

**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.

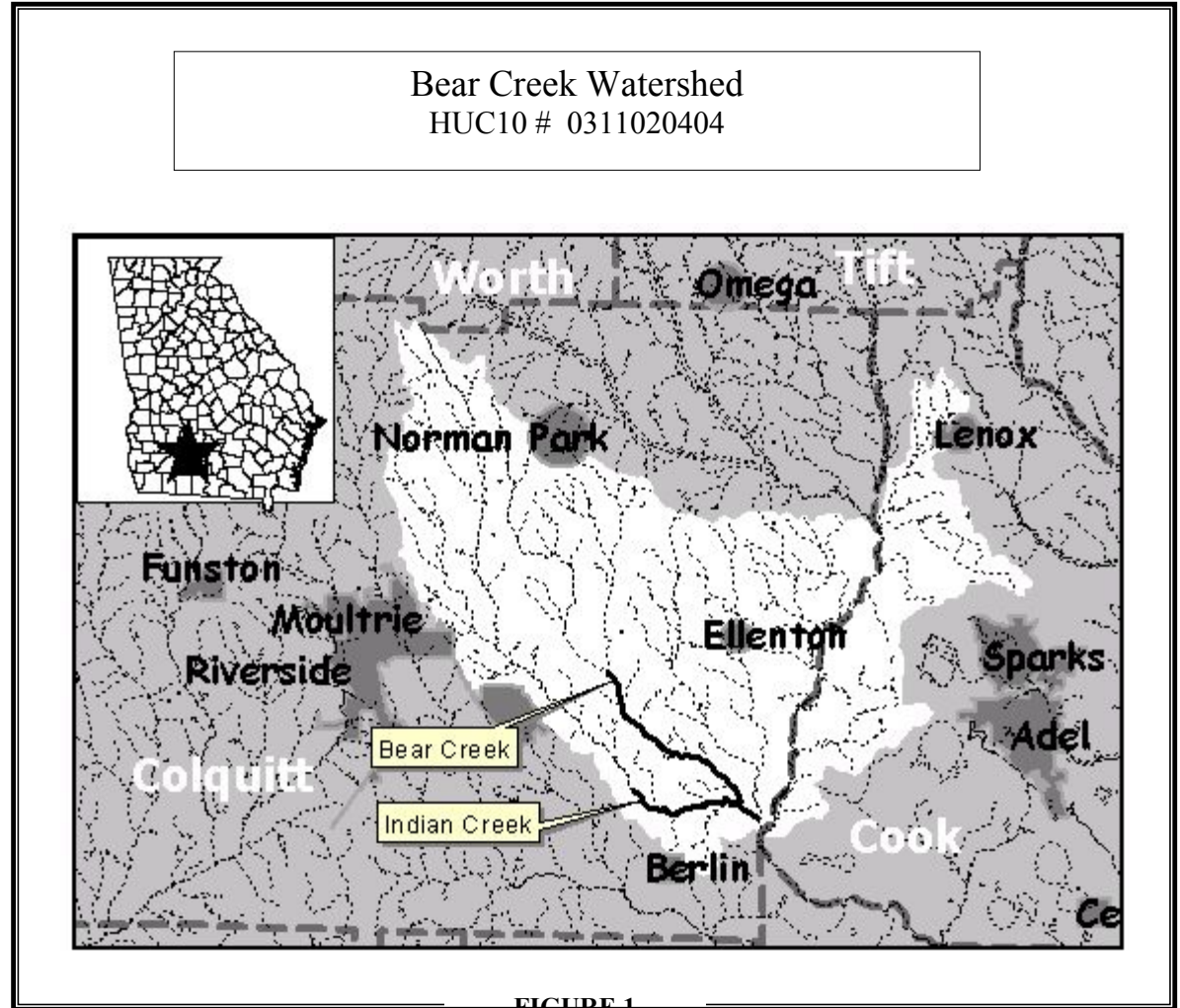


FIGURE 1

Impaired Waterbody*	Location	Impairment
1. Bear Creek	Reedy Creek to Indian Creek near Berlin	Low Dissolved Oxygen
2. Indian Creek	Upstream Little River near Berlin	Low Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the implementation plan.

