

**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.

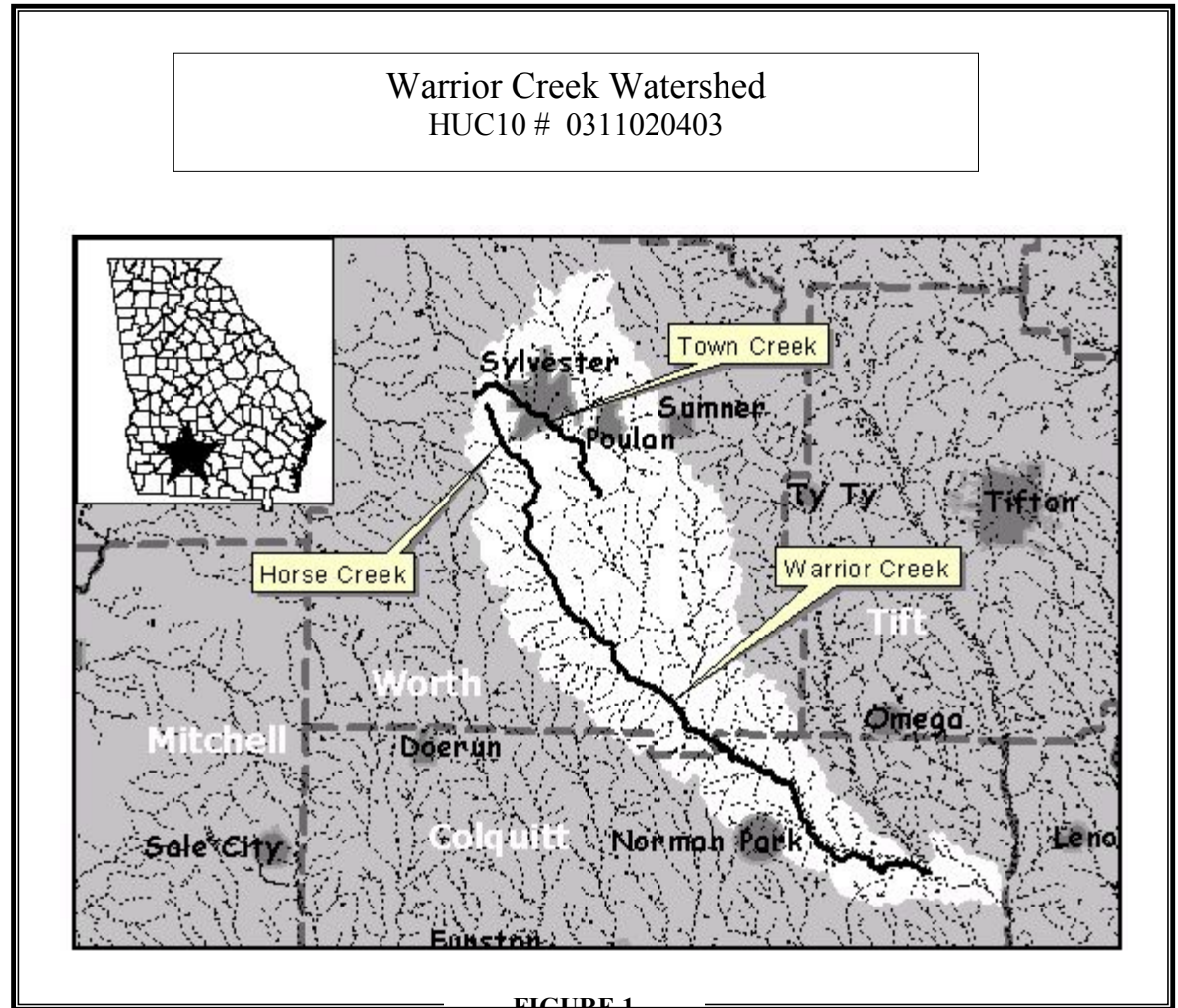


FIGURE 1

Impaired Waterbody*	Location	Impairment
1. Town Creek	Headwaters to Warrior Cr. near Sylvester	Low Dissolved Oxygen
2. Horse Creek	Headwaters near Sylvester to Warrior Cr.	Low Dissolved Oxygen
3. Warrior Creek	Horse Cr. to Rock Cr. near Norman Park	Low Dissolved Oxygen
4. Warrior Creek	Rock Cr. to Ty Ty Cr. near Norman Park	Low Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the implementation plan.

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Creek Watershed
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Town Creek

*

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Town Creek	Headwaters to Warrior Cr. near Sylvester	9	Fishing	PS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Worth			Nonpoint	

PARAMETERS	WATER QUALITY STANDARDS	REQUIRED REDUCTION	TMDL ID #	DATE TMDL ESTABLISHED
Dissolved Oxygen	5mg/l (daily average) Natural DO lower than state standard. Calculated target DO = 3.02 mg/l.	4 mg/l (minimum). 21% TOC (lb/yr) 21% TN (lb/yr) 21% TP (lb/yr)		12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
Worth County Commissioners	201 N Main St. 3 rd Floor	Sylvester	GA	31791	229-776-8200	
Worth County Public Works	118 Rebecca Drive	Sylvester	GA	31791	229-776-8200	Alvin Bradshaw
Sylvester City Council	P.O. Box 370	Sylvester	GA	31791	229-776-8505	
Sylvester Public Works	P.O. Box 370	Sylvester	GA	31791		Jimmy Fowler

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)
Int'l Erosion Control Assn.	SE Regional Outreach	City/County Employees	2004
SW-GA-RDC	Source of regional help		2003
Sylvester		Citizens of Sylvester Area	2002

POLLUTANT SOURCES

Parameter	Source	Description of Contribution to Impairment
D.O.	Sewage and Septage Rubbish, Garbage	Town Creek drains a major portion of Sylvester. Northwest and southwest of the city leaking or draining septic tanks/drainfields Contribute septage to the creek. Within the city sewer mains are often overburdened, while many are in disrepair. During storms sewage Runs along streets and swales joining oily, trash laden street/alley stormwater. Town Creek is severely impacted.

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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
Georgia Water Quality Control Act (OCGA 12-5-20)	Georgia DNR, EPD	Makes it unlawful to discharge excessive pollutants into waters of the state in amounts harmful to public health, safety or welfare, animals, or the physical destruction of stream habitat.	1964	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Sewage	Problem well documented: Sylvester not responding.

