

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH
Suwannee River Basin

Local Watershed Governments

- Colquitt County
- City of Moultrie
- Other _____

The Code of Federal Regulations 40 CFR 130.33(b)(10) requires States to include an implementation plan as part of a TMDL development. 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 for the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired streams and the corresponding pollutants.** The impaired streams are located in the same sub-basin identified by a HUC10 code (Figure 1).

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

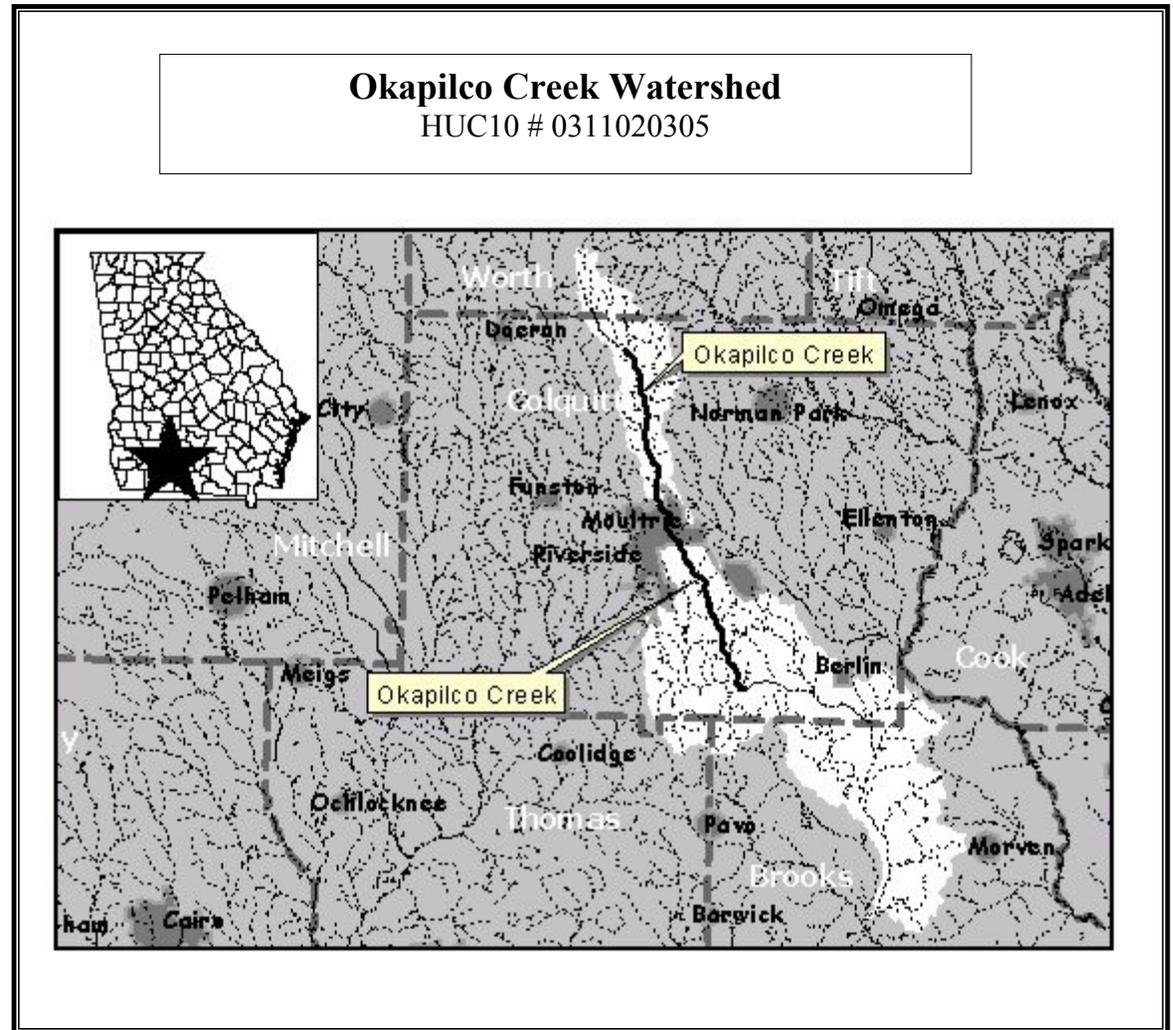


FIGURE 1

Impaired Waterbody*	Impaired Stream Location	Impairment
1. Okapilco Creek	Upstream SR S1540 to US Hwy. 319, Moultrie	Dissolved Oxygen
2. Okapilco Creek	SR 37 to Hog Creek, south of Moultrie	Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the Implementation Plan.