Suwannee River Basin
TMDL Implementation Plan
Bear Creek Watershed
HUC 10 0311020404

Bear Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Bear Creek	Reedy Creek to Indian Creek near Berlin	7	Fishing	NS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Colquitt	Bear Creek Totally within Colquitt County		Nonpoint (some point sources)	

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 = 2.20 mg/l.	35% TOC (lb/yr) 35% TN (lb/yr) 35% TP (lb/yr)	HUC 10 0311020404	12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
Moultrie Chamber of Commerce	116 1 st Ave – SE	Moultrie	GA.	31768	229-985-2131	
Cook County Commission	209 N Parrish Ave.	Adel	GA.	31620	229-896-2266	229-896-7629 Fax
South GA Septic Service	619 David Newton Rd	Norman Park	GA.	31771	229-891-3339	
AG Georgia Farm Credit	22 – 5 th Ave SE	Moultrie	GA.	31768	229-985-3893	
Tillery Septic Tank Services	662 Rondo Gay Dr.	Funston	GA.	31753	229-941-5656	

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)
Sunbelt Agricultural Exposition	Marketing of Agricultural Products: Will allow booth in 2003	Farmers, Ranchers	Each year – 2003
Habitat for Humanity	Low – Income Housing: will encourage local cleanups	Migrant laborers	Each year – 2003
Family Outreach Center	Interdenominational Outreach: will sponsor speakers/work groups	Migrant laborers	Each year – 2003
Colquitt County School System	Parent – Teacher Organizations: will work community and school.	Parents – Teachers	Each year – 2003
Seven Rivers/Statewide Engineering	Presentations, (Berlin Community Center, Ellenton City Hall)	Bear and Indian Creeks	Mobile Home Park Operators
Moultrie Observer	Articles outlining basic content of meetings and schedule of meetings run.	Bear and Indian Creeks	General Public

Suwannee River Basin
TMDL Implementation Plan
Bear Creek Watershed
HUC 10 0311020404

POLLUTANT SOURCES

Pollutant	Source	Description of Contribution to Impairment
Low D.O.	Industry	Ind. Runoff/seepage, oily wastes, chemicals, sediments.
	Urban runoff	Driveways, gardens, lawns, especially sediment and biomass not composted
	Forestry	Erosion of roads/damaged areas, sediments/biomass flow into channels, swales and Creeks
	Agriculture – Row Crops	Poor Mgmt practices, Improper fertilization, no biodegradation of pesticides/herbicides, sheet erosion
	Cattle/Dairy	Poor BMP utilization, overloading fields with manure, lagoon spillage/leakage, dead animals in creeks
	Poultry	Compost losses to erosion, overloading fields with manure
	Septic Tanks/Drainfields	Direct pipes into sloughs, indirect seepage into sloughs
Direct Trash	Trash thrown into swales over bridges and into	

MANAGEMENT MEASURES, RESPONSIBLE PARTIES, AND MEASURABLE MILESTONES

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	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)	Impacted Waterbodies*
D.O.	Sewage Effluents, Fecal Coliforms	HUC 10#0311020404

Anticipated Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Determine number of units Correct at 2 units per week	01/03	01 /04	Unknown number of very Seriously flawed systems
	01/03	01 /04	Only a comprehensive detection program will pin point sources of septage pollution.

Suwannee River Basin
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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status <small>(In-progress, Planning, Enforced)</small>	Regulatory/Voluntary
Georgia Planning Act (OCGA 12-2-8)	EPD	Rules meant to control trash/sediments not enforced. 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)	Anticipated or Past Effectiveness
D.O.	Packaging, sediments, Oil, C.O.D	Some local control

Measurable Milestones	Schedule		Comments
	Start	End	
Observe culverts, culvert basins	01/03	01 /04	Trash washes into creeks via Swales and drainlines.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status <small>(In-progress, Planning, Enforced)</small>	Regulatory/Voluntary
Georgia 2000-303(d) list	GA – DEP; EPA	Measure various phosphates	2000/late 2002	In progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Phosphorus forms	Improvements anticipated

Measurable Milestones	Schedule		Comments
	Start	End	
Orthophosphate in soils and running water	Spg 03	2010	Phosphorus may leak from soils and organic materials of both animal and plant origin. Erosion can carry phosphorus attached to clay minerals, which normally are held in soil, Across land surfaces to the creek. Is phosphorus found in lower concentration on creek Slopes than along creek bottoms? Phosphorus may move laterally from drainfields.

