program and Conservation Buffer Initiatives	USDA/NRCS	These programs serve to protect or restore riparian buffers which. These buffers may contain canopies that reduce sunlight penetration, stream warming and reduction of oxygen saturation. The buffers also filter fertilizer and organic wastes from runoff, which may in turn cause excessive algae growth and eventually depressed dissolved oxygen levels. By removing organic wastes, such as manure, the possibility of pathogen introduction is also reduced.	Current	In Progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Non point	All streams	

Measurable Milestones	Schedule		Comments
	Start	End	
Decrease in concentration of FC Increase in concentration of DO	01/03	01/05	Education of land owners & Buffer funding requests & adaptive monitoring

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Reduce Dumping off bridges	Grady County	Reduce trash and carcasses being dumped into the river tributaries- Education and enforcement programs	??	Proposed	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Oils, greases, carcasses	All streams	Not effective

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the amount of trash observed	01/03	01/05	Educational programs, signs, monitoring via photography
Continued reduction of trash observed	01/05	01/12	Continue above actions

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Reduce runoff from bridges	Grady Cty	Implement measures to reduce runoff from un-Improved and improved county roads	01/05	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Runoff from roads	All streams	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
Experimental designs started	01/05	01/08	Application for EPA Wetlands Protection grant- pre-proposal 12/02
Begin monitoring test sites	01/05		

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Planning Act	GA DNR, Local governments	To help prevent groundwater contamination, the Georgia Planning Act identifies groundwater recharge areas as critical natural resources and directs steps to help prevent contamination of groundwater. DNR has established minimum criteria for protection of groundwater recharge areas. DNR's minimum standards are to be used in developing and implementing local comprehensive plans. Local governments are directed to incorporate provisions for protection of groundwater recharge areas in local comprehensive plans and to adopt protective ordinances at least as stringent as the state standards developed by DNR. This protection of groundwater recharge should also have a positive although indirect impact on surface water quality.	ASAP	Planning	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Runoff & over well pumping	All streams in the basin	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
State EPD to enforce regulations	ASAP		Regulations are in force

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Adaptive monitoring and watershed assesment	Thomas University	Collecting samples upstream from established sites to isolate and identify sources of pollution. EPD will contract with USGS to sample sites initially sampled in 1998. They will employ revised protocols to sample sites to avoid the impacts of extreme low flow or ponding which may have influenced DO samples collected in 1998 and the subsequent assessments for listing on the 303(d).	01/03	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	To be determined	Entire basin	Anticipated- very effective

Measurable Milestones	Schedule		Comments
	Start	End	
Adaptive monitoring 1 st cycle completed	01/03	01/04	Individuals, local govts, and EPd will be notified of the results
Decrease in the concentration of FC	01/03	01/12	

POTENTIAL FUNDING SOURCES

Funding Source	Responsible Authority	Status	Anticipated Funding Amount	Impacted Waterbodies*
Georgia EPD	Thomas University	In Planning	??	Entire basin
Archebold hospital Foundation	Friends of the Ochlockonee River	In Planning	??	Entire basin
EPA Wetlands Protection Program Grant	Thomas University	Preliminary Proposal Due on 02/12/02	To be determined	Entire basin
EPA 319 Grant	Thomas University & Local Govts	In Planning	To be Determined	Entire Basin
Williams Family Foundation	Friends of the Ochlockonee River	In Planning	To be Determined	Entire Basin
Woodruff Foundation	Thomas University To develop educational Materials	In Planning	To Be Determined	Entire Basin

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MONITORING PLAN

Name Of Regulation / Ordinance Or Management Measure	Organization	Impacted Waterbodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
Initial monitoring	USGS/EPD	Entire Basin	DO & FC	To establish TMDLs	01/98	12/98	Previous
Selective Monitoring	Thomas University	Entire Basin	DO & FC	To develop monitoring Protocols And establish new monitoring sites	09/02	12/03	Current
EPD Monitoring	Thomas University	Established Sites	DO & FC/EC	To monitor the effectiveness of the above plans	01/03	01/04	Proposed
Adaptive Monitoring	Thomas University	303b streams	DO,FC, Turbidity Nutrients, etc	Identify and locate sources of pollutants in each identified stream	01/03	??	Proposed
Individual Industries	Industries	Various	DO, FC, Turbidity Nutrients	Monitor the affected stream above and below the industry for water quality	01/03	??	Voluntary program

COMMENTS: Before definitive actions can be undertaken, specific offenders, land owners, and industries must be identified. The proposed adaptive monitoring procedures will aid in identifying the specific sources of pollutants in streams that have non point pollution sources. With this knowledge, local and state governments will be able to enact or enforce existing statutes to correct the problems.