PARAMETER:	SOURCE:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input checked="" type="checkbox"/> Dissolved Oxygen (DO)	<input checked="" type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Habitat	Remove non-native vegetation Remove Rubbish	<u>Businesses</u> – adopt nearby creek segments and donate via adopt a creek programs.
<input type="checkbox"/> Fecal Coliform (FC)	<input checked="" type="checkbox"/> Urban	<input checked="" type="checkbox"/> Recreation	Establish walking/bike trails	<u>Government</u> – work with youth groups to clean wetlands and stream environments.
<input type="checkbox"/> Sediment	<input checked="" type="checkbox"/> Agriculture	<input type="checkbox"/> Drinking Water	Establish native flowers as areas are refurbished. Remove trees, rubbish, barrels, trash to allow free flow and clean pools.	
<input type="checkbox"/> Metals	<input type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Aesthetics		
<input type="checkbox"/> Fish Consumption Guidelines (FCG)	<input checked="" type="checkbox"/> Residential	<input checked="" type="checkbox"/> Other (Please List)		
<input type="checkbox"/> Other (Please List)	<input type="checkbox"/> Other (Please List)	fishing		

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)
New Beginning Christian Academy	Private School – Biology Program: will help locally, curriculum	Okapilco	Students and Parents	2003
Farmers Seed Company (Doerun)	Local seed distributor: will post info: advertise activities	Okapilco	Farmers	2003
Park Regency of Moultrie	Assisted Living Facility: will help within development	Okapilco	Older Citizens/ Caregivers	2003
Farm Bureau Real Estate	Farm-land sales: will encourage BMP's	Okapilco	Farmers/ Homesteaders	2003
Seven Rivers/Statewide Engineering	Presentations (Berlin Community Center, Ellenton City Hall)	Okapilco	Mobile Home Pk operators	2002
Moultrie Observer	Articles outlining basic content of meetings and schedules of meetings run.	Okapilco	General public	Oct-Nov 2002
Adopt-a-Stream	404/675-1639	Okapilco	Adults	2003
Project Wet	404/675-1632	Okapilco	Adults	2003
Happy Trails Pony rides	Construct horse trails 229-324-7669	Okapilco	Young adult volunteers	2003

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/Fax
John Sutton, Wastewater Super.	City of Moultrie	Moultrie	GA.	31776	229-985-1974	229-985-1056
Roger King, Utilities Director	City of Moultrie	Moultrie	GA.	31776	229-870-5432	
Rossman Apiaries	P.O. box 905, 3364 A GA Hwy 33N	Moultrie	GA	31768	1-800-333-7677	229-985-0209
Mattco Realtors	709 South Main St.	Moultrie	GA.	31776	229-985-1145	229-890-1145
Farm Bureau Real Estate	19 1 st ST-SW	Moultrie	GA.	31776	229-985-4373	gfb.org/real estate
Tall Oaks Farm	5559 Tall Oaks Rd.	Moultrie	GA.	31776	229-870-5432	
L&B Quail Farm	588 Chapman Rd.	Moultrie	GA.	31788	229-324-8878	
Farmer Gin & Peanut Co. Inc	2595 GA Hwy 133-S	Moultrie	GA	31768	229-985-8544	
Farmers Seed Co.	110 S. Church St.	Moultrie	GA.	31768	229-985-8544	
Sunbelt Peanut Co.	Hopewell Church Rd.	Moultrie	GA.	31768	229-985-1110	229-891-3390
Stanford Whitman	598 Hopewell Church Rd.	Moultrie	GA.	31788	229-985-1572	
Donald Edwards	P.O. Box 415	Moultrie	GA.	31768	229-985-1415	
American Southern Forest Prod.	1431 Summerlin Road	Moultrie	GA.	31788	229-941-2753	
Weeks Farm Machinery	2186 Sylvester Road	Moultrie	GA.	31788	229-985-5048	
Craftwood Farms	1387 Hopewell Church Road	Moultrie	GA.	31788	229-985-1110	
Simpson J.P. Pecans	Hwy 37-W	Moultrie	GA.	31788	229-985-4444	
Lewis Supply Company	1499 1 st Ave-SE	Moultrie	GA.	31788	229-985-4812	
Bill's Produce & Pecan Co.	100 2 nd ST.-NE	Moultrie	GA.	31788	229-985-6345	
Mobley Plant Co.	1265 Ga. Hwy. 133-N	Moultrie	GA.	31788	229-985-5544	