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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
Forest Road: GAF Division	GA-EPD	Poorly constructed forest roads, disturbed land	July 2003	Some local Conrol	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Oil, Sediments, trash	Some local property owner control No monitoring

Measurable Milestones	Schedule		Comments
	Start	End	
Map roads/area of forestry 2003 Set up monitoring 2003	01/03	Cont.	Poor Practices during Forestry Harvesting operations

POTENTIAL FUNDING SOURCES

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

MONITORING PLAN

Organization	Pollutants	Purpose/Description	Time Frame		Status:
			Start	End	(Previous, Current, Proposed)
Boy Scouts / Girl Scouts	Rubbish	Patrol, remove/report violation	2003	2010	Proposed
Davis Flying Service	Clandestine Dumping	Observe/report dumping	2003	2010	Proposed
Crystal River Environmental	Low D.O.	Detection of Pollution	2003	2010	Proposed

COMMENTS: Citizens report, and our investigator observed, many serious problems associated with trailer parks, and/or substandard housing units. Units have been placed in lands often flooded, in areas which are marginally above water table and on soils, ill suited for drainfields. During farm/ranch visitations hogs, cattle and goats were observed grazing adjacent to Bear Creek or a tributary and on several occasions animals were observed partially submerged in water. Presently only very large animal operations are required to develop CNMPs (Comprehensive Nutrient Management Plans) as monitored and approved by State Agriculture Departments. Apparently, CNMPs should be required for virtually all farms, including small homesteads, because management of wastes remains a major source of stream pollution.

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Bear Creek Watershed
HUC 10 0311020404

Indian Creek

NAME	LOCATION	MILES/AREA IMPACTED	CLASSIFICATION	PARTIALLY SUPPORTING/ NON SUPPORTING (PS/NS)
Indian Creek	Upstream Little River near Berlin	4	Fishing	NS
PRIMARY COUNTY	SECONDARY COUNTY	SECOND RDC	SOURCE (POINT/NON-POINT)	
Colquitt	Indian & Little Indian wholly in Colquitt Co.		Nonpoint (Some Point)	

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 = 4.56 mg/l.	33% TOC (lb/yr) 33% TN (lb/yr) 33% TP (lb/yr)		12/2001

SIGNIFICANT STAKEHOLDERS

Name/Organization	Address	City	State	Zip	Phone	E-mail
City of Berlin		Berlin	GA.			
Colquitt County Bd of Comm	P.O. Box 517	Moultrie	GA.	31776	229-616-7400	229-616-7403 (fax)
Moultrie Chamber of Commerce	116 1 st ave-SE	Moultrie	GA.	31776	229-985-2131	
Farmers Gin & Peanut Company	2595 Hwy 133-S	Moultrie	GA.	31776	229-985-8544	
Horne's Forestry Service	481 East Broad St.	Norman Park	GA.		229-769-3083	

EDUCATION/OUTREACH ACTIVITIES

Responsible Organization or Entity	Description	Target Audience	Anticipated Dates (MM/YY)
Housing Authority (Moultrie)	Low Cost Housing	Mobile Home Complexes	Nov 2002
Sunbelt Agriculture Exposition	Farm/Ranch Sales & Service	Farmers, Ranchers, Youth	Set Booth 2003
Forestry Commission (East By-Pass Moultrie)	BMP – Forestry	Foresters, Farmers	Nov 2002
Moultrie/Colquitt Co. Chamber of Commerce	Outreach Programs	Residential Developers	2003
GA Adopt-a-stream	Cleanup/Monitor greenway	Environmentally Conscious Groups	2003
Project Wet	Water Education of Teachers	Youth	2003
Seven Rivers/Statewide Engineering	Presentations, (Berlin Community Center, Ellenton City Hall)	Bear and Indian Creeks	Mobile Home Park Operators
Moultrie Observer	Articles outlining basic content of meetings and schedule of meetings run.	Bear and Indian Creeks	General Public

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Bear Creek Watershed
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POLLUTANT SOURCES

Source	Description of Contribution to Impairment
Low D.O.	Industry
	Urban runoff
	Forestry
	Agriculture – Row Crops
	Cattle/Dairy
	Poultry
	Septic Tanks/Drainfields
	Direct Trash

MANAGEMENT MEASURES, RESPONSIBLE PARTIES, AND MEASURABLE MILESTONES

Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/Voluntary
Local 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. Fecal Coliforms	Sewage Effluents	Effective regulation in the past

Measurable Milestones	Schedule		Comments
	Start	End	
Determine number of units Correct at 2 units per week	01/03		Unknown number of very Seriously flawed systems Only a comprehensive detection program will pin point sources of septage pollution.

