

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH
SATILLA RIVER BASIN

As prepared by:



Local Watershed Governments

COASTAL GEORGIA RDC

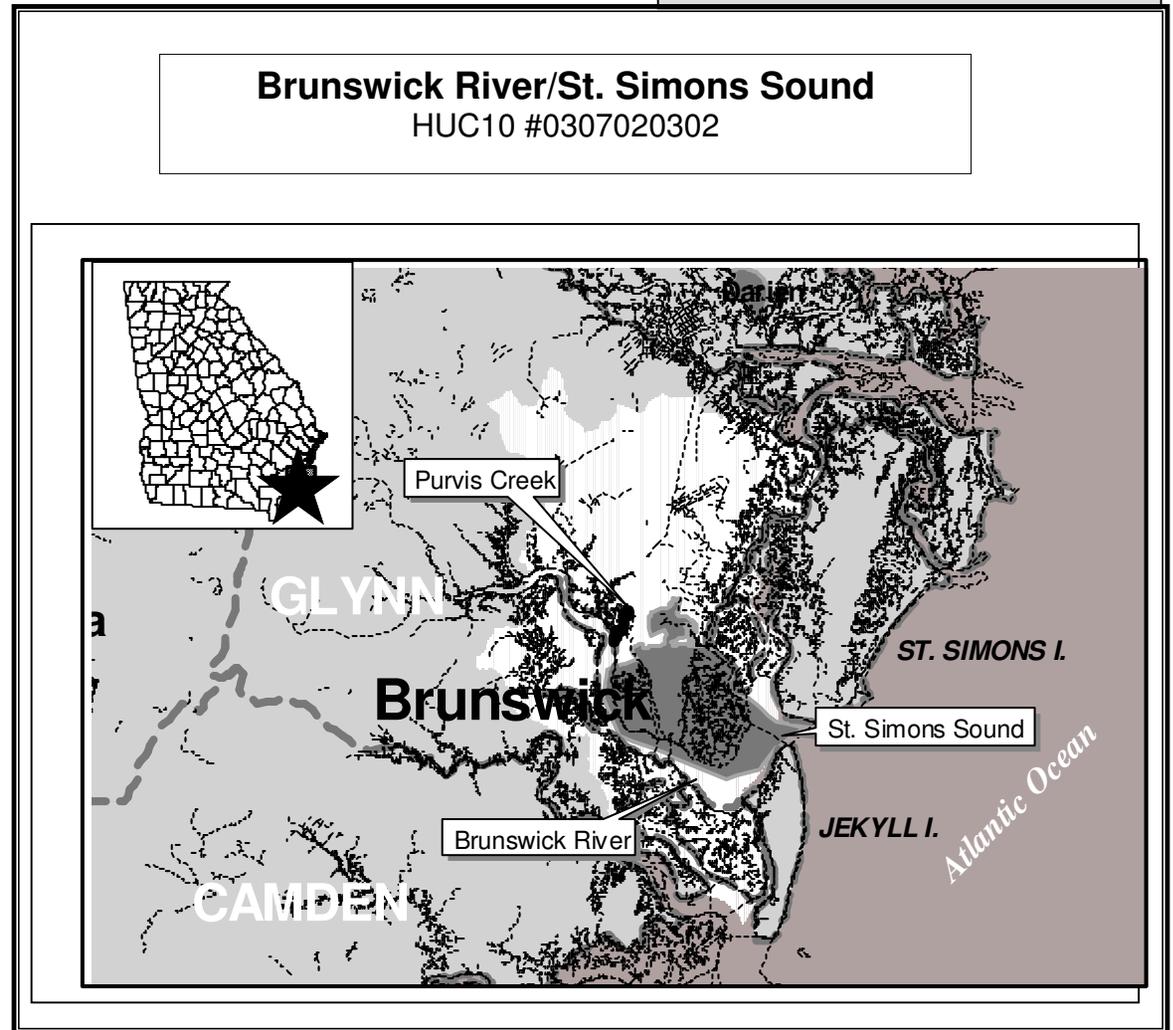
Counties: Glynn, Camden

Cities: Brunswick

The Code of Federal Regulations 40 CFR 130.33(b)(10) requires States to include an implementation plan as part of a TMDL development and submittal. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired waterbodies 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 resources 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 impaired streams.