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)
Okapilco Creek (Upstream)	Upstream SR S1540 to US Hwy. 319, Moultrie	10	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Colquitt			Nonpoint	

Parameter	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 = 3.35 mg/l.	18% TOC (lb/yr) 18% TN (lb/yr) 18% TP (lb/yr)		12/2001

Waterbody Name #2	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Okapilco Creek (Downstream)	SR 37 to Hog Creek, south of Moultrie	10	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Colquitt			Nonpoint	

Parameter	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 = 4.39 mg/l.	19% TOC (lb/yr) 19% TN (lb/yr) 19% 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*
Septic Seepage	Septic Systems	Mobile Homes and/or sub-standard housing units sited improperly, incorrectly installed, inoperative or flooded.	Okapilco Creek,
Organic Matter	Surface/subsurface treated wastewater	Periodic over saturation or over burdening of spray fields	Okapilco Creek
Organic Matter	Ab and Adsorbed organic moieties on silt/clay particles	D.O.T., Colquitt County and City Development construction sites and un-vegetated areas	Okapilco Creek
Organic Matter	Decaying vegetation, dead animals, trash and organic petro chemical wastes.	Clandestine dumping of wastes in wetlands, at dirt road cul-de-sacs and directly into creeks	Okapilco Creek
Oily Wastes	Spillage and runoff from parking lots and industrial sites	Oily sheen noted in Okapilco near Anderson City, MacMassey Rd, James Buckner Rd, Rowell Lake Development and at bridges within Moultrie and Southeast into Cook Co.	Okapilco Creek
Fertilizer Components	Overland erosion of farmland	Fields which have no grassed barriers or strip protection allow silt and clay to accumulate in swales and to clog culverts. Clay holds N, P, K and pesticides, which eventually wash into creeks	Okapilco Creek

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
Colquitt County Local Septic Tank Ordinances	Colquitt County Health Dept. GA. Dept of Human Resources	Approve/ Monitor septic tank/ drain fields, placement, installation, maintenance	2002	On going	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	O.M., nitrates, fecal matter	Okapilco	No action until late 2002

Measurable Milestones	Schedule		Comments
	Start	End	
Number of systems inspected, connected or Disapproved	Sept 2002	2010	The two Health Department Officials assigned to monitor and assess the septic-systems of Colquitt County cannot keep ahead of proposed new systems. Meanwhile scores of systems Are not being corrected or phased out. This is a serious region-wide problem.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
NPDES Permits	EPA, GA DNR/EPD via Moultrie	Regulates discharges of treated wastewater to surface water and to land application systems	1972	On-going	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Subsurface/surface drainage	Okapilco	Good in Past – In danger

Measurable Milestones	Schedule		Comments
	Start	End	
EPD and Moultrie mutual agreement on system Requirements			Moultrie sewage treatment plant managers need immediate guidance and approval from DEP Concerning status of spray fields to east of city. Apparently Moultrie must abandon “east Fields”, rejuvenate/replace/improve pump station/pipelines to main WWTP and improve Efficiency of main plant. Some pipelines need maintenance/replacement. System is now Operating a maximum volume with periodic “overburdening”