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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
Agricultural BMPs	Georgia Soil and Water Conservation Service, Georgia Department of Agriculture	Leads effort in agricultural water quality program, develops agricultural BMP educational and monitoring efforts	1987	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Animal Wastes/Dead Animals	No controls

Measurable Milestones	Schedule		Comments
	Start	End	
1. Monitor those farms which have CNMPs	2003	2010	Farms and Homesteads with less than present number of animals (ie 300 head of cattle) must Be placed under regulations of CNMP. Feedlots were found which had just under allowable Head of cattle, but were polluting creek to swale runoff, the CNMP program is not solving This problem. Citizens suggest that livestock raising (above needs for a family, on a Homestead) over +- dozen should require CNMPlan.
2. Then Monitor farms which are in different size ranges, Example 100-300; then 50-100, then 5-50 livestock/farm	2003	2010	

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status (In-progress, Planning, Enforced)	Regulatory/ Voluntary
Agricultural BMPs	Georgia Soil and Water Conservation Service, Georgia Department of Agriculture	Leads effort in agricultural water quality program, develops agricultural BMP educational and monitoring efforts	1987	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Anticipated or Past Effectiveness
D.O.	Ammonia; Nitrate, Nitrite (farming)	No controls

Measurable Milestones	Schedule		Comments
	Start	End	
Monitor runoff from largest Farms (2003) and then progressively Smaller farms. Worst problems are related to open field row Crops.	2003	2010	Farms/Homesteads, regardless of size must be required to develop/implement BMP's as Appropriate for crops. Increased implementation of no-till methods, buffer strips, Composting and green manuring should be encouraged through tax relief.

Suwannee River Basin
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Bear Creek Watershed
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POTENTIAL FUNDING SOURCES

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

MONITORING PLAN

Organization	Pollutants	Purpose/Description	Time Frame		Status: (Previous, Current, Proposed)
			Start	End	
County Health Dept	D.O., TN, TOC, TP	Stop seepage/overflow	2003	2005	No real regulation
County D.O.T	Sediments/trash	Keep swales in grass only	2003	2005	Previous/not enforced
GA-EPD	D.O., TN, TOC, TP	Use CNM Plans	2003	2004	Current
City, Town, County	Organics, TOC	Direct check contamination	2003	2004	Current
City/Town	Oil, Trash, D.O.	Stop flooding pipes to creeks	2003	2004	Current
GA Forestry Div, Dept of Ag.	Sediments	Sediments clog swales, culverts pipes and into creeks	2003	2004	Current

COMMENTS: Indian Creek meanders further NW than the nearby Bear Creek, draining a wide swath from Worth-Colquitt County line, SE through Barbers Corner to its junction with Bear Creek. The most significant sources of pollution are improper or poorly functioning septic tank/drainfield units. Farms and homestead, including some large cattle ranches are located adjacent or very near the creek. Refuse and rubbish have been thrown off most bridges; culverts are clogged with demolition debris and several carcasses were found in the creek. A concerted effort to control solid waste is needed on the outskirts of Moultrie and in the areas along both Bear & Indian Creeks. Woodlands are littered with refuse thrown from vehicles that traverse the myriad dirt roads. Materials observed included tires, glass, plastic, cardboard and aluminum, all of which could and should be recycled. The remaining material could have been composted and returned to agricultural/sericulture lands.

Suwannee River Basin
TMDL Implementation Plan
Bear Creek Watershed
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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.**

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH
Suwannee River Basin

Local Watershed Governments

- Worth County
- Colquitt County
- City of Berlin
- 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