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Little Tired Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Little Tired Creek	SR 188 downstream Cairo to Tired Cr.	6	Fishing	PS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Grady			Nonpoint	

POLLUTANTS	WATER QUALITY STANDARDS	REQUIRED REDUCTION
Dissolved Oxygen	5mg/l (daily average) 4 mg/l (minimum) Natural DO lower than state standard. Calculated target DO 2.66 mg/l.	0% TOC (lb/yr) 0% TN (lb/yr) 0% TP (lb/yr)

TMDL ID #	DATE TMDL ESTABLISHED
	12/2001

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SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-Mail
Georgia EPD	4220 Inter. Pkwy Suite 101	Atlanta	GA	30354	404.675.1614	Ted_Mikalsen@mail.dnr.state.ga.us
Grady County	250 N. Broad St.	Cairo	GA	39828	229.377.1512	
Southwest Georgia FDC	30 West Broad St.	Camilla	GA	31730	229.522.3552	amacdonald@swgrdc.org
Ga. Forestry Commission	3561 Highway 112	Camilla	GA	31730	229.522.3580	gfindley@gfc.state.ga.us
USDA NRCS	65 11 th Av. NE	Cairo	GA	31728	229.377.6282	
City of Cairo	119 N. Broad St.	Cairo	GA	31728	229.377.1722	
City of Whigham	108 W. Broad St.	Whigham	GA	31797	229.762.4215	
The Nature Conservancy	18 North Main St.	Moultrie	GA	31768	229.985.8117	www.Georgiaconservancy.org
Tall Timbers Research Station	13093 Henry Beadel Dr.	Tallahassee	FL	32312	850.893.4153	www.talltimbers.org
International Paper	719 Southlands Rd.	Bainbridge	GA	31717	229.246.3642	Rebecca.winn@paper.com
Friends of the Ochlockonee	1501 Millpond Rd.	Thomasville	GA	31792	229.226.1621	
POWR	No regular address				229.762.3290	www.POWR2002@aol.com
Tim Golden	321 Legislative Office Bldg	Atlanta	GA	30334		
Wallace Sholar	P.O. Box 868	Cairo	GA	39828	229.277.6200	
John Bullock	Bullock Rd.	Meigs	GA	31765	229.683.3420	
The Torrington Co.	2525 Torrington Dr. NE	Cairo	GA	31728	229.377.6650	
Eco South Inc.	P.O. Box 1587	Covington	GA	30015	770.385.1849	
Raymond Dalton	Rt 3	Cairo	GA	31728		
Nelda Aycock	298 Pine Cone Lane	Cairo	GA	39828	229.377.5956	
Luther Dollar	2809 Slash Avenue	Cairo	GA	31738	229.377.5857	www.LutherDollar@msn.com
Rick McCaskill	P.O. Box 387	Cairo	GA	31728	229.378.8166	
Grady Farm Bureau	Box 547	Cairo	GA	31728	229.377.4142	
Grady Cty Health Dept.	1030 4 th St. SE	Cairo	GA	31728	229.377-2992	

EDUCATION/OUTREACH ACTIVITIES

Entity	Description	Impacted Waterbodies*	Target Audience	Anticipated Dates (MM/YY)
Georgia EPD	Adopt-A-Stream	Entire Basin	All Residents	11/02
Friends of the Ochlockonee River	No-profit organization serving the stakeholders	Entire Basin	All Residents	11/02
Ga Forestry Commission	Field Day for Land Owners to demonstrate Georgia BMPs	Entire Basin	All Landowners	02 or 03/03
Thomas University	Develop and Implement educational materials	Entire Basin	All School Children & TV audiences	Pre-proposal: 12/02

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POLLUTANT SOURCES

Pollutant	Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
Dissolved Oxygen	Urban Runoff	Runoff contributes to reduced dissolved oxygen. EPA designated sampling station is upstream from a long established beaver dam. The dam is impeding the flow of water at least one mile north up the stream. Lack of Flow is also contributing to the low dissolved oxygen measurements.	Little Tired Creek
Low DO	Natural	Stream below critical conditions: High temperatures and low flow contribute to low levels of dissolved oxygen in the stream.	

MANAGEMENT MEASURES, RESPONSIBLE PARTIES, AND MEASURABLE MILESTONES

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Ordinance adopting BMPs	City of Cairo	Adopted BMPs for Land Disturbing Activities as per the Manual for Erosion and Sediment Control in Georgia.	09/28/02	Enforced	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Runoff from LDAs	All streams	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Increase in Dissolved Oxygen above and below the Beaver dam on the Little Tired Creek. Decrease the concentration of FC	09/02	09/04	Ordinance should reduce runoff – Reducing the sediment and nutrient load- thereby increasing the dissolved oxygen.