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
GA Erosion and Sedimentation Act	GA DNR/ EPD and County	Governs land-disturbing activities and requires use of BMPs	2000	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Silt/Clay ab/ad-sorbates	Okapilco	Rules often Overlooked

Measurable Milestones	Schedule		Comments
	Start	End	
Cessation of culvert and swale in-filling	2003	2005	Contractors, city/county work crews and individuals often neglect to utilize common “BMP”s To prevent erosion and/or control sediments. Rules and training are available but often not Employed on work sites. Serious pollution results.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Anti-Dumping Regulations	Town, City, Developers	Intended to control dumping of solid/liquid wastes	Proposed 2003	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Clandestine Dumping	Okapilco	Ever-increasing incidents.

Measurable Milestones	Schedule		Comments
	Start	End	
Set-up monitoring and measured reduction and Arrests of dumpers	2003	ongoing	Police suggest that a corps of monitors be trained and assigned to catch litterbugs. At present Law officers, Game & Fish Wardens and DNR monitors cannot keep ahead of growing Littering problems.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
GA Water Quality Control Act	GA DNR/EPD/Industry	It is unlawful to discharge excessive pollutants into waters of the state in amounts harmful to public health, safety or welfare, to animas or to the physical properties of a stream. This includes swales, sloughs, and gulches.	1964	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Oily Wastes	Okapilco	Problem gradually being solved

Measurable Milestones	Schedule		Comments
	Start	End	
Oil/Scum can be accurately measured at selected Locations	2003	ongoing	Storm wash from city streets, parking lots and industrial areas should be channeled into Detection basins so that oil can be “lapped” up and only clear grey water allowed to flow to Swales and their creeks.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Ga Agriculture Regulations & BMPs	GA soil and water conservation and GA Agriculture Department	Intended to control fertilization of crops and application of pesticides. Also develops BMPs educational materials and conducts limited monitoring of approved sites.	1987	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Silt/clay, phosphates, pesticides, nitrate, herbicides,	Okapilco	Farms in CNMP usually controlled, many uncontrolled

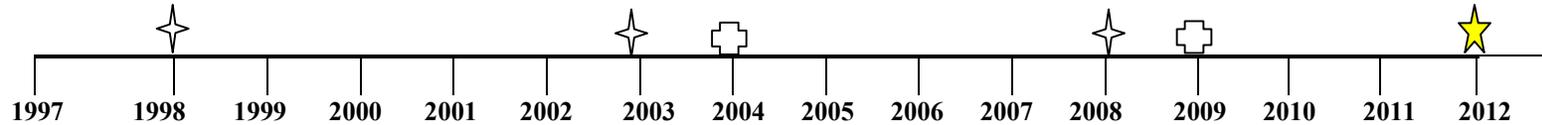
Measurable Milestones	Schedule		Comments
	Start	End	
Number/size of farms with reasonable plans	2003	ongoing	Most large Dairy, cattle, horse or poultry operations are aware of regulations and are Showing improvements, Present limits on number of animals much too high, row crops Remain a major source of erosion/sedimentation.

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	Okapilco
Greenspace Funds	Georgia Department of Natural Resources	Must Apply	Unknown	Okapilco
Conservation Reserve Program	USDA	Must Apply	Unknown	Okapilco
Environmental Quality Incentive Program (EQIP)	Natural Resources Conservation Service	Must Apply	Unknown	Okapilco
Wildlife Habitat Incentive Program	Natural Resource Conservation Service	Must Apply	Unknown	Okapilco
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	Okapilco
Toxics Grant	Jessie Smith Noyes Foundation	Must Apply	Unknown	Okapilco
Sustainable Agriculture Grant	Jessie Smith Noyes Foundation	Must Apply	Unknown	Okapilco
Sustainable Communities Grant	Jessie Smith Noyes Foundation	Must Apply	Unknown	Okapilco
Progressive Fund	The Fund for Southern Communities	Must Apply	Unknown	Okapilco
Brownfields Assessment Demonstration Pilots	EPA Office of Solid Waste and Emergency Response	Must Apply	Unknown	Okapilco
Pollution Prevention Grants	EPA office of Pollution Prevention and Toxics	Must Apply	Unknown	Okapilco
DCA Educational Outreach	Department of Community Affairs	Must Apply	Unknown	Okapilco
Southwest Georgia Bank	Commercial Ag-Loans	Low interest loans	\$300,000	Okapilco
Fleetwood Homes	Repair/Renovate Mobile Homes	Low interest loans	\$10,000/unit	Okapilco
Florida Rock Industries	1215 Wyandotte Dr., Albany, GA. 31716		+/- \$1,000	Upper Suwannee
Joiner Construction Company	Contract Division	Mobile Home Reconstruction	+/- \$1,000	Upper Suwannee