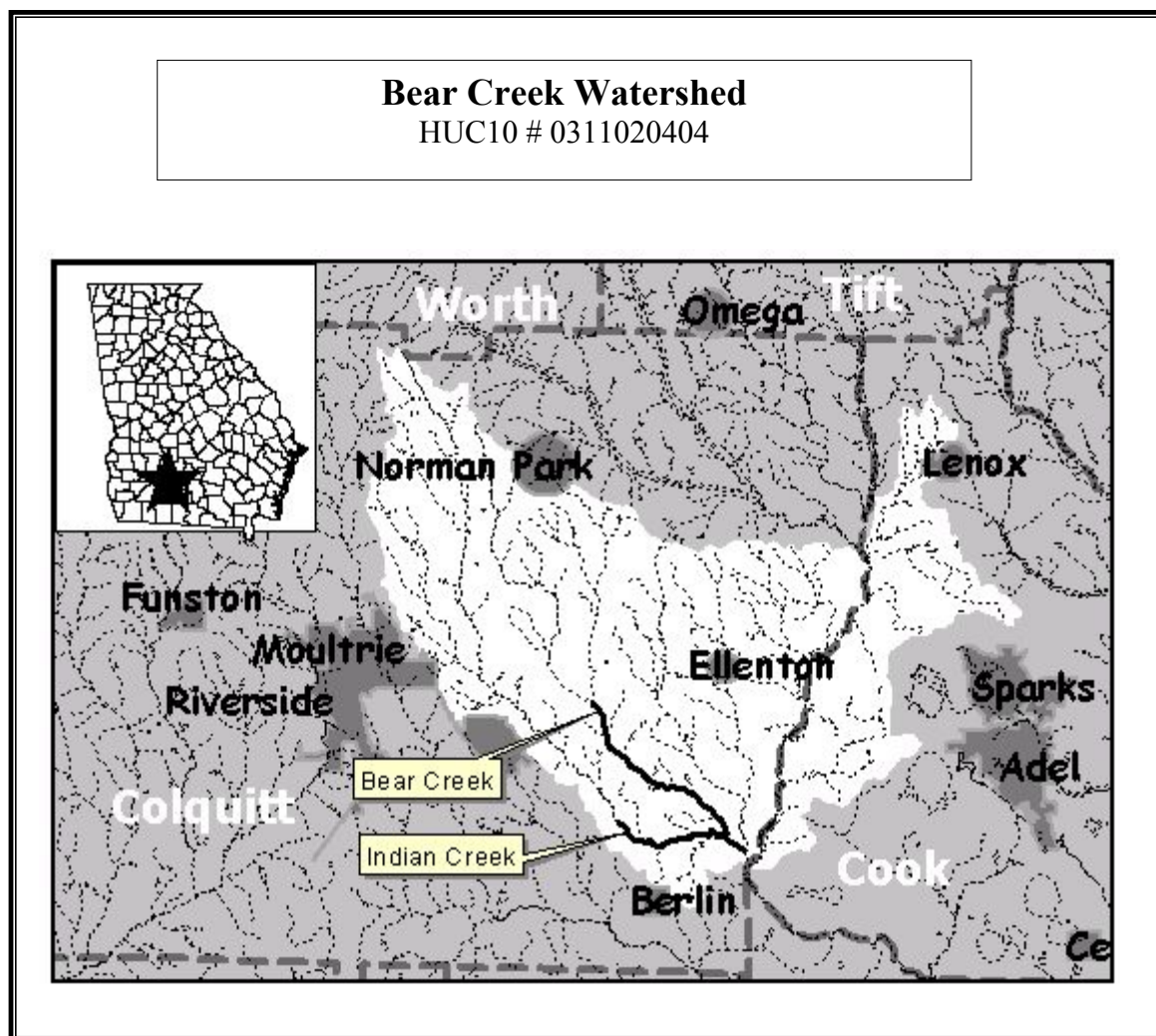


FIGURE 1

Impaired Waterbody*	Impaired Stream Location	Impairment
1. Bear Creek	Reedy Creek to Indian Creek near Berlin	Low Dissolved Oxygen
2. Indian Creek	Upstream Little River near Berlin	Low Dissolved Oxygen

*These Waterbody Numbers are referenced throughout the Implementation Plan.

		EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input checked="" type="checkbox"/> Dissolved Oxygen (DO)	<input checked="" type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Habitat	1.) Properly dispose of trash, rubbish. 2.) Cooperate in efforts to recycle 3.) Properly dispose of oily materials, paint, herbicides, pesticides, solvents 4.) Halt surface erosion and prevent sedimentation 5.) Repair or rebuild septic tanks/drainfields	1.) Lead in efforts to recycle. Try to place wastes into useful recycling plans. 2.) Halt erosion..contain sediments. 3.) Keep toxic, hazardous wastes out of wastewater streams. 4.) Use agro-chemicals properly 5.) Develop and enforce regulations for septic tanks and drainfields.
<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 checked="" type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Aesthetics		
<input type="checkbox"/> Fish Consumption Guidelines (FCG)	<input checked="" type="checkbox"/> Residential	<input checked="" type="checkbox"/> Other (Please List)		
<input type="checkbox"/> Other (Please List)	<input checked="" type="checkbox"/> Other (Please List)	Fishing		
Secondary Causes of Low DO Fecal Coliforms Oily Wastes Complex Organic Chemicals Sediment	Septic Tanks			