Watershed: Brunswick River
HUC10:#0307020302



Impaired Waterbody*	Impaired Stream Location	Impairment
1. St. Simons Sound (HUC# 0307020305)	Brunswick	Low Dissolved Oxygen (DO)
2. Brunswick River	Brunswick	Low Dissolved Oxygen (DO)

*These Waterbody Numbers are referenced throughout the Implementation Plan.

Action Plan for Brunswick R. Watershed

POLLUTANT:	SOURCES:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input checked="" type="checkbox"/> Dissolved Oxygen (DO) <input type="checkbox"/> Fecal Coliform (FC) <input type="checkbox"/> Sediment <input type="checkbox"/> Metals <input type="checkbox"/> Fish Consumption Guidelines (FCG) <input type="checkbox"/> Other (Please List)	<input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Agriculture <input type="checkbox"/> Forestry <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Other (Please List) Natural Existing Conditions (Marsh), Urban Runoff	<input checked="" type="checkbox"/> Habitat <input type="checkbox"/> Recreation <input type="checkbox"/> Drinking Water <input type="checkbox"/> Aesthetics <input checked="" type="checkbox"/> Other (Please List) Reduced habitability of aquatic organisms.	Check / Maintain Septic Systems Vegetated Buffers Mulching Vehicle Maintenance Sweeping instead of Washing Driveways Proper Trash Disposal Wash Cars at Carwash Report Polluters Lawn Maintenance w/o Fertilizers On Site Soil Retention	Education (Marina/Boatyard BMP Workshops, Coastal Ark, AAS Demos) Storm Drain Stenciling Volunteers Stream Buffers Report Polluters and Illicit Discharges Waste Management Reduction of Impervious Surfaces

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)
UGA MAREX / Coastal Resources Division / Coastal Management Program	Marina / Boatyard BMP Workshops	St Simons Sound/ Brunswick River	Marinas & Boatyard Operators	01/03
Adopt A Stream Groups	Adopt A Stream Demos	St Simons Sound/ Brunswick River	General Public/ Volunteers	01/03
DNR- Coastal Resources Division	Coastal Ark	St Simons Sound/ Brunswick River	General Public / Local Government Officials	Ongoing
Glynn County / Volunteers	Storm Drain Stenciling	St Simons Sound/ Brunswick River	Local Government / General Public / Volunteers	04/03
Cooperative Extension Service	Septic Maintenance Education	St Simons Sound/ Brunswick River	Septic System Owners / Seafood Packing & Other Business Owners on Waterfront	01/03
NELO- UGA MAREX	Impervious Surface Reduction in Local Planning	St Simons Sound/ Brunswick River	Local Government Officials	Ongoing
Glynn County	NPDES Phase II Public Education & Outreach Requirements	St. Simons Sound/ Brunswick River	General Public / Local Government Officials	04/03
Cooperative Extension Service	Lawn Maintenance BMP Workshops	St Simons Sound/ Brunswick River	Neighborhood Organizations / General Public	01/03

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.

