

# **Tiger, Swift and Pendleton Creeks Watershed Cluster TMDL Implementation Plan Narrative Montgomery, Treutlen, Emanuel and Toombs Counties, Georgia**

## **Introduction**

Tiger, Swift, and Pendleton creeks have been listed as impaired water bodies on the State of Georgia's 303(d) list of impaired waters due to the presence of fecal coliform bacteria. Because of the recent drought, the creeks have become intermittent streams. The lack of consistent water flow and the resultant high water temperatures of remaining pools of stagnant water has no doubt contributed to water quality problems of fecal coliform. Locals at the public meeting noted that there is stagnant water in Pendleton Creek (Sand Hill Lake to Reedy Creek segment) an estimated six to eight months out of the year. Locals mentioned that the streams have been intermittent streams for some time. As another possible contributor to the fecal coliform problem, locals note a large number of geese that reside along Tiger Creek. Also, locals believe that there is a problem with locals dumping deer carcasses in each of the water bodies. While there is a general understanding and willingness to help improve water quality, these local concerns over the true nature of the water quality issues in Tiger, Pendleton, and Swift creeks will have to be addressed to obtain acceptance and support of the TMDL Implementation Plans. The TMDL Implementation Plans concentrate on educating the public about non-point sources of water pollution and encouraging the use of best management practices at the agriculture, forestry, and urban and residential levels. Reduction of bacteria entering Tiger Creek by 99.2%, Swift Creek by 78.3%, and both segments of Pendleton Creek (Sand Hill Lake to Reedy Creek segment and Wildwood Lake to Tiger Creek segment) by 99.8%, will no doubt make for better water quality regardless. A more involved and in-depth monitoring program can also help better define the issues and resolve any local concerns.

## **Background and Purpose**

Tiger Creek, lying in Treutlen, Montgomery and Toombs counties, is in the Upper Altamaha River Basin and eventually flows into the Altamaha River. The 16-mile segment with headwaters northeast of the City of Soperton in Treutlen County is currently listed on the 303(d) list in the State of Georgia for violating the water quality standard for fecal coliform bacteria. Swift Creek, lying in Montgomery and Toombs counties, is in the Upper Altamaha River Basin and eventually flows into the Altamaha River. The 5-mile segment with headwaters southeast of the City of Tarrytown in Montgomery County is on the 303(d) list for fecal coliform also. Pendleton Creek, lying in Treutlen, Emanuel, and Toombs counties, is in the Upper Altamaha River Basin and eventually flows into the Altamaha River. The two segments, essentially one 19-mile segment with headwaters in Johnson County near the Johnson and Laurens county lines, is currently listed on the 303(d) list in the State of Georgia for violating the water quality standard for fecal coliform as well.

The presence of fecal coliform bacteria in aquatic environments indicates that the water has been contaminated with the fecal material of man or other animals. At the time this occurred, the source water might have been contaminated by pathogens or disease producing bacteria or viruses, which can also exist in fecal material. Some waterborne pathogenic diseases include typhoid fever, viral and bacterial gastroenteritis and hepatitis A. The presence of fecal contamination is an indicator that a potential health risk exists for individuals exposed to this water. Fecal coliform bacteria may occur in ambient water as a result of the overflow of domestic sewage or non-point sources of human and animal waste.

The U.S. Clean Water Act requires a TMDL, or Total Maximum Daily Load, to be established for each pollutant in every body of water on the 303(d) list. A TMDL is a calculation of the maximum amount of pollutant, from both point and non-point sources, that a water body can receive and still adhere to the minimum water quality standard developed by the State of Georgia. The United States Department of Interior-Geological Survey (USGS) and the Georgia Environmental Protection Division (GAEPD) gathered samples from Tiger Creek beginning in January of 1999 through December of 1999. The GAEPD tested samples to detect the level of fecal coliform. For the months of May through October, fecal coliform should not exceed 400 counts per 100ml on any given sample collected from a given sampling site. In the months of November through April, fecal coliform should not exceed 4,000 colonies per 100ml, on any given sample collected from a given sampling site. The data gathered indicated four exceedances of the fecal coliform level during the months of May through October. Due to a lack of sufficient sampling data during the period, a more generous standard for fecal coliform was utilized for Tiger Creek. Normally, the standard for the months for May through October is 200 colonies per 100ml. For the months of November through April, the normal standard is 1,000 colonies per 100ml. In 2000, the 16-mile segment of Tiger Creek was placed on the 303(d) list.

Also, the GAEPD tested samples to detect the level of fecal coliform in Swift Creek from January through December of 1999. For the months of May through October, fecal coliform should not exceed a geometric mean of 200 counts per 100ml on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. In the months of November through April, fecal coliform should not exceed a geometric mean of 1,000 colonies per 100ml, based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours, and not to exceed a maximum of 4,000 colonies per 100ml for any sample. The data gathered indicated two exceedances of the fecal coliform level during the months of May through October geometric mean standard of 200 colonies per 100ml in Swift Creek. In 2000, the 5-mile segment of Swift Creek was placed on the 303(d) list.

Likewise, the GAEPD also tested samples to detect the level of fecal coliform in two segments of Pendleton Creek (Sand Hill Lake