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)
Berlin Library	Small town unit, with outreach function	Bear and Indian Creeks	Children, Parents, Lg Land Owners, County /City officials	2002
Seven Rivers/Statewide Engineering US Fish and Wildlife	Presentations, (Berlin Community Center, Ellenton City Hall) The U.S. Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The US Fish and Wildlife has numerous activities that relate to water quality, fish, sedimentation and many more that are available on their website.	Bear/Indian	Mobile Home Pk Operators Everyone	2002 Current

Responsible Organization Or Entity	Description	Impacted Waterbodies*	Target Audience	Anticipated Dates (MM/YY)
National Environmentally Sound Production Agriculture Laboratory (NESPAL)	Research and education efforts to build a better environment for agriculture and rural America	Bear/Indian	Agriculture and rural America	Current
National Environmentally Sound Production Agriculture Laboratory (NESPAL)	319 (h) grant to study dissolved oxygen	Bear/Indian	River Basins in the Southern Coastal Plain, Georgia	Grant applied
Upper Suwannee River Watershed Initiative (USRWI)	Non-Point organizations charged with education/outreach/water related activities within the Suwannee River Basin.	Bear/Indian	Establish organizations/ clubs/ citizens of the Suwannee River Basin	Will depend on group interest and funding sources.
Seven Rivers Resource Conservation and Development	Non-Profit agency who's goal for environmental protection is to improve the water quality and quantity and preservation of the natural resources in the region	Bear/Indian	Local government officials/ citizens/agricultural organizations	Current
South Georgia RDC	The SGRDC offers technical assistance with development regulations	Bear/Indian	Local government officials/ Developers	In-Progress
South Georgia RDC	To help assist with educational outreach to our local governmental jurisdictions, i.e. City, county and interested individuals	Bear/Indian	Local government officials/citizens	Current
Georgia Adopt-a-Stream	The SGRDC would like to see each school district team up with Georgia Adopt-a-Stream and commit to adopting a stream or streams within their county.	Bear/Indian	Established organizations/clubs and/ or those interested	Will depend on group interests and funding sources.
South Georgia RDC/Georgia Department of Community Affairs	Facilitate and educate outreach on water resource related activities, i.e. Water Resource Tool Kit and Water First Program	Bear/Indian	Local government officials/citizens	Current
Georgia Cooperative Extension Services, Colquitt and Worth Counties	To provide timely, unbiased research-based information to the public as it relates to agricultural and family consumer science. To improve the quality of the life for all communities in the State of Georgia. The County Extension Agent's duty is to deliver new information and technology from the University of Georgia's Coastal Plain Research Center to the community.	Bear/Indian	Everyone	Current
Natural Resource Conservation Service (NRCS) Colquitt and Worth Counties	The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environmental.	Bear/Indian	Everyone	Current
University of Georgia 4-H club, Colquitt and Worth Counties	The mission of Georgia 4-H is to assist youth in acquiring knowledge, developing life skills, and forming attitudes that will enable them to become self-directing, productive and contributing members of society. This mission is accomplished, through "hands on" learning experiences, focused on agricultural and environmental issues, agriculture awareness, leadership, communication skills, foods and nutrition, health, energy conservation, and citizenship.	Bear/Indian		