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Forestry Best Management Practices	GA Forestry Commission GA EPD if enforcement	Protect streamside management zones and maintain canopy during harvesting	Current	In-progress	Voluntary (Violations of "Georgia Water Quality Act" may be pursued)

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Nonpoint	Streams in watershed	EPA identifies silviculture as the lowest contribution source of nonpoint pollution

Measurable Milestones	Schedule		Comments
	Start	End	
Decrease the concentration of FC	01/03	01/05	Education of land owners & Buffer funding requests & Adaptive monitoring
FC < 200 /100mL	01/05	01/08	Continued efforts of land owners Manure spreading operations

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
USDA programs applicable to protecting riparian corridors such as the Conservation Reserve Program, Wetlands Reserve Program and Conservation Buffer Initiatives	USDA/NRCS	These programs serve to protect or restore riparian buffers which. These buffers may contain canopies that reduce sunlight penetration, stream warming and reduction of oxygen saturation. The buffers also filter fertilizer and organic wastes from runoff, which may in turn cause excessive algae growth and eventually depressed dissolved oxygen levels. By removing organic wastes, such as manure, the possibility of pathogen introduction is also reduced.	Current	In Progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Non point	All streams	

Measurable Milestones	Schedule		Comments
	Start	End	
Decrease in concentration of FC Increase in concentration of DO	01/03	01/05	Education of land owners & Buffer funding requests & adaptive monitoring

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Reduce Dumping off bridges	Grady County	Reduce trash and carcasses being dumped into the river tributaries- Education and enforcement programs	??	Proposed	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Oils, greases, carcasses	All streams	Not effective

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the amount of trash observed	01/03	01/05	Educational programs, signs, monitoring via photography
Continued reduction of trash observed	01/05	01/12	Continue above actions

Ochlockonee River Basin
TMDL Implementation Plan
Tired Creek Watershed
HUC 10 0312000208

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Reduce runoff from bridges	Grady Cty	Implement measures to reduce runoff from un-Improved and improved county roads	01/05	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	Runoff from roads	All streams	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
Experimental designs started	01/05	01/08	Application for EPA Wetlands Protection grant- pre-proposal 12/02
Begin monitoring test sites	01/05		

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Planning Act	GA DNR, Local governments	To help prevent groundwater contamination, the Georgia Planning Act identifies groundwater recharge areas as critical natural resources and directs steps to help prevent contamination of groundwater. DNR has established minimum criteria for protection of groundwater recharge areas. DNR's minimum standards are to be used in developing and implementing local comprehensive plans. Local governments are directed to incorporate provisions for protection of groundwater recharge areas in local comprehensive plans and to adopt protective ordinances at least as stringent as the state standards developed by DNR. This protection of groundwater recharge should also have a positive although indirect impact on surface water quality.	ASAP	Planning	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC, DO	Runoff & over well pumping	All streams in the basin	Unknown

Measurable Milestones	Schedule		Comments
	Start	End	
State EPD to enforce regulations	ASAP		Regulations are in force

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Adaptive monitoring and watershed assesment	Thomas University	Collecting samples upstream from established sites to isolate and identify sources of pollution. EPD will contract with USGS to sample sites initially sampled in 1998. They will employ revised protocols to sample sites to avoid the impacts of extreme low flow or ponding which may have influenced DO samples collected in 1998 and the subsequent assessments for listing on the 303(d).	01/03	In planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
FC	To be determined	Entire basin	Anticipated- very effective

Measurable Milestones	Schedule		Comments
	Start	End	
Adaptive monitoring 1 st cycle completed	01/03	01/04	Individuals, local govts, and EPd will be notified of the results
Decrease in the concentration of FC	01/03	01/12	

POTENTIAL FUNDING SOURCES

Funding Source	Responsible Authority	Status	Anticipated Funding Amount	Impacted Waterbodies*
Georgia EPD	Thomas University	In Planning	??	Entire basin
Archebold hospital Foundation	Friends of the Ochlockonee River	In Planning	??	Entire basin
EPA Wetlands Protection Program Grant	Thomas University	Preliminary Proposal Due on 02/12/02	To be determined	Entire basin
EPA 319 Grant	Thomas University & Local Govts	In Planning	To be Determined	Entire Basin
Williams Family Foundation	Friends of the Ochlockonee River	In Planning	To be Determined	Entire Basin
Woodruff Foundation	Thomas University To develop educational Materials	In Planning	To Be Determined	Entire Basin

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MONITORING PLAN

Name Of Regulation / Ordinance Or Management Measure	Organization	Impacted Waterbodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
Initial monitoring	USGS/EPD	Entire Basin	DO & FC	To establish TMDLs	01/98	12/98	Previous
Selective Monitoring	Thomas University	Entire Basin	DO & FC	To develop monitoring Protocols And establish new monitoring sites	09/02	12/03	Current
EPD Monitoring	Thomas University	Established Sites	DO & FC/EC	To monitor the effectiveness of the above plans	01/03	01/04	Proposed
Adaptive Monitoring	Thomas University	303b streams	DO,FC, Turbidity Nutrients, etc	Identify and locate sources of pollutants in each identified stream	01/03	??	Proposed
Individual Industries	Industries	Various	DO, FC, Turbidity Nutrients	Monitor the affected stream above and below the industry for water quality	01/03	??	Voluntary program

COMMENTS: Before definitive actions can be undertaken, specific offenders, land owners, and industries must be identified. The proposed adaptive monitoring procedures will aid in identifying the specific sources of pollutants in streams that have non point pollution sources. With this knowledge, local and state governments will be able to enact or enforce existing statutes to correct the problems.

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