FIRST	LAST	ORGANIZATION	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
DEPARTMENT OF NATURAL RESOURCES								
Julie	Van	Department of Natural Resources - EPD	One Conservation Way	Brunswick	GA	31520	912-264-7284	julie_vann@mail.dnr.state.ga.us
Jan	Mackinnon	DNR - Coastal Management Program	One Conservation Way	Brunswick	GA	31520	912-264-7218	
Jill	Huntington	DNR - Coastal Management Program	One Conservation Way	Brunswick	GA	31520	912-262-3053	
Phil	Flournoy	DNR - Georgia Coastal Resources Division	One Conservation Way	Brunswick	GA	31520	912-264-7218	
Brooks	Good	DNR - Georgia Coastal Resources Division	One Conservation Way	Brunswick	GA	31520	912-264-7218	
Pete	Maye	DNR - Georgia Coastal Resources Division	One Conservation Way	Brunswick	GA	31520	912-264-7284	
AGRICULTURE								
Thomas	Joyner	GSWCC Statesboro Region VI Office	117 Savannah Avenue	Statesboro	GA	30458	912-681-5241	region6@gwins.campuscwix.net
Dot	Graves	Cooperative Extension Service	1803 Gloucester Street	Brunswick	GA	31520	912-267-5655	uge3127@uga.edu
Don	White	RC&D	502 E. General Stewart Way, Suite B	Hinesville	GA	31313	912- 876-6485	
Kristen		USDA- NRCS	3608 Altama Ave.	Brunswick	GA	31520	912-265-8092	
FORESTRY								
Willard	Fell	Georgia Forestry Commission	18899 US Hwy. 301 North	Statesboro	GA	30461	912-681-0490	wfell@gfc.state.ga.us
Rob	Hicks	The Timber Company (Georgia Pacific)	903 Monck St.	Brunswick	GA	31520	912-269-5981	rob_hicks@ttcmail.com
WATERSHED AND ENVIRONMENTAL GROUPS								
Frank	Carl	Concerned Citizens	14501 Smith Road	Charlotte	NC	28273	704-588-4295	fcarl@carolina.rr.com
Beth	Fraser	Georgia Legal Watch	264 N. Jackson Street	Athens	GA	30601	706-546-9008	GLW@GeorgiaLegalWatch.org
Maggie	Kelly	Georgia PIRG	1447 Peachtree St. NE, #304	Atlanta	GA	30309	404-892-3573	mkpirg@juno.com
Will	Berson	The Georgia Conservancy	428 Bull Street	Savannah	GA	31401	912-447-5910	tgccoast@bellsouth.net
		Coastal Group Sierra Club	P.O. Box 16728	Savannah	GA	31416	912-351-7436	jim.darby@sierraclub.org
Nancy	Thomason	RUPA						
Daniel	Parshley	Glynn Environmental Coalition	P.O. Box 2443	Brunswick	GA	31521	912-466-0934	
David	Kyler	Center for a Sustainable Coast	221 B Mallory Street	St. Simons Island	GA	31522	912-638-3612	susdev@gate.net
LOCAL GOVERNMENT								
Preston	Rhodes	Camden County Commission	P.O. Box 248	White Oak	GA	31568	912-576-2900	
Barry	King	Camden County Administrator	P.O. Box 99	Woodbine	GA	31569	912-576-5601	
Jerome	Clark	Glynn County Commission	3400 Norwich Street	Brunswick	GA	31520	912-267-4170	
Mark	Bedner	Glynn County Commission	16 Black Banks Dr.	St. Simons Island	GA	31522	912-634-7000	
		Glynn County Administrator	P.O. Box 879	Brunswick	GA	31521	912-554-7400	
		Glynn County Development Authority	#4 Glynn Avenue	Brunswick	GA	31520	912-265-0620	