Measurable Milestones	Schedule		Comments
	Start	End	
1. Determine which pipelines broken or overcharged.	2003	2015	Sylvester has not responded to population growth and the demands of modern sewage Treatment their WWTP operators must contend with periodic inundations and have requested
2. Develop plan to gradually correct.	2003	2015	Funding to gradually replace pipelines and improve treatment.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status <small>(In-progress, Planning, Enforced)</small>	Regulatory/ Voluntary
Local Septic Tank Permit Ordinance	Department of Human resources and Local Governments	Authorizes the regulation of septic tanks, including placement, installation and maintenance.	1969	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Septage	New Units often sited/operated incorrectly

Measurable Milestones	Schedule		Comments
	Start	End	
1. Determine location of problem septic tank/ drainfields	2003	Continuous	Many mobile homes and/or low income dwellings have been incorrectly sited (in flood Plain) or have not been correctly constructed.
2. Setup plan to gradually correct old systems and properly Place/construct new ones.			

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/ Voluntary
Georgia Erosion and Sedimentation Control Act (OCGA 12-7-1)	Georgia Department of Natural Resources Environmental Protection Division and Local Governments	Authorizes local governments to adopt a comprehensive ordinance governing land-disturbing activities within local planning and zoning jurisdictions and require the use of BMPs	Amended 2000	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Organic Matter: Oily wastes	Gradually improving

Measurable Milestones	Schedule		Comments
	Start	End	
1. Determine total area impacted 2. Reduce areas and watch for new construction	2003	Continuous	Most large road, industrial, or retail sales projects are >1 acre and are reasonably monitored To prevent erosion and minimize sedimentation. Many small projects, esp. roadsides, are not Monitored. Swales and arroyos are filled with sediment. Culverts are often almost clogged With sediment and trash.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/ Voluntary
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Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Clandestine dumping	No local survey or enforcement

Measurable Milestones	Schedule		Comments
	Start	End	
1. Require all landowners to report wastes on their properties 2. Develop procedures to remove from properties and treat, Recycle, decontaminate or bury correctly	2003	2010	Citizens attending meetings or interviewed on their farms or at industries reported that Clandestine dumping occurs often in Worth County. Within the major cities any dumping is Readily identified, but wooded low, vegetated areas, especially near creeks are often violated.

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POTENTIAL FUNDING SOURCES

Source	Responsible Authority	Status	Anticipated Funding Amount
Environmental Quality Incentive Program	National Resource Conservation Service	Must apply	\$100,000
Conservation Reserve Program	NRCS	Must apply	Unknown/share program
Wildlife Habitat Incentive Program	NRCS	Must apply	\$1 to \$50,000
Urban Resources Partnership (URP)	Several Federal Agencies	Must apply	>\$500,000

MONITORING PLAN

Organization	Pollutants	Purpose/Description	Time Frame		Status:
			Start	End	(Previous, Current, Proposed)
GA Adopt-A-Stream		Water Quality Parameters through co-op effort, education, field work, improve water quality	2003	Cont.	Proposed
Local Gov., Tire Mgmt Prgm	Organics	Prevent added dumping	2003	Cont.	Proposed
NESPAL	Agricultural Contaminants	Move agriculture world to sound practices that are both environmentally reasonable, yet economically feasible	2003	Cont.	Proposed

COMMENTS: Town Creek drainage extends into NW Sylvester, continues through the City of Sylvester collecting runoff from much of the downtown area. The creek continues SE through mixed residential/farmland to Warrior Creek. Town Creek receives residential runoff laden with fertilizer, pesticides and oily wastes. On occasion (heavy storm events) the overburdened sewers back up and “exfiltrate” to the surface producing a condition under which sewage could enter water pipes. Citizens report that manholes often overflow. Sewage runs down roadsides and along swales into sloughs and gullies that then empty into Town Creek.

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Horse Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Horse Creek	Headwaters near Sylvester to Warrior Cr.	13	Fishing	PS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Worth			Nonpoint	

PARAMETERS	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 = 2.80 mg/l.	25% TOC (lb/yr) 25% TN (lb/yr) 25% TP (lb/yr)		12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
Worth County Commissioners	201 N. Main St.	Sylvester	Ga.	31791	229-776-8200	
Worth County Public Works	118 Rebecca Dr.	Sylvester	Ga.	31791	229-776-8200	Alvin Bradshaw
Sylvester City Council	Box 370	Sylvester	Ga.	31791	229-776-8505	
Sylvester Public Works	Box 370	Sylvester	Ga.	31791	229-776-8505	Jimmy Fowler
Sylvester Wastewater Supt.	Box 370	Sylvester	Ga.	31791	229-776-8505	John Sutton

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)
Int'l Erosion Control Association	SE Regional Outreach: Speakers/videos	City/ County Employees	2004
SW-GA RDC	Source of Regional help		2003
Sylvester Gazette	Feature articles printed on TMDL	Citizens of Sylvester Area	Oct 2002

POLLUTANT SOURCES

Parameter	Source	Description of Contribution to Impairment
D.O.	Sewage, Septage Rubbish Noxious wastes	Sylvester is an agro-industrial city with a WWTP. Unfortunately the system is very old and has many broken, over-loaded or dysfunctional ceramic pipelines. During storm events sewage lifts manholes and or seeps to surface to join rainwater in swales and along Roadsides and into both Horse and Town Creeks. Horse Creek receives untreated sewage from homes and businesses along Hog Waller RD. and other city and county roads (Rts 33 and 250)

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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/Vol untary
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Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
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Measurable Milestones	Schedule		Comments
	Start	End	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status <small>(In-progress, Planning, Enforced)</small>	Regulatory/Vo luntary
Land Use management Regulations	Local Government, Department of Natural Resources, Department of Human Resources, Department of Community Affairs, Forestry Commission	Utilize state-mandated environmental planning criteria, local planning an zoning ordinances, BMPs for agricultural and forestry, and septic tank permitting to manage runoff and development, RDC will provide technical assistance in developing a model “zoning-light” ordinance to encourage local governments to implement planning and zoning measures.	Adopted on a County by County basis	Planned	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Street/road trash, dump grounds	Litter conrol/policing