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	
Water Quality Monitoring	Georgia Adopt-A-Stream	Okapilco	Low Dissolved Oxygen	To help educate and improve/or maintain a streams quality	TBA	TBA	Proposed
Water Quality Monitoring	USGS	Okapilco	Low Dissolved Oxygen	Assess Water Quality	N/A	Continuous	Current
Scrap Tire Management Program	Local Government	Okapilco	Low Dissolved Oxygen	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	Okapilco	Low Dissolved Oxygen	Local testing to ensure quality on impaired streams as they relate to effluent discharge.	N/A	Continuous	Ongoing

Name Of Regulation / Ordinance Or Management Measure	Organization	Impacted Waterbodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
Monitoring Program	National Environmentally Sound Production Agriculture Laboratory (NESPAL) and USDA-ARS Southeast Watershed Laboratory	Okapilco	Low Dissolved Oxygen	To study the water quality of the entire Suwannee Basin	N/A	N/A	Current
Monitoring Program	National Environmentally Sound Production Agriculture Laboratory (NESPAL)	Okapilco	Low Dissolved Oxygen	319 (h) Grant to study dissolved oxygen	2003	2006	Grant applied
Local Septic Tanks/Drain fields Ordinances (Field visual and/or core samples)	Colquitt County Health Dept.	Okapilco	Materials that lower D.O.	Remove organic/inorganic substances from effluents by designed and installing modern systems	2002	2005 to finish failed systems	Previous to current
		Okapilco			2002	Keep up with development	Proposed
NPDES: Sewage Effluents (field search for excessive drainage)	Moultrie	Okapilco	(same as above)	1. Upgrade present WWTPs 2. Plan for anticipated population growth	2003	2005	Proposed
		Okapilco			2003	Continuous	Proposed
(GA E&S control Act) Runoff silt/clay	Colquitt and Worth County	Okapilco	Soil bound componenets	County must halt runoff from any open areas	2002	Continuous	Previous

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) EPD must establish weekly monitoring program for parameters that are easily/ inexpensively

Assessed: D.O., pH, turbidity, fecal coliforms. As regulators increase surveillance and corrective actions are maintained, a load change should be possible at

Perhaps increasing. Rate: consider 5% 2003, 15% 2004, 25% 2005, then accelerating to 100% in 2010

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)

Okapilco Creek can be cleaned up and could support life forms

After five years of concerted effort. Tests for D.O. are meaningless during drought.

- Regulatory controls or activities installed (ordinances, laws)

If present laws and ordinances were enforced the creek would soon show improvement.

Funds collected via fines (to be increased) and levies (impact fees to developers, industry) must go directly toward hiring/training more enforcement officers.

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

BMTs for construction, industry, mining (borrow pits, gravel) and farming are

Known and must be encouraged. Improved BMTs are possible. Rules allowing 1 acre open or less than 300 cows are inadequate and are not working.

COMMENTS

Colquitt county has recently started to bring their major septic tank/ drain field problems under control. They need many more trained technicians. Moultrie will
Need technical and financial help to improve their WWTPs. Water Conservation Districts will need help and more personnel to conduct area wide Educational
Outreach. A great deal of work will be required to encourage community support for pollution prevention.