		Glynn County Health Department	1609 Newcastle Street	Brunswick	GA	31520	912-264-3961	
		Glynn County Chamber of Commerce	#4 Glynn Avenue	Brunswick	GA	31520	912-265-0620	
		Academy Creek WPCP		Brunswick	GA	31521		
Bradford	Brown	City of Brunswick	P.O. Box 550	Brunswick	GA	31521	912-265-0260	
ADOPT-A-STREAM GROUPS								
Joan	Hesterberg	Jekyll Island Historic Wharf Group	313 Old Plantation Road	Jekyll Island	GA	31522		
OTHER								
Robert	Torras	Brunswick Landing Marina	2429 Newcastle Street	Brunswick	GA	31520		
Eric	Garvey	Jekyll Island Authority	100 James Road	Jekyll Island	GA	31527	912-635-2236	
		Georgia Pacific Pulp & Paper Facility	1400 N. 9th Street	Brunswick	GA	31520	912-265-5780	
		Georgia Ports Authority	100 Gloucester St.	Brunswick	GA	31520	912-264-7295	
		U.S. Fish & Wildlife	4270 Norwich Street Extension	Brunswick	GA	31520	912-265-9336	
		U.S. Coast Guard	2 Conservation Way	Brunswick	GA	31520	912-265-7999	
Brett	Thomas	GISCO Seafood	2020 Demere Road	St Simons Island	GA	31522	912-638-7546	
Lynn	Dunlap	Georgia Power- Plant McManus	1 Crispin Island Drive	Brunswick	GA	31523	912-265-1575	
Tom	Brubaker	King & Prince Seafood	1 King & Prince Blvd.	Brunswick	GA	31565	912-265-5155	
Amy	Roberts	St. Simons African American Heritage Coalition	P.O. Box 20145	St. Simons Island	GA	31522	912-634-0330	
Dick	Wicker	St. Simons Land Trust	1624 Frederica Road	St. Simons Island	GA	31522	912-638-9109	
Keith	Gates	Marine Extension Service	715 Bay Street	Brunswick	GA	31520	912-264-7268	kgates@arches.uga.edu
Ross	King	ACCG	50 Hurt Plaza, Suite 1000	Atlanta	GA	30303	404-522-5022	rking@accg.org
Curtis	Askeland, P.E.	Hussey, Gay, Bell & Deyoung, Inc.	P.O. Box 14247	Savannah	GA	31416	912-354-6754	caskeland@hgbd.com
Dr. Herbert L.	Windom	Skidaway Institute of Oceanography	10 Ocean Science Circle	Savannah	GA	31411	912-598-2490	herb@skio.peachnet.edu
Dr. James	Reichard	Dept. of Geology - Georgia Southern University	1100 Herty Bldg.	Statesboro	GA	30460	912-681-5546	reich@gsaia2.cc.GaSoU.EDU
Allen	Brown	Century 21	123 General Screven Way	Hinesville	GA	31313	912-368-2100	
Willie Fred	Johnson		P.O. Box 402	Ludowici	GA	31316	912-545-9611	
James	Otto	Cetified Public Accountant	P.O. Box 463	Darien	GA	31305	912-437-5858	
Welby	Stayton	USGS - Savannah Field Headquarters	P.O. Box 8223	Savannah	GA	31401	912-652-4350	w_stayton@usgs.gov.com
David	Crosby	U.S. Corps of Engineers	P.O. Box 889	Savannah	GA	31402	912-652-5968	
Eric	Nease	Jordan, Jones & Goulding, Inc.	6801 Governors Lake Pkwy	Norcross	GA	30071	770-455-8555	enease@jjg.com
Chris	Stovall	Thomas and Hutton Engineering Co.	50 Park of Commerce Way	Savannah	GA	31405	912-234-5300	stovall.c@thomas-hutton.com
Mike	Demell	Environmental Services, Inc.	204 West St. Julian St.	Savannah	GA	31401	912-236-4711	mdemell@esinc.cc
Jack	Kingston	First Congressional District, Georgia	805 Gloucester St. #304	Brunswick	GA	31520	912-265-9010	shiela.wood@mail.house.gov
District 9-3:	Coastal	Georgia Department of Public Health	1609 Newcastle Street	Brunswick	GA	31520	912-264-3907	gdphinfo@dhr.state.ga.us
Teresa	Concannon	Coastal Georgia RDC- Statesboro Office	P.O. Box 2636	Statesboro	GA	30459	912-681-0926	cgrdc@bulloch.net
	Technical Committee Member							
	Regional Advisory Committee Member							
11/12/2002								

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 the streams on the 303(d) list will be provided upon request.

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
St. Simons Sound	Brunswick	66 sq. mi.	Fishing	Not Supporting
Primary County	Secondary County	Second RDC		Source (Point/ Nonpoint)
Glynn	Camden	none		Nonpoint
Pollutants	Water Quality Standards	Required Reduction %	TMDL ID	Date TMDL Established
Dissolved Oxygen (DO)	DO: 5 mg/L (daily)-4 mg/L (minimum) "natural" water quality: 3.3-4mg/L DO (daily) AND 3.0m/L DO (minimum)	Not addressed in TMDL		July 2001