Measurable Milestones	Schedule		Comments
	Start	End	
1. Divide problem between Sylvester, Poulan, and Worth Co. 2. Establish zones as target areas. Cleanup	2003	Continuous	Streets and back alleys of Sylvester, especially in areas of low-income and/or industrialization Are littered. Trash has been dumped over bridges, into swales/arroyos that enter Horse Creek

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/Voluntary
Georgia Erosion and Sedimentation Control Act (OCGA 12-7-1)	Georgia Department of Natural Resources Environmental Protection Division and Local Governments	Authorizes local governments to adopt a comprehensive ordinance governing land disturbing activities within local planning and zoning jurisdictions and require the use of BMPs	Amended 2000	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Construction Runoff	Enforcement improving

Measurable Milestones	Schedule		Comments
	Start	End	
Demonstrate ever decreasing area that remains unprotected By erosion control methods	2002	Ongoing	Several county roads were under repair or construction which were not demonstrating BMPs. Evidently the one-acre rule and roadside strip clearing still allow unacceptable erosion and Sedimentation of swales and gulches. Runoff often mixed with agricultural siltation.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/Voluntary
Georgia Planning Act (OCGA 12-2-8)	Georgia Department of Natural Resources and Local Governments	Authorized DCA to develop minimum planning standards and procedures that local government planning and zoning jurisdictions could adopt and enforce pertaining to the protection of river corridors, mountains, water supply watersheds, ground water recharge areas, and wetlands	1989	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Discarded drums, cans rubbish	Problem unsolved, growing

Measurable Milestones	Schedule		Comments
	Start	End	
1. Creeks and tributaries must be patrolled and trash totally Removed. 2. Then encourage volunteers to patrol	2003	2015	Virtually all areas accessed by dirt roads or dirt "tracks" show "clandestine dumping" of noxious Materials including waste oil, paint, pesticides and solid wastes of unknown composition.

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POTENTIAL FUNDING SOURCES

Source	Responsible Authority	Status	Anticipated Funding Amount
Environmental Quality Incentive Program	National Resource Conservation Service	Must apply	\$100,000
Conservation Reserve Program	NRCS	Must apply	Unknown/share program
Wildlife Habitat Incentive Program	NRCS	Must apply	\$1 to \$50,000
Urban Resources Partnership (URP)	Several Federal Agencies	Must apply	>\$500,000

MONITORING PLAN

Organization	Pollutants	Purpose/Description	Time Frame		Status:
			Start	End	(Previous, Current, Proposed)
City Environmental Officer	D.O., pH, turbidity	The inexpensive pollution indicator could be measured by Trained local officers	2003	2015	Proposed
County Environmental Officer	Same and fecal Coliforms	County areas have added potential pollution source of farm Animals	2003	2015	Proposed

COMMENTS: Horse Creek is subject to dumping pollution from road crossovers (9contaminated sites) and from agricultural runoff. Generally the large cattle farms fall under CNMP regulation so that when BMPs are utilized, pollution from manures/lagoons is minimal. Many fields used for row crops are poorly managed so that runoff of fertilizer laden soil materials and organic matter ensues. Use of water grassed barriers, enforcement of no-dumping regulations and recycling would rather quickly halt pollution of this tributary of Warrior Creek.

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Warrior Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Warrior Creek	Horse Creek to Rock Creek near Norman Park	10	Fishing	PS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Colquitt			Nonpoint	

PARAMETERS	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 = 2.86 mg/l.	26% TOC (lb/yr) 26% TN (lb/yr) 26% TP (lb/yr)		12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
Worth Co./ Colquitt Co.	Sylvester, Poulan, Norman Park, Sumner		GA			
Worth Co. Health Dept.	Box 785, 1012 W. Franklin St.	Sylvester	GA	31791	229-777-2150	
Agriliance	P.O. Box 808, 2615 Hwy 82 W	Sylvester	GA	31791	229-776-6941	thobby@agrodist.com
Park Built	P.O. Box 450, US Hwy 82 W	Sylvester	GA	31791	229-776-6948	229-776-5550 Fax
Nether's Fried Pork Skins	2121 GA Hwy 256	Sylvester	GA	31791	229-776-6748	229-777-9303 Fax

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)
Worth County Farm Bureau	Farm Advisors/ Insurance	Farmers/Ranchers/Poultrymen	2002-2003
Colquitt County Farm Bureau	Farm Advisors/ Insurance	Farmers/Ranchers/Poultrymen	2002-2003
Men United Club	Community Service	Citizens	2002-2003
Kiwanis Club	Community Service	Citizens	2002-2003

POLLUTANT SOURCES

Pollutant	Source	Description of Contribution to Impairment
Septage	Leaking drainfields or no system	Conditions south of Norman Park are worse than along Warrior Creek upstream. Many mobile homes south of this city, which has a Sewage treatment plant, are not served. Many homes are on wetlands or within zone of intermittent flooding. Many homes have no Sewage treatment system.

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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 Septic Tank Permit Ordinance	Georgia Department of Human Resources and Local Governments	Authorizes the regulation of septic tanks, including placement, installation and maintenance	1969	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Septage	Slow Improvement

Measurable Milestones	Schedule		Comments
	Start	End	
1. Monitor compliance, carefully consider new applications 2. Investigate complaints 3. Investigate hidden sites	2003	Cont.	Most systems properly sited, but many not operating efficiently. Some systems are public health Problem. Septage most likely the main problem locally

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status <small>(In-progress, Planning, Enforced)</small>	Regulatory/Voluntary
Land Use Management Regulations	Local Government, Department of Natural Resources, Department of Human Resources, Department of Community Affairs, Forestry Commission	Utilize state-mandated environmental planning criteria, local planning and zoning ordinances, BMPs for agricultural and forestry, and septic tank permitting to manage runoff and development, RDC will provide technical assistance in developing a model “zoning-light” ordinance to encourage local governments to implement planning and zoning measures.	Adopted on a County by County basis	Planned	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Urban/Residential Runoff	Fairly Successful

Measurable Milestones	Schedule		Comments
	Start	End	
Constant reassessment of effectiveness of ordinances. Ordinances are no available beyond cities.	2003	Continuous	Runoff within cities: Sylvester, Poulan, Sumner , occurs and is increasing. Runoff in rural Areas fills swales arroyos and lowlands with silt, rich in organic matter, pesticides and Fertilizer. Roadside erosion persistent