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
City of Moultrie	P.O. Box 3368	Moultrie	Ga.	31776	229-985-1974	
City of Berlin	P.O. Box 188	Berlin	Ga.	31722	229-324-2444	
Moultrie Chamber of Commerce	116 1 st Ave SE	Moultrie	Ga.	31768	229-985-2131	
Colquitt Co. Extension Service	350 Bldg 1, Room 132 Veterans Pkwy N	Moultrie	Ga.	31788	229-616-7455	
USDA-NRCS	350 East ByPass NE Bldg1, Room 109	Moultrie	Ga.	31788	229-985-5399	
Middle South Georgia SWCD	2700 Palmyra Rd.	Albany	Ga.	31707	229-430-4408	
Colquitt Co. Bd of Comm.	1220 S. Main St. P.O. Box 517	Moultrie	Ga.	31788	229-616-7400	
Jalissa Black	265 MLK Jr. Drive	Berlin	Ga.	31722	229-324-8817	
Jeremy Portch	24 Dampier Rd.	Pavo	Ga.	31778	229-859-2887	
Mark Cato	159 Smith St.	Berlin	Ga.	31722	229-324-2915	
Bill Doughtry	557 Old Berlin Rd.	Moultrie	Ga.	31788	229-985-1069	
Kagey Cardin	P.O. Box 414 140 Brice St	Berlin	Ga.	31722	229-324-3309	
Randall Hart – Water Supt.	P.O. Box 188	Berlin	Ga.	31722	229-324-2444	
Vickie Castleberry – Water Supt	P.O. Box 40	Ellenton	Ga.	31747	229-324-2900	
EJ McMillan – Wtr/WstWtr Supt	P.O. Box 3368	Moultrie	Ga.	31776	229-985-1974	
Murphy Mark Agri Services	2461 Kendallwood Church Rd	Moultrie	Ga.	31776	229-941-5897	
BCT Gin Co. – Berlin Division	Hwy 33	Moultrie	Ga.	31776	229-324-2350	
Levi’s Eggs	Hopewell Church Rd.	Moultrie	Ga.	31776	229-985-3375	
Taylor Farm	248 Suwanee Rd.	Moultrie	Ga.	31776	229-890-5363	
Thompson Lester Consulting Forester	714 S. Main St	Moultrie	Ga.	31776	229-985-2424	
Colquitt County Landfill	1816 Shade Murphy Rd.	Moultrie	Ga.	31776	229-891-7475	
B&E Peanut Inc.	173 S. Baker St	Ellenton	Ga.	31747	229-324-3114	
Cook Co. Extension Service	210 North Parrish Rd.	Adel	Ga.	31620	229-896-7456	
Middle South Georgia SWCD	Thomas Ralph Coleman Jr. , 4518 Dunn Road	Hartsfield	Ga.	31756	229-941-2930	
Middle South Georgia SWCD	Richard C Kleedehn, 369 Faison Road	Hartsfield	Ga.	31756	229-941-5227	
Middle South Georgia SWCD	Simeon L Bell, Route 3 box 32	Adel	Ga.	31620	229-896-4129	
Middle South Georgia SWCD	Simmie King, Route 1 Box 1562	Hahira	Ga.	31632	229-896-4386	
Adel – Cook Co. NRCS	Harold Simpson Jr., 109 E Mitchell St.	Adel	Ga.	31620	229-896-2632	
Moultrie Field Off., Colquitt Co.	Raymond Byrd, 350 East By Pass NE Bldg 1 Rm109	Moultrie	Ga.	31768	229-985-5399	
Georgia Forestry Commission	Levy Rentz, Route 3 Box 225	Adel	Ga.	31620	229-896-2925	
Georgia Forestry Commission	Donald Bennett, 197 Shade Murphy Rd.	Moultrie	Ga.	31768	229-891-7120	

Watershed	Bear Creek
HUC 10	0311020404

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)
Bear Creek	Reedy Creek to Indian Creek near Berlin	7	Fishing	NS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Colquitt	Cook		Nonpoint/Point	

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 = 2.20 mg/l.	35% TOC (lb/yr) 35% TN (lb/yr) 35% TP (lb/yr)		12/2001

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Indian Creek	Upstream Little River near Berlin	4	Fishing	NS
Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)	
Colquitt			Nonpoint/Point	

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 = 4.56 mg/l.	33% TOC (lb/yr) 33% TN (lb/yr) 33% TP (lb/yr)		12/2001

***Both Bear and Indian Creeks are adversely impacted by seepage/overflow or direct from septic tanks and drainfields.**

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)

Parameter	Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
Low D.O.	Industry	Ind. Runoff/seepage, oily wastes, chemicals, sediments.	Bear/Indian Creeks
	Urban runoff	Driveways, gardens, lawns, especially sediment and biomass not composted	Same
	Forestry	Erosion of roads/damaged areas, sediments/biomass flow into channels, swales and Creeks	Same
	Agriculture – Row Crops	Poor Mgmt practices, Improper fertilization, no biodegradation of pesticides/herbicides, sheet erosion	Same
	Cattle/Dairy	Poor BMP utilization, overloading fields with manure, lagoon spillage/leakage, dead animals in creeks	Same
	Poultry	Compost losses to erosion, overloading fields with manure	Same
	Septic Tanks/Drainfields	Direct pipes into sloughs, indirect seepage into sloughs	Same
	Direct Trash	Trash thrown into swales over bridges and into	Same

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 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)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Sewage Effluents	HUC 10#0311020404	Effective regulation in the past

Measurable Milestones	Schedule		Comments
	Start	End	
Determine number of units Correct at 2 units per week	01/03	01/04	Unknown number of very Seriously flawed systems
	01/03	01 /04	Only a comprehensive detection program will pin point sources of septage pollution.

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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory/ Voluntary
Georgia Planning Act (OCGA 12-2-8)	EPD	Rules meant to control trash/sediments not enforced. 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.	Packaging, sediments	HUC 10#0311020404	Some local control

Measurable Milestones	Schedule		Comments
	Start	End	
Observe culverts, culvert basins	01/03	01/04	Trash washes into creeks via Swales and drainlines.