Waterbody Name #2	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Brunswick River	Brunswick	11	Fishing	Not Supporting
Primary County	Secondary County	Second RDC		Source (Point/ Nonpoint)
Glynn	Camden	none		Nonpoint
Pollutants	Water Quality Standards	Required Reduction %	TMDL ID	Date TMDL Established
Dissolved Oxygen (DO)	DO: 5 mg/L (daily)-4 mg/L (minimum) "natural" water quality: 3.3-4mg/L DO (daily) AND 3.0m/L DO (minimum)	Not addressed in TMDL		July 2001

TOC=Total Organic Carbon TN=Total Nitrogen TP=Total Phosphorus

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*
Oxidizable Substances	Georgia Pacific Pulp & Paper Facility	NPDES Permittee 12,500 lb/day BOD5	Brunswick River
Oxidizable Substances	City of Brunswick Academy Creek Waste Treatment Facility	NPDES Permittee 20.0 mg/L BOD5	Brunswick River
BOD, Oxidizable Organic Material, DO Sink	Tidal Saltwater Marsh	Natural Conditions (Load Allocation of 337,000 lbs/day)	Brunswick River & SS Sound
Numerous	Urban Runoff	City of Brunswick, SSI and Jekyll Island Urban areas directly located within watersheds.	Brunswick River & SS Sound
Refuse, Sewage and Organic Material	On-Water Contributors (Boats, Ships, Marinas)	Legal and illegal dumpings of organics and septics.	Brunswick River & SS Sound
Sewage, Organic Material	Illicit Discharges & Old Sewer Lines	Contribute organics and septic nutrients to waterways directly and via infiltration and exfiltration.	Brunswick River & SS Sound
Sewage, Organic Material	Leaking Waterfront Septic Systems		Brunswick River
Temperature	Georgia Power	Thermal pollutants (hot water) depletes Oxygen	Brunswick River
Organic Material	Georgia Pacific, Seafood Packaging & Processing Plants, Georgia Ports Authority	Organics and grains, etc. byproducts and spillage	Brunswick River

MANAGEMENT MEASURES, MEASURABLE MILESTONES AND SCHEDULE

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

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

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
NPDES Phase II Requirements	Glynn County	Public Education and Outreach, Public Participation / Involvement, Illicit Discharge Detection & Elimination, Construction Site & Stormwater Runoff Controls, Post Construction Runoff Control, Pollution Prevention / Good Housekeeping for Municipal Operations	Glynn County will submit the plan to address NPDES Phase II Permitting Requirements in March 2003.	Planning Stage. Currently working with Integrated Science & Engineering for plan development.	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Multiple; including BOD, organics, etc.	Municipal Runoff, Illicit Discharge, Construction Site	St Simons Sound/ Brunswick River	Effective Implementation should achieve attainment.

Measurable Milestones	Schedule		Comments
	Start	End	
Various measurable controls will be in place including monitoring.	2003		Glynn County has been determined to be a "Phase II Community" based upon Census 2000 figures. Multiple management measures are required to address stormwater management. The plan will be completed by March 2003.

Glynn County will be implementing management measures that will appropriately address Stormwater Runoff via the county NPDES Phase II Requirements. There are 6 Control Requirements that must be addressed in the county's plan, they are listed below. Each Control Requirement will utilize multiple management measures (Types of Controls) as seen in the right hand column of the table below. Glynn County has not determined the specific types of controls that will be administered as they are in the planning phase. The plan will be completed with the help of Integrated Science and Engineering by March 2003. This plan should substantially address the TMDL and is therefore an integral part of this Implementation Plan. County officials and ISE engineers will work to address issues related to the TMDL.