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/Voluntary
Clean Water Act, Section 404 CFR Part 232.3	GA EPA, Army Corps of Engineers	Requires normal forestry practices to adhere to BMPs and 15 baseline provisions for forest road construction and maintenance in and across waters of the U.S., including lakes, rivers, perennial and intermittent streams, wetlands, sloughs, and natural ponds in order to qualify for the silvicultural exemption from the permitting process.	1988	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Fecal coliforms, chemicals	Partially Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Counties ill prepared to delineate and monitor activities in Wetlands. USCOE cannot monitor the destruction occurring 1. Train City/County personnel 2. Increase awareness of wetland destruction	2003	ongoing	SGRDC will assist government groups to prevent or help clean up abused wetlands. Wetlands are Prime targets for “dumpers” Much of the Warrior Creek Valley littered with toxic chemical Containers, oily wastes, construction debris, rubbish, garbage and dead carcasses.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/Voluntary
Forestry Water Quality Program	Georgia Forestry Commission	Designated by EPD to lead the effort to develop BMPs, educational BMP programs, forestry complain resolution process and BMP monitoring, conducts biennial BMP monitoring, complaint investigation and mediation.	1999 Manual	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Forestry activities	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
1. Monitor creek zone to find forestry operations 2. Correct poor practices before harm results	Continues		Forest roads remain the largest cause of erosion/sedimentation concern. Use of brush barriers, Sediment basins, “runoffs”, mulch and composting could halt erosion/sediment loss and therefore Creek pollution.

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POTENTIAL FUNDING SOURCES

Source	Responsible Authority	Status	Anticipated Funding Amount
Environmental Quality Incentive Program	Nat'l Resource Conservation Service	Must apply	\$100,000
Conservation Reserve Program	NRCS	Must apply	Unknown/share program
Wildlife Habitat Incentive Program	NRCS	Must apply	\$1 to \$5000
Urban Resources Partnership	Several Federal Agencies	Must apply	> \$500,000

MONITORING PLAN

Organization	Pollutants	Purpose/Description	Time Frame		Status:
			Start	End	(Previous, Current, Proposed)
City Environmental Officer	D.O., PH Turbidity	The inexpensive pollution indicators could be measure by Trained local officers	2003	2015	Proposed
County Environmental Officer	Same and Fecal coliforms	County areas have added potential pollution source of farm Animals	2003	2015	Proposed

COMMENTS: Urban and industrial runoff from Sylvester and Poulan are a major source of pollution. One large junkyard between Sylvester and Poulan south of Rte 82 is not only an aesthetic problem but a source of oily wastes which directly enter Warrior Creek. Clandestine dumping east of Sylvester (rural) and west and south of Poulan is another increasing problem.

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WARRIOR CR

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Warrior Creek	Rock Cr. To Ty Ty Cr. near Norman Park	8	Fishing	NS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Worth	Colquitt		Nonpoint	

PARAMETERS	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 = 3.47 mg/l.	26% TOC (lb/yr) 26% TN (lb/yr) 26% TP (lb/yr)		12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
Worth Co./ Colquitt Co.	Sylvester, Poulan, Norman Park, Sumner		GA			
Worth Co. Health Dept.	Box 785, 1012 W. Franklin St.	Sylvester	GA	31791	229-777-2150	
A-1 Sod Farms, Incl	1148 GA Hwy 256	Norman Park	GA	31771	229-769-5335	
Southern Valley Fruit & Vegetable	2775 Ellenton-N.P. Rd.	Norman Park	GA	31771	229-769-3676	229-769-3397 Fax
Florida Rock Industries	1215 Wyandottea Dr.	Albany	GA	31705	229-434-4769	229-737-4776

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)
Worth County Farm Bureau	Ronald Sumner, Invitation Sent	Farmers/Ranchers/Poultrymen	2002-2003
Colquitt County Agricultural Ext.	Farm Advisors	Farmers/Ranchers/Poultrymen	2002-2003
Men United Club	Community Service	Citizens	2002-2003
Kiwanis Club	Community Service	Citizens	2002-2003

POLLUTANT SOURCES

Pollutant	Source	Description of Contribution to Impairment
Septage	Leaking or seeping drain fields	Individual incorrectly sited systems are found in countryside south of Sylvester along side roads in Worth and extending into Colquitt Co. Trailers with insufficient "drop" to both septic tank and to drainage system are found in secluded locations occupied by low-income Citizens. Some groups of trailers could be served by "pressure system" where septage could be pumped to higher elevation and well Designed drain fields constructed.

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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
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Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Septage	Slow Improvement

Measurable Milestones	Schedule		Comments
	Start	End	
1. Monitor compliance, carefully consider new applications 2. Investigate complaints 3. Investigate hidden sites	2003	Cont.	Most systems properly sited, but many not operating efficiently. Some systems are public health Problem. Septage most likely the main problem locally

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status <small>(In-progress, Planning, Enforced)</small>	Regulatory/Voluntary
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Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Urban/Residential Runoff	Fairly Successful

Measurable Milestones	Schedule		Comments
	Start	End	
Constant reassessment of effectiveness of ordinances. Ordinances are no available beyond cities.	2003	Continuous	Runoff within cities: Sylvester, Poulan, Sumner , occurs and is increasing. Runoff in rural Areas fills swales arroyos and lowlands with silt, rich in organic matter, pesticides and Fertilizer. Roadside erosion persistent

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/Voluntary
Clean Water Act, Section 404 CFR Part 232.3	GA EPA, Army Corps of Engineers	Requires normal forestry practices to adhere to BMPs and 15 baseline provisions for forest road construction and maintenance in and across waters of the U.S., including lakes, rivers, perennial and intermittent streams, wetlands, sloughs, and natural ponds in order to qualify for the silvicultural exemption from the permitting process.	1988	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Fecal coliforms, chemicals	Partially Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Counties ill prepared to delineate and monitor activities in Wetlands. USCOE cannot monitor the destruction occurring 1. Train City/County personnel 2. Increase awareness of wetland destruction	2003	ongoing	SGRDC will assist government groups to prevent or help clean up abused wetlands. Wetlands are Prime targets for “dumpers” Much of the Warrior Creek Valley littered with toxic chemical Containers, oily wastes, construction debris, rubbish, garbage and dead carcasses.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/Voluntary
Forestry Water Quality Program	Georgia Forestry Commission	Designated by EPD to lead the effort to develop BMPs, educational BMP programs, forestry complain resolution process and BMP monitoring, conducts biennial BMP monitoring, complaint investigation and mediation.	1999 Manual	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Forestry activities	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
1. Monitor creek zone to find forestry operations 2. Correct poor practices before harm results	Continues		Forest roads remain the largest cause of erosion/sedimentation concern. Use of brush barriers, Sediment basins, “runoffs”, mulch and composting could halt erosion/sediment loss and therefore Creek pollution.