Watershed Okapilco Creek
HUC 10 0311020305

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E-mail: _____
Date Submitted to EPD: Friday Dec. 11, 2002

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
SUWANNEE 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 for the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired streams and the corresponding pollutants.** The impaired streams are located in the same sub-basin identified by a HUC10 code (Figure 1).

This 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.

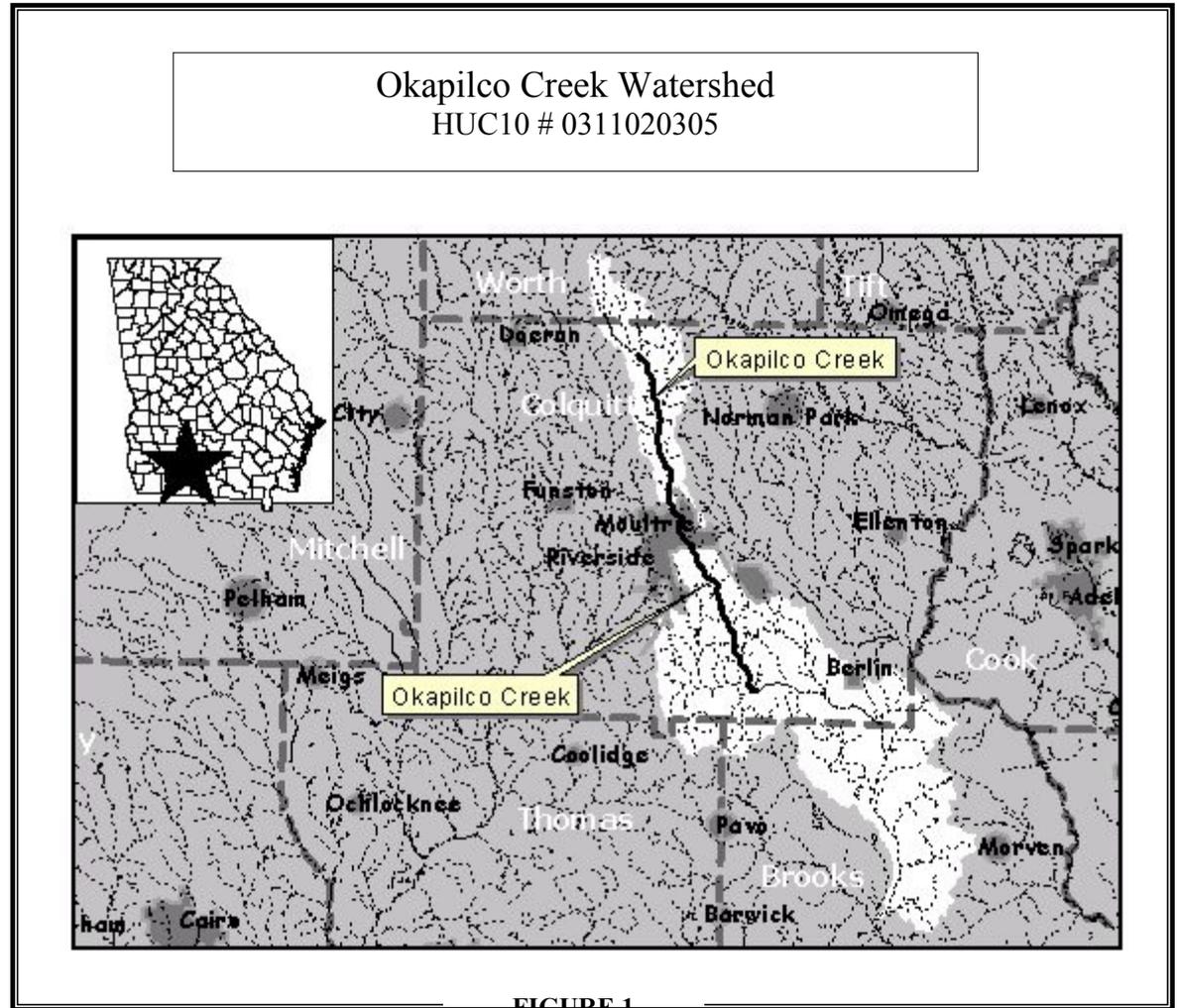


FIGURE 1

Impaired Waterbody*	Location	Impairment
1. Okapilco Creek (Headwaters to Moultrie)	Upstream SR S1540 to US Hwy. 319, Moultrie	Low Dissolved Oxygen
2. Okapilco Creek (Headwaters to Moultrie)	SR 37 to Hog Creek, south of Moultrie (downstream)	Low Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the implementation plan.