Control Requirements	Types of Controls
Public Education and Outreach	Education, Stream Buffers, Development and Stormwater Runoff, Household Hazardous wastes, Pet Waste Management, Lawn & Garden Activities, Trash Management, Low Impact Development, etc.
Public Participation / Involvement	Storm Drain Stenciling, Stream Cleanup & Monitoring, Wetland Plantings, Adopt-A-Stream Programs, Watershed Organizations, Citizen Advisory Committees, etc.
Illicit Discharge Detection & Elimination	Determination / Repair of Failing Septic Tank, Industrial/Business Connections to Storm Drains, Recreational Sewage (Boats, Marinas), Illicit Sanitary Connections to Storm Drains, Illegal Dumping, Comprehensive Inventory of Stormwater Management Facilities, etc.
Construction Site & Stormwater Runoff	Soil Erosion & Sediment Control, Inspector Training, Construction Review, BMP Inspection & Maintenance, Model Ordinances, etc.
Post Construction Runoff Control	Use of Georgia Stormwater Management Manual
Pollution Prevention / Good Housekeeping for Municipal Operations	Inspection and Enforcement, Waste Collection, Additional Operations (Detention Basin Maintenance, Hazmat Storage, Oil Recycling, etc.)

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Stormwater Training Workshops for Phase II Communities	Coastal Georgia Regional Development Center	A series of workshops for local government staff, officials, engineers and general public addressing Phase II Stormwater requirements. Includes Model Stormwater Ordinances, training and a procedural review manual for local governments.	October 2001	Ongoing	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Multiple	Urban Runoff, Stormwater, Illicit Discharges, etc.	Multiple, St Simons Sound / Brunswick River	Highly Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Local Government adoption of Stormwater Ordinance & completion of Phase II Plans	10/2001	03/2003	As part of a Coastal Incentive Grant Project through Coastal Management Program.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Coastal Management Program- Nonpoint Source Program (6217)	Georgia Dept. of Natural Resources- Environmental Protection Division	EPD Implementation effort for NPS Controls as required under CZARA 6217	Jan. 1, 1999	Ongoing	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Multiple	All NPS	Multiple, St Simons Sound / Brunswick River	Highly Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Implementation of BMPs, Land Use Changes, Model Ordinance Adoption, Coastal Incentive Grant Project Completion, Public Participation, Reduced Impervious Surfaces.	1/1999	Ongoing	*SEE BELOW

* The coastal Nonpoint Source Program is the part of the Georgia Coastal Management Program that addresses water quality. It was mandated to all coastal states by section 6217 of the Coastal Zone Act Reauthorization Amendment, and is administered at the Federal Level by the National Oceanic and Atmospheric Administration (NOAA). It is a **nonregulatory** program that seeks to reduce nonpoint source pollution by providing funding and technical assistance for a range of activities that implement nonpoint source “management measures”, such as modifying existing construction design standards, local ordinances, public works and contractor training programs, and existing water quality protection programs. These 56 NPS management measures were mandated by the US EPA guidance document 840-B-92-002 (1993). These management measures are nonnumeric directives that seek to reduce NPS pollution from sources that are exempt from regulation under federal or state environmental laws. Some examples of 6217 management measures that address urban and suburban activities are

- Establish watershed protection programs that protect natural drainage systems and that preserve areas that provide important water quality benefits and or are necessary to maintain riparian and aquatic biota.
- Limit the increase of impermeable surfaces wherever practicable.
- Develop a watershed protection program that establishes/preserve streamside buffer zones.
- Include runoff management systems in the design of roads and bridges, which reduce both volume and pollutants.

The Program’s goal is to facilitate the development of any program that addresses the 6217 pollution management measures. Examples of qualifying programs include incentives programs to reduce pesticide use, educational programs aimed at the public and commercial sectors, flood control programs and initiatives, and stormwater Best Management Practice demonstration programs. Georgia’s program headquarters are in Brunswick Georgia at One Conservation Way (Overlooking Brunswick River and St. Simons Sound).

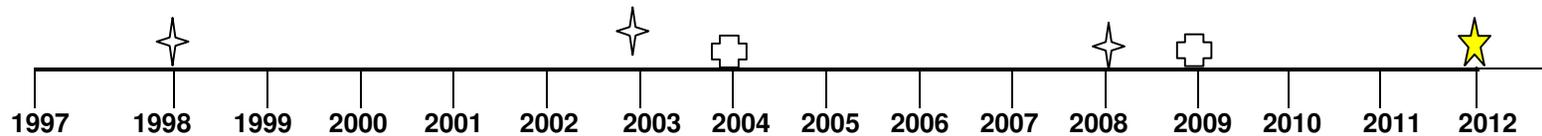
POTENTIAL FUNDING SOURCES **The identification and discussion of dedicated funding is important in determining the economic feasibility of the above-mentioned management measures.