Suwannee River Basin
TMDL Implementation Plan
Creek Watershed
HUC 10 0311020

POTENTIAL FUNDING SOURCES

Source	Responsible Authority	Status	Anticipated Funding Amount
Environmental Quality Incentive Program	Nat'l Resource Conservation Service	Must apply	\$100,000
Conservation Reserve Program	NRCS	Must apply	Unknown/share program
Wildlife Habitat Incentive Program	NRCS	Must apply	\$1 to \$5000
Urban Resources Partnership	Several Federal Agencies	Must apply	> \$500,000

MONITORING PLAN

Organization	Pollutants	Purpose/Description	Time Frame		Status:
			Start	End	(Previous, Current, Proposed)
GA Adopt a Stream		Water Quality Parameters through coop effort, education, field work, improve water quality	2003	Cont.	Proposed
Local Government	Organics	Prevent added dumping	2003	Cont.	Proposed
NESPAL	Ag Contaminants	Move Ag world to sound practices that are both environmentally reasonable, yet economically feasible	200	Cont.	Proposed

COMMENTS: Urban and industrial runoff from Sylvester and Poulan are a major source of pollution. One large junkyard between Sylvester and Poulan south of Rte 82 is not only an aesthetic problem but a source of oily wastes which directly enter Warrior Creek. Clandestine dumping east of Sylvester (rural) and west and south of Poulan is another increasing problem.

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

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

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH
Suwannee River Basin

Local Watershed Governments

- Worth County
- Colquitt County
- City of Sylvester
- City of Norman Park
- Other _____

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.

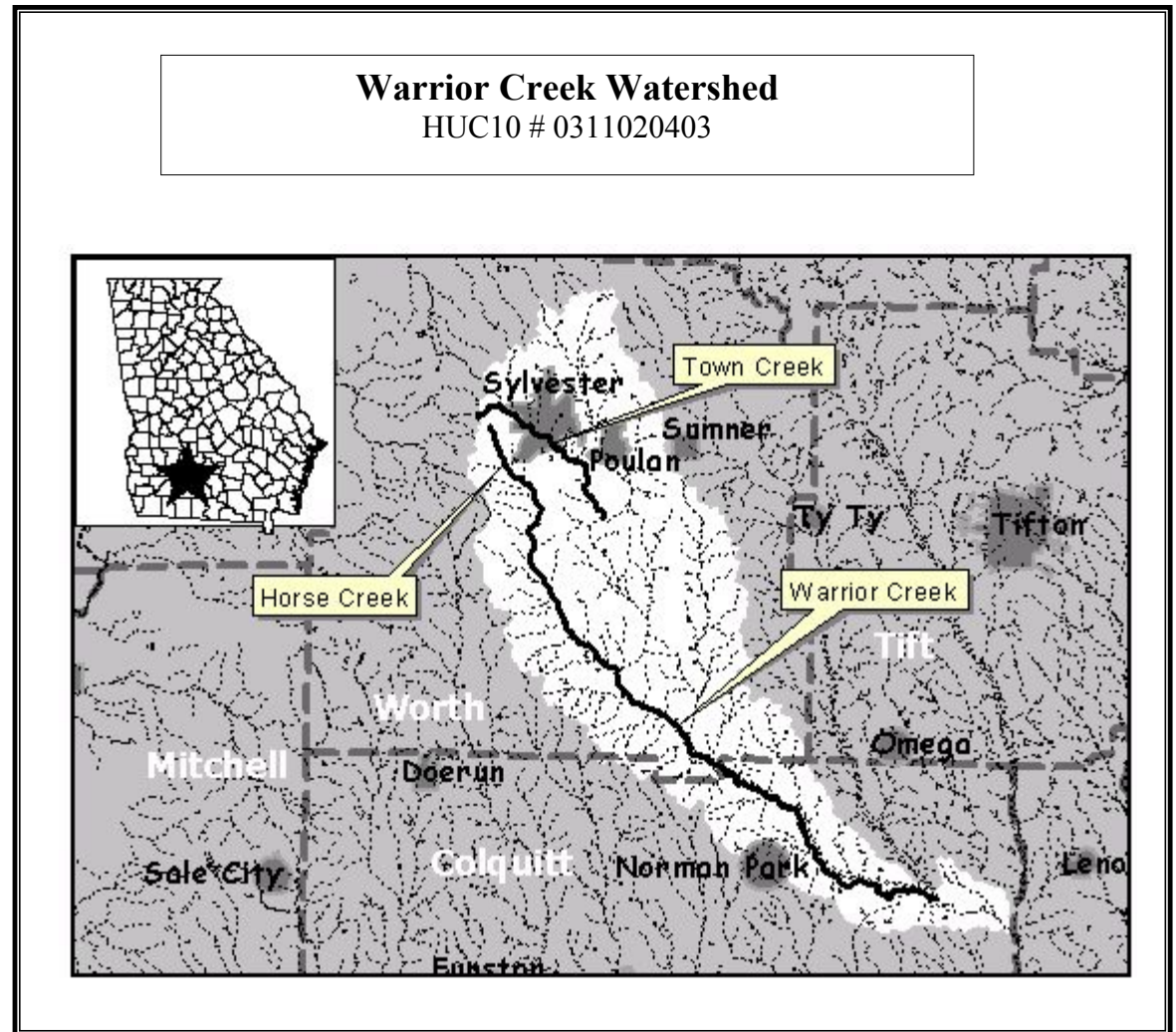


FIGURE 1

Impaired Waterbody*	Impaired Stream Location	Impairment
1. Town Creek	Headwaters to Warrior Cr. near Sylvester	Low Dissolved Oxygen
2. Horse Creek	Headwaters near Sylvester to Warrior Cr.	Low Dissolved Oxygen
3. Warrior Creek	Horse Cr. to Rock Cr. near Norman Park	Low Dissolved Oxygen
4. Warrior Creek	Rock Cr. to Ty Ty Cr. near Norman Park	Low Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the Implementation Plan.