Suwannee River Basin
TMDL Implementation Plan
Okapilco Creek Watershed
HUC 10 0311020305

Okapilco Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Okapilco Creek	Upstream SR S1540 to US Hwy. 319, Moultrie	10	Fishing	PS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Colquitt	Worth County Headwaters, Brooks (lower reaches)		Nonpoint	

PARAMETER	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 = 3.35 mg/l.	18% TOC (lb/yr) 18% TN (lb/yr) 18% TP (lb/yr)		12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
Colquitt County Economic Dev.	116 1 st Ave. SE				229-890-1983	
Colquitt County Farm Bureau	1899 Sylvester Hwy	Moultrie	GA		229-985-1435	
Colquitt County Forestry					229-891-7120	
Colquitt County H.S. Ag Program		Moultrie	GA.		229-985-1120	

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)
Adopt-a-Stream	404-675-1639	Adults	2003
Project Wet	404-675-1632	Adults	2003
Happy Trails Pony rides	Construct Horse trails, 229-324-7669	Young adult volunteers	2003

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TMDL Implementation Plan
Okapilco Creek Watershed
HUC 10 0311020305

POLLUTANT SOURCES

Pollutant	Source	Description of Contribution to Impairment
TOC	Sewage; septic wastes, runoff, manures	1. Sewage effluent treatment fields often overloaded. 2. Drainfields of septic tanks clogged, seeping, damaged or missing. 3. Street, development and roadway runoff rich in clay, organics, oily wastes 4. Manures not always utilized properly; feed lots not
TN	Same as above Fertilizers, vegetable material	1. Crops on tilled land fertilized heavily, Often fertilizers washed off farmland. 2. Leaves, pet droppings, and grass clippings washed into storm drains 3. Ammonium and nitrate ions percolate into soil, and reappear in seeps to creek.

MANAGEMENT MEASURES, RESPONSIBLE PARTIES, AND MEASURABLE MILESTONES

Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/ Voluntary
Local Ordinances	Moultrie, Worth/Colquitt Co.	Clandestine Dumping	2003	On-going	Regulatory
Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness			
D.O.	Trash, Rubbish, Barrels	Problem increasing			
Measurable Milestones		Schedule		Comments	
		Start	End		
Use volunteers to scour woods and Okapilco Creek/Wetlands		2003	Cont.	Local police officers cannot keep ahead of those who trash Okapilco Creek directly (dump Over bridges/culverts) or indirectly via woods and dirt roads.	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/ Voluntary
EPD Industrial Sites	EPD/Counties	Contaminated Runoff	2003	Enforced	Regulatory
Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness			
D.O.	Contaminated Runoff/Oily Waste	Effective			
Measurable Milestones		Schedule		Comments	
		Start	End		
County Environmental Officers double efforts. Document Visits and results.		2003	Cont.	Okapilco Creek runs across the industrial zone of Moultrie. Not all industries provide Detention/retention of site runoff. Some facilities do not properly tread vehicle "Wash Water".	

Suwannee River Basin
TMDL Implementation Plan
Okapilco Creek Watershed
HUC 10 0311020305

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/ Voluntary
EPD Erosion/Sediment Control	Counties	Parking Lot, Road, Site Erosion			
Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness			
D.O.	Urban runoff/construction	Effective			
Measurable Milestones		Schedule		Comments	
		Start	End		
Enlist help of law enforcement, foresters, environmental Groups to develop list of problem locations		2003	Cont.	Contractors, developers, city/county road engineers, farmers, industry maintenance personnel Must be aware of rules against opening up land to erosion. Clean out culverts, swales and Ditchfhes, get them vegetated and keep dirt out of waterways, ponds, wetlands, and Okapilco.	