Funding Source	Responsible Authority	Status	Anticipated Funding Amount	Impacted Waterbodies*
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**The above mentioned management measures have been funded via county funds, Coastal Incentive Grant and Federal Programs.
Further potential funding sources can be found on attached document titled "Potential Funding Sources".

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	
Andrews Island Confined Disposal Facility Monitoring	U.S. Corps of Engineers	Brunswick River / St Simons Sound	Dissolved Oxygen, pH	To ensure compliance with state water quality standards.	Weekly	2 months every year.	Current
NPDES Phase II	Glynn County	Brunswick River/ St Simons Sound	Dissolved Oxygen	To determine compliance with state water quality standards as necessary under Phase II compliance.			Proposed (As needed)
Commercial Fisheries Assessment	GADNR- Coastal Resources Division	Coastal, Brunswick River/ St Simons Sound	Dissolved Oxygen	The research vessel ANNA samples 36 stations along coastal Georgia on a monthly frequency. The primary focus for their monthly assessments involves sampling at preset stations to monitor shrimp and crab stocks(maturity,abundance,seasonal distribution,etc.) The crew records surface temp.,salinity and DO at all of the sites to quantify the biological data collected for shrimp and blue crab.	Ongoing		Current

OTHER MONITORING PROGRAMS:

Coastal Resources Division collects Water Quality data for the five projects listed here.

Beach Monitoring

For over 4 years, Georgia has been implementing a beach-monitoring program for swimmer safety. Eleven stations on the coast are monitored weekly for fecal coliform (FC) bacteria. FC bacteria are an excellent indicator of harmful pathogens in surface waters caused by fecal contamination. Tybee Island, Sea Island, St. Simons Island and Jekyll Island are sampled due to their high concentration of recreational users.

Shellfish Harvest

For over 20 years, Coastal Resources Division has been monitoring the water quality of Georgia's coastal waters for the safe recreational and commercial harvest of shellfish (oysters & clams). The Shellfish Sanitation Program is funded by the state of Georgia and consists of water quality monitoring, permitting shellfish harvesters, sanitary surveys, and report writing. Coastal Resources Division administers this program under the guidance of the United States Food and Drug Administration's (FDA) National Shellfish Sanitation Program (NSSP) standards. The National Shellfish Sanitation Program's (NSSP) Manual of Operations (Part 1, Section C-3,a) requires that states show that shellfish harvest areas are "not subject to contamination from human and/or animal fecal matter in amounts that in the judgment of the SSCA [State Shellfish Control Authority] may present an actual or potential hazard to public health." In Georgia, the SSCA are jointly the Department of Natural Resources and the Department of Agriculture. Standards of the NSSP further require the state to regularly collect water samples from each approved harvest area and to perform certain analytical procedures to ensure that the area is below the established fecal coliform threshold. Currently, CRD is monitoring 67 stations for fecal coliform bacteria on the coast concentrated around harvest areas. Chatham, Liberty, McIntosh, Glynn, and Camden counties all have water quality sites in the adjacent water bodies designed to monitor and classify waters for potential shellfish harvest. These stations are monitored once each month at random tide stages.

Pfiesteria

Because of recent concerns about *Pfiesteria piscicida*, a toxic dinoflagellate that has been responsible for massive fish kills in the mid-Atlantic states, Coastal Resources Division began monitoring the major coastal rivers for nutrient loading during March of 2000. A total of eighteen (18) sites are monitored in the Ogeechee River (6), Altamaha River (6), and St. Marys River (6). These stations are monitored for a suite of Nutrients including Nitrite, Nitrate/Nitrite, Ammonia, Orthophosphate, Total Dissolved Phosphorus, and Silicates on a monthly basis.