Watershed	Bear Creek
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Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Forest Road: GAF Division	GA-EPD	Poorly constructed forest roads, disturbed land	July 2003	Some local Conrol	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Eroded sediments, trash	HUC 10#0311020404	Some local property owner control

Measurable Milestones	Schedule		Comments
	Start	End	
Map roads/area of forestry 2003 Set up monitoring 2003	01/03	Continuous	Poor Practices during Forestry Harvesting operations

Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Agricultural BMPs	Georgia Soil and Water Conservation Service, Georgia Department of Agriculture	Leads effort in agricultural water quality program, develops agricultural BMP educational and monitoring efforts.	1987	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Fertilizer	HUC 10#0311020404	None

Measurable Milestones	Schedule		Comments
	Start	End	
Move toward No-till farming Develop Buffer Strips	01/03	Continuous	Runoff from vegetable and other row crops and excessive use of fertilizer and pesticides Results in surface contamination and sub-surface drainage into swales and sloughs.

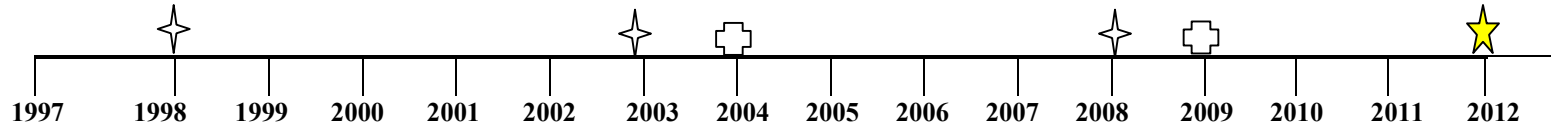
Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Agricultural BMPs	Georgia Soil and Water Conservation Service, Georgia Department of Agriculture	Leads effort in agricultural water quality program, develops agricultural BMP educational and monitoring efforts.	1987	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Low D.O.	Manures/lagoons runoff	HUC 10#0311020404	Move toward CNM Plans

Measurable Milestones	Schedule		Comments
	Start	End	
Farms involved in certification	Lg/03	Sm/05	Virtually all cattle, dairy and poultry farms must develop CNM plans. Present rules are not sufficiently restrictive. Rules now allow to many animals without plans. CNM Plan List

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	
Septic Tanks/ Drainfields	County Health Dept	Bear/Indian Creek	D.O., TN, TOC, TP	Stop seepage/overflow	2003	2005	No real regulation
Highway/Roadway erosion	County D.O.T	Bear/Indian Creek	Sediments/trash	Keep swales in grass only	2003	2005	Previous/not enforced
Manure/Lagoon farm runoff	GA-EPD	Bear/Indian Creek	D.O., TN, TOC, TP	Use CNM Plans	2003	2004	Current
Trash Control	City, Town, County	Bear/Indian Creek	Organics, TOC	Direct check contamination	2003	2004	Current
Urban Runoff	City/Town	Bear/Indian Creek	Oil, Trash, D.O.	Stop flooding pipes to creeks	2003	2004	Current
Forestry	GA Forestry Div, Dept of Ag.	Bear/Indian Creek	Sediments	Sediments clog swales, culverts pipes and into creeks	2003	2004	Current

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) Decrease oxygen demanding pollutants so as to increase dissolved oxygen: 5% - 2003; 10% - 2004; 40% - 2005; 60% - 2006 and 100% - 2010
If monitoring results show that it is unlikely that the TMDL will be adequate to meet water quality standards, revision of the TMDL may be necessary.

- Categorical change in classification of the stream (delisting the stream is the goal) Portions of tributaries and/or headwaters may not be classed as streams but rather as “intermittent streams.” And declassified

- Regulatory controls or activities installed (ordinances, laws) Stiffer CNMP rules (Certified Nutrient Management Plans) for less cattle, horses, chickens to require a PLAN; County Health Depts must assume placement, contribution and mgmt of septic tank/drainfield systems; enforce City-County refuse laws.

- Best management practices installed (agricultural, forestry, urban) Use known acceptable BMPs, but modify where not working.
Example: Modify rules for ponds so as to keep some water in creeks.

COMMENTS

Non-point runoff from farming remains a most serious problem. Point source seepage from improper or failed septic tank/drainfields remains a major problem. Point sources of periodic sewage overflows suspected.

Watershed	Bear Creek
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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!