POTENTIAL FUNDING SOURCES

Source	Responsible Authority	Status	Anticipated Funding Amount
USDA	Natural Resources Conservation Service	Planned	Unknown
USDA	Farm Service Agency	Planned	Unknown
USDA	Rural Development	Planned	Unknown
Georgia Forestry Commission	Georgia Forestry Commission	Planned	Unknown
Fish and Wildlife Service	US Fish and Wildlife	Planned	Unknown

MONITORING PLAN

Organization	Pollutants	Purpose/Description	Time Frame		Status:
			Start	End	(Previous, Current, Proposed)
Colquitt Co. HS – Agriculture Dept.	Farm Pollution	Student Monitors	2003	2010	Proposed
Boy Scouts of America	Trash	Volunteer cleanup/ then monitor	2003	Cont.	Proposed
County Health Dept	D.O., TN, TOC, TP	Stop seepage/overflow	2003	2005	No real regulation
County D.O.T	Sediments/trash	Keep swales in glass only	2003	2005	Previous/not enforced
GA-EPD	D.O., TN, TOC, TP	Use CNM Plans	2003	2004	Current
City, Town, County	Organics, TOC	Direct check contamination	2003	2004	Current
City/Town	Oil, Trash, D.O.	Stop flooding pipes to creeks	2003	2004	Current
GA Forestry Div, Dept of Ag.	Sediments	Sediments clog swales, culverts pipes and into creeks	2003	2004	Current

COMMENTS:

Suwannee River Basin
TMDL Implementation Plan
Okapilco Creek Watershed
HUC 10 0311020305

Okapilco Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Okapilco Creek	SR 37 to Hog Creek, south of Moultrie	10	Fishing	PS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Colquitt	Worth (upstream)		Nonpoint	

PARAMETER	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 = 4.39 mg/l.	19% TOC (lb/yr) 19% TN (lb/yr) 19% TP (lb/yr)		12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
Fred & Ann Rossman, Rossman Apiaries	3364A GA Hwy 33-N	Moultrie	GA	31768	800-333-7677	jrossman@surfsouth.com
Sunbelt Expo	290-G Harper Blvd	Moultrie	GA	31768	229-985-1968	www.sunbeltexpo.com
Southwest Georgia Bank	201 1 st ST. SE	Moultrie	GA	31768	2296-985-1120	www.sgfc.com
Lasseter Tractor Company	P.O. Box 726	Moultrie	GA	31776	229-985-1027	Fax: 229-890-1481

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)

POLLUTANT SOURCES

Pollutant	Source	Description of Contribution to Impairment
Septage/Sewage	Leaking or failed septic systems/over-Run at spray fields	Staining and odor along Okapilco from local undetected seepage.

Suwannee River Basin
TMDL Implementation Plan
Okapilco Creek Watershed
HUC 10 0311020305

MANAGEMENT MEASURES, RESPONSIBLE PARTIES, AND MEASURABLE MILESTONES

Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status <small>(In-progress, Planning, Enforced)</small>	Regulatory/ Voluntary
Local Ordinances	Moultrie, Worth/Colquitt Co.	Clandestine Dumping	2003	On-going	Regulatory
Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness			
D.O.	Trash, Rubbish, Barrels	Problem increasing			
Measurable Milestones		Schedule		Comments	
		Start	End		
Use volunteers to scour woods and Okapilco Creek/Wetlands		2003	Cont.	Local police officers cannot keep ahead of those who trash Okapilco Creek directly (dump Over bridges/culverts) or indirectly via woods and dirt roads.	

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Suwannee River Basin
TMDL Implementation Plan
Okapilco Creek Watershed
HUC 10 0311020305

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Suwannee River Basin
TMDL Implementation Plan
Okapilco Creek Watershed
HUC 10 0311020305

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.**