Nutrients

Beginning in March of 2000, Coastal Resources Division implemented a plan to collect Nutrient data for the coastal estuaries. To maximize the efficiency of sample site selection and collection, the first step was to include nutrient sampling at 63 shellfish sample stations. In addition, a cooperative agreement was reached with Marine Fisheries to incorporate nutrient sampling into their monthly shrimp and crab assessment. This provided an additional 24 sample stations in 6 sound systems. While the shellfish stations and

shrimp / crab assessment stations provided coverage of the majority of the Georgia coast, it did not account for the Altamaha or Doboy sound systems. To fill in this gap, Coastal Resources Division began collecting and analyzing 12 additional water quality samples for the same nutrient suite in Altamaha and Doboy sounds. All told, 99 stations are monitored monthly for Nitrite, Nitrate/Nitrite, Ammonia, Orthophosphate, Total Dissolved Phosphorus, and Silicates in Georgia's coastal estuaries.

National Coastal Assessment

In 2000, Georgia partnered with the Environmental Protection Agency on a National Assessment of Coastal health known as the National Coastal Assessment (NCA). NCA is a five-year program that includes all 24 coastal states and Puerto Rico. The goal is to gain a snapshot of estuary health for the United States during a specified time period using one protocol. The EPA requires that all sampling be done between July 1 and September 1. For the Georgia coast, 50 randomly selected sites are produced by EPA and sampled by Coastal Resources Division Staff each year for 5 years (250 total sites). At each station, Water Quality data (DO, Sal, Temp, depth, pH, Nutrients, and Chlorophyll), Sediment Quality data (Grain size, Total organic carbon, sediment chemistry, and sediment toxicity), and Biological tissue and benthic infauna samples are collected and preserved. All of these samples are shipped to the EPA's Gulf Ecology Lab and analyzed.

[GCAP](#) This link will take you to the Georgia Coastal Analysis Partnership web site. The Georgia Department of Natural Resources Coastal Resources Division is working in partnership with EPA and NOAA to develop an initial inventory of sampling in the coastal region, to use the inventory as a starting point for collecting data to address coastal reseach, to demonstrate benefits of performing science through partnership You can access some water quality data from this site.

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) | <u>Given that the TMDL does not address requisite reductions and the fact that the water bodies have been determined to be naturally low DO, this implementation plan does not address a specific reduction component.</u> |
| - Categorical change in classification of the stream (delisting the stream is the goal) | <u>Current and historical data on DO is available for these Waterbodies and do not indicate substantial problems with the commercial fisheries or natural DO levels.</u> |
| - Regulatory controls or activities installed (ordinances, laws) | <u>NPDES Phase II Activities, Proposed Activities under the 6217 Program (EPD)</u> |
| - Best management practices installed (agricultural, forestry, urban) | <u>NPDES Phase II Activities to be addressed in March 2003 with completion of plan.</u> |

COMMENTS:

Glynn County has been designated a “Phase II Community” for National Pollutant Discharge Elimination System’s Phase II Stormwater Management Regulations. Thus, Glynn County is working with Integrated Science and Engineering to develop a Phase II plan to address the 6 water management measures as required. This plan will be completed by March 2003. The comprehensive plan will address most of the issues at stake in this TMDL Implementation Plan, especially Stormwater management and Illicit Discharges.

Current and historical DO data from these Waterbodies are available and will continue to be collected.

ATTACHED:

- Appendix 1 – Georgia Legal Regime
- Appendix 2 – Federal Legal Regime
- Appendix 3 – Potential Funding Sources

Watershed: Brunswick River
HUC10:# 0307020302

Prepared By: John A. Henry, J.D.
Agency: Coastal Georgia Regional Development Center
Address: P.O. Box 1917
City: Brunswick ST: GA ZIP: 31520
E-mail: jhenry@coastalgeorgiadc.org
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**Environmental Protection Division of the Department of Natural Resources,
State of Georgia.**

TOGETHER WE CAN MAKE A DIFFERENCE!

Department Use Only:

Implementation Plan	Impaired Waterbodies			
	1	2	3	4
Action Plan				
Education/Outreach Activities				
Stakeholders				
Pollutant Sources Identified				
Description of Management Measures				
Measurable Milestones and Schedule				
Potential Funding Sources				
Monitoring Plan				
Criteria To Determine Whether Substantial Progress Is Being Made				
Supporting Documents				