Action Plan for Warrior Creek

Watershed	Warrior Creek
HUC 10	0311020403

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	<ol style="list-style-type: none"> 1. Encourage recycling; correct waste management 2. Establish road/highway/slough, creek "Adoption" 3. Participate in creek bottom and woodland cleanup. 4. Establish neighborhood watch "Clandestine Dumping" Program. 5. Develop FUNDING for trailer/migrant worker home park water and wastewater systems. 	<ol style="list-style-type: none"> 1. Businesses can recycle and re-vise wastes to lessen impact on overloaded landfills. 2. Fund and train environmental monitor/enforcement officers 3. Enforce laws available and restructure and strengthen local environmental regulations on lettering, dumping, setbacks, lawn/yard clippings, chemical and paint dumping. 4. Plan for growth and upgrade of treatment plants, which are now already often over powered.
<input type="checkbox"/> Fecal Coliform (FC)	<input checked="" type="checkbox"/> Urban	<input checked="" type="checkbox"/> Recreation		
<input type="checkbox"/> Sediment	<input checked="" type="checkbox"/> Agriculture	<input checked="" type="checkbox"/> Drinking Water		
<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 type="checkbox"/> Other (Please List)		
<input type="checkbox"/> Other (Please List)	<input checked="" type="checkbox"/> Other (Please List) Septic Tanks Drainfields			

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)
Seven Rivers RC&D	Upper Suwannee Basin	All upper Suwannee		
Norman Park	Local Meetings	Suwannee		Oct 17, 2002
Omega	Local Meetings	Warrior /TyTy		Oct 22, 2002
Lenox	Local Meetings	Warrior /TyTy		Oct 24, 2002
TyTy	Local Meetings	Warrior /TyTy		Nov 5, 2002
Poulan	Local Meetings	Warrior		Nov 7, 2002
Sylvester	Local Meetings	Warrior		Nov 12, 2002
Tifton	Local Meetings	All Suwannee		Nov 14 & 19, 2002
Ellenton	Local Meetings	Warrior		Nov 21, 2002
GA soil/water Conservation	Tifton Meeting	All Upper Suwannee		Dec 2, 2002
Tifton Gazzette/Sylvester Local News	Feature articles:Suwannee Pollution	Warrior		Oct, 2002
Worth County Extension	Local network	Warrior	Farmers/Ranchers	Sept-Nov 2002
Worth County Neighborhood Senior Center	Retired Services	Warrior		Oct 2002

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
John Sutton, Sylvester WstWtr Mayor/Council: Norman Park	P.O. Box 370	Sylvester	GA	31791	229-776-8505	
Mayor/Council: Sylvester	P.O. Box 197	Norman Park	GA	31771	229-769-3611	229-769-3207 FAX
Mayor/Council: Poulan	P.O. Box 370	Sylvester	GA	31791	229-776-8505	229-776-8519 FAX
Worth County Commissioners	P.O. Box 65	Poulan	GA	31781	229-776-4097	229-776-2998 FAX
Tift County Commissioners	201 North Main St 3 rd floor	Sylvester	GA	31791	229-776-8200	229-776-8232 FAX
Cook County Commissioners	225 Tift Ave., RM 204	Tifton	GA	31793	229-386-7850	229-386-7955 FAX
James Sumner	209 N Parrish Ave	Adel	GA	31620	229-896-2266	229-896-7629 FAX
Southern States Coop, Inc.	1122 Roundtree Bridge Rd.	Norman Park	GA	31771	229-769-5062	
Craftmade Homes, Sandy Cooper	720 Ashburn Hwy	Sylvester	GA	31791	1-800-551-2763	(Jerry Glass)
Vaughn's Pump Service	710 Ashburn Hwy	Sylvester	GA	31791	1-888-430-2667	EXT 102
Pat Atwater	3612 US 82 W	Tifton	GA	31794	229-388-9327	
Sandra Almond	211 Atwater Rd.	Tifton	GA	31794	229-382-4411	
Diana Harris	106 Miller Lane	Sylvester	GA	31791	229-985-5836	
Jimmy Cargle, Cargle Pecans	211 West Church St.	Poulan	GA	31781	229-776-6732	
Lawn Cutters/Utility Contractor	608 W Franklin St	Sylvester	GA	31791	229-777-4555	
Elijah J. Thomas	4796 Hwy 319-S	Omega	GA	31775	229-528-6769	
Ken's Hatchery & Fish Farm	P.O. Box 600	Tifton	GA	31793		
Pioneer Plant Nursery	Route 1 US Hwy 129-N Box 449	Alaphaha	GA	31622	229-532-6135	kensfish@surfsouth.com
Veazey Plant Co.	5159 Ellenton-Omega	Omega	GA	31775	229-528-4836	
Smith's Nursery	231 Belflower Rd.	Tifton	GA	31794	229-382-6443	
Durden Timber Co.	179 Inman St.	TyTy	GA	31795	229-382-1441	
Larry Jenkins (Police Chief)	294 Griffin-Houston Rd.	Poulan	GA	31781	229-776-0090	
Janis Jackson	P.O. Box 197	Norman Park	GA.	31771	229-769-3611	
Steve Whittington	P.O. Box 197	Norman Park	GA.	31771	229-769-3611	
Darvin Eason	Public Works/ Omega Box 6	Omega	GA.	31775	229-528-4400	
Connie Daughtrey	Lenox Ag Services, Box 559	Lenox	GA.	31637	229-546-4235	
	Bank of Lenox, Box 8	Lenox	GA	31637	229-546-4215	

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)
Town Creek	Headwaters to Warrior Cr. near Sylvester	9	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Worth			Nonpoint	

Parameters	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 = 3.02 mg/l.	21% TOC (lb/yr) 21% TN (lb/yr) 21% TP (lb/yr)		12/2001

Waterbody Name #2	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Horse Creek	Headwaters near Sylvester to Warrior Cr.	13	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Worth			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 = 2.80 mg/l.	25% TOC (lb/yr) 25% TN (lb/yr) 25% TP (lb/yr)		12/2001

Note: both Town and Horse Creek are tributaries to Warrior Creek. They form the most northwesterly headwaters to Warrior Creek. Both Creeks originate in forested or agricultural highlands. These creeks do meander through lightly populated sections of Sylvester and receive storm water, urban runoff, periodic sewage overflows, and industrial wastewater. During drought conditions these two creeks are converted to partially connected sloughs and small ponds.

Watershed HUC 10	Warrior Creek 0311020403
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Waterbody Name #3	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Warrior Creek	Horse Cr. to Rock Cr. near Norman Park	10	Fishing	PS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Worth	Colquitt		Nonpoint	

Parameters	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 = 2.86 mg/l.	26% TOC (lb/yr) 26% TN (lb/yr) 26% TP (lb/yr)		12/2001

Waterbody Name #4	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Warrior Creek	Rock Cr. to Ty Ty Cr. near Norman Park	8	Fishing	NS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Colquitt	Worth		Nonpoint	

Parameters	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 = 3.47 mg/l.	26% TOC (lb/yr) 26% TN (lb/yr) 26% TP (lb/yr)		12/2001

Note: These two reaches of Warrior Creek meander through farm and ranchlands. During drought conditions these creeks still maintain flow, typical contamination problems.

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 Wastes	Septic Tanks, pipes, drainfields	1. Dwellings located in low areas, in wetlands, adjacent to wetlands and/or on poor soils should not be approved for septic tanks without major topography improvements. 2. Drainfield not correctly placed, inadequate sandy material beneath/downhill from field. System clogged, usually since inadequate “drop” often pipes broken/clogged and field completely overpowered.	All tributaries of Warrior Creek that were observed demonstrated odor, color and materials which originated from septic tanks.
Urban runoff Organics Hydrocarbons Complex Organo-Metallics	Trash and debris from streets of Sylvester, Poulan, Sumner and Norman Park. Debris observed in Horse, Town and Warrior Creeks from overpasses or side dirt roads traversing the creeks and sloughs.	Garbage, paint cans, oily wastes, discarded packaging, food containers and dead animal parts contribute toxic, noxious, poisonous and de-oxygenating compounds. During recent storms the creeks ran besmirched with floating wastes of both industrial and domestic origin.	All portions of Warrior Creek, especially when creek or rivulets run through the cities involved. Major culverts which pass under hwys.
Oily Wastes	Auto/Truck junk yards Grease, oil, fuel, paint	One major junkyard between Sylvester and Poulan contributes continuous flow of oily material from overland flow of stormwater directly to Warrior Creek. Citizens report that there are other far less obvious junkyards along Warrior Creek.	Town Creek Warrior Creek
Organic Matter	Farm and Feedlot runoff via poor BMP's	Manure, silt-clay and complex organo-argillics carried from poorly managed fields, roadways, feedlots and roll-feeding zones into swales and sloughs.	Usually intermittent streams, sloughs and lagoons. Often Poorly designed and or maintained.
Oxygen Demanding compounds	Dead Bacteria, fungi spores from Treatment Plants Complex Organic Compounds	Waste treatment plants periodically not operating efficiently, completely over-powered or by-passed.	Receiving creek, slough or detention pond, which ultimately drain to Warrior 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
Local Septic Tank Permit Ordinances	Georgia Department of Human Resources and Worth and Colquitt Counties	Authorizes the regulation of septic tanks, including placement, installation and maintenance.	1969	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Septic Wastes	Warrior Creek/ Tributaries	Poor action in past. Problem will require major funding before any measurable positive impact.

Measurable Milestones	Schedule		Comments
	Start	End	
Determine number of failed systems.	2002	2004	Classify during Search
Determine which systems can be repaired/ replaced by owners	2002	2004	Modify plans: Seek funding, tax authority, funding via CDBGs
Determine which systems must be aided or abandoned.	2002	2004	Many mobile homes must be moved or abandoned.

Watershed	Warrior Creek
HUC 10	0311020403

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Planning Act (OCGA 12-2-8)	GA DNR/EPD Department of Natural Resources and Individual cities.	Authorized DCA to develop minimum planning standards and procedures that local government planning and zoning jurisdictions could adopt and enforce pertaining to the protection of river corridors mountains, water supply watersheds, groundwater recharge areas, and wetlands.	1989	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Myriad organic/inorganic Compounds	Warrior & Town Creeks	Poor action in past. Seek EPD grants and guidance.

Measurable Milestones	Schedule		Comments
	Start	End	
1. Local initiatives established with appropriate Attainable goals.	2003	2010	Cities will have to stop overcharging drainage system, halt infiltration into sewer lines Prevent sewage backflow through manholes and enforce rules on management of Solid Waste.
2. Specific project goals/monitoring	2004	2010	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Erosion and Sedimentation Control Act (OCGA 12-7-1)	GA DNR/EPD, and Local Governments	Authorizes local governments to adopt a comprehensive ordinance governing land disturbing activities within local planning and zoning jurisdictions and require the use of BMPs.	Amended 2000	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Oil, fuel, sludges, paint	Backwaters of Warrior Horse, Town Creeks	

Measurable Milestones	Schedule		Comments
	Start	End	
Start immediate cleanup	2002	2003	Citizens have complained to Worth and Colquitt county agencies, sites have been Investigated. Little improvement observed Counties need guidance and funding.

Watershed	Warrior Creek
HUC 10	0311020403

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Agricultural BMPs and Rules for Water Quality Control (391-3-6-20 and 21)	Georgia Soil and Water Conservation Service, Georgia Department of Agriculture	Leads effort in agricultural water quality program, develops agricultural educational and monitoring efforts	1987	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Runoff/subsurface decaying	Water table and creeks	Gradually being enforced

Measurable Milestones	Schedule		Comments
	Start	End	
Determine if operations that are required to have CNMP in place, actually have one.	2002	2005	Regulations must be extended to almost all animals And resultant manures, even to household Pets. Manures must be kept "on-site" or composted and Spread. CNMP concept workable,
Enforce operations under BMPs	2002 2002	2005 2005	But must be broadened to include all animals. A system for storage/collection/rendering of Dead animals must be developed, since past practices have proven to be uneconomical. This problem requires research and then practical solution.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
NPDES (National Pollution Discharge Elimination System) Permits	GA DNR/EPD and Individual Cities	Regulates facilities that are allowed to discharge treated wastewater into surface water. Discharge of treated wastewater to sprayfields is also regulated under NPDES.	1972	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Myriad organic/inorganic compounds in poorly treated wastewater	Warrior and Tributaries	Sylvester, Poulan and Norman Park contribute to point and non-point pollution. Cities operate at or above design capacity and often experience overflows on seepage losses to sloughs and creeks involved.

Measurable Milestones	Schedule		Comments
	Start	End	
Show plans to control quantity of waste Show plans to improve quality of effluent			Most cities suffer from significant infiltration (also exfiltration) in pipelines Effluents now too rich in coliforms, ammonia nitrogenous compounds. Cities will need help through grants and /or loans to upgrade or replace over-powered systems

Watershed	Warrior Creek
HUC 10	0311020403

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Land Use Management Regulations	Local Government, Department of Natural Resources, Department of Human Resources Department of Community Affairs, Forestry Commission.	Utilize state-mandated environmental planning criteria, local planning and zoning ordinances, BMPs for agricultural and forestry, and septic tank permitting to manage runoff and development, RDC will provide technical assistance in developing a model “zoning-light” ordinance to encourage local governments to implement planning and zoning measures	Adopted on a County by County basis	Planned	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Forestry activities, Farming practices	Warrior and tributaries	Improvements noted in both silvicultural and agricultural BMPS.

Measurable Milestones	Schedule		Comments
	Start	End	
Visit and record practices.	2003	2010	Full utilization of CNMPs and BMPs for forestry, construction, and farming will halt this Source of pollution.

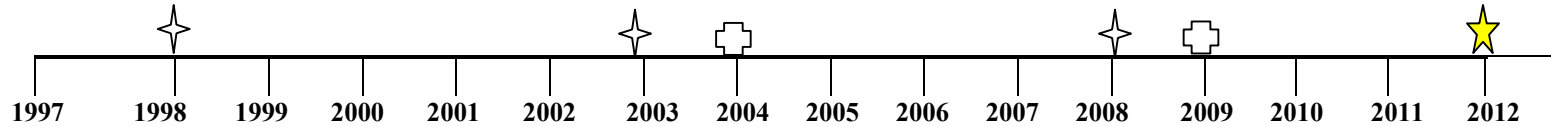
POTENTIAL FUNDING SOURCES

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*
Environmental Quality Incentive Program (EQIP)	NRCS	Must Apply	\$10,000	Warrior Creek System
Wildlife Habitat Incentive Program	NRCS	Must Apply	\$10,000	Warrior Creek System
Urban Resources Partnership (URP)	Foresst Service, NRCS, Nat'l Parks, EPA HUD	Must Apply	+/- \$200,000	Warrior Creek System
Toxics grant (cleanup clandestines)	Jessie Smith Noyes Foundation	Must Apply	\$5,000	Warrior Creek System
Sustainable Agriculture Grant	Jessie Smith Noyes Foundation	Must Apply	\$5,000	Warrior Creek System
Sustainable Communities Grant	Jessie Smith Noyes Foundation	Must Apply	\$5,000	Warrior Creek System
319 (h) Grant	EPD/State of Georgia	Must Apply	Unknown	Warrior Creek System
Greenspace Fund	GA – DNR	Must Apply	Unknown	Warrior Creek System
DCA Educational Outreach	DCA	Must Apply	\$5,000	Warrior Creek System
Nat'l Ctr. For Small Community (NCSC)	Local Town	Tentative	\$5,000	Warrior Creek System
EPA Revolving Fund (SRF)	Office of Wastewater management	Tentative	\$100,000	Warrior Creek System
US Geological Service (USGS)	U.S. Government, research funds for on-site sewage disposal	Tentative	\$100,000	Warrior Creek System
Environmental Quality Incentives Program (EQIP)	USDA:NRCS	Tentative	\$10,000	Warrior Creek System

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	
2004 (or next federal authorization)	United States Geological Survey	Warrior Creek	Dissolved Oxygen & Fecal Coliforms	To detect the levels of dissolved oxygen and fecal coliforms at the USGS Certified Station #2227417 (SR 203) for DO and Site (07024491) for FC	01 /04	12/10	Proposed
Best Management Practices Monitoring	Georgia Forestry Commission	Warrior Creek	N/A	Within the watershed, can conduct monthly aerial reconnaissance to identify recent forestry practices, conduct BMP audit, and make recommendations for remediation if problems are found.		On going	Current
City of Sylvester	City of Sylvester	Warrior Creek	Dissolved Oxygen & Fecal Coliform	To detect the levels of various contaminants	2003	On going	Proposed

CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE

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

Percent of concentration or load change (monitoring program) Small, perhaps 5%/year, improvement in monitoring and enforcing rules in cities, countryside

And on farms/ranches underway. Utilize USGS and GA DNR/EPD monitoring results to re-assess, annually, progress toward improved TMDL.

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) Since sloughs, rivulets, tributaries and feeding lagoons/detention

Ponds are all polluted (some much worse than others) the creeks will remain deprived of oxygen and will continue to increase in other (non-listed) pollutants. If

Suggested practices are implemented Warrior Creek could be “delisted” by 2010.

- Regulatory controls or activities installed (ordinances, laws) City, County and State laws and ordinances are in place, but have not been enforced.

Nutrient management parameters (ie cows/acre, hens/barn) must be re-assessed since program has not significantly reduced pollution of waterways.

- Best management practices installed (agricultural, forestry, urban) Most large farms have CNMPs and show evidence of using BMPs. Nevertheless

Silt-laden runoff from fields, cattle deep in manure, swales running green in fertilizer-induced algal growth, remain obvious problems.

COMMENTS

Citizens and city workers, when questioned beyond “administrative control”, described conditions that exist-in the cities involved- and in the suburbs not

Connected to sewers-as seriously flawed. City sewer systems are running at or above design capacity. Overflows, leakage, seepage and “emergency cleanouts”

Often occur. Lack of trained, serious, empowered personnel-coupled with inadequate funding, pay and workload expectations have resulted in serious

Pollutional problems. Ultimately both Sylvester and the counties involved must seek funding from multiple agencies and may have to adjust tax structure in order

to solve the problems of Warrior Creek and its tributaries.

Watershed Warrior Creek
HUC 10 0311020403

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Date Submitted to EPD: Friday Dec. 13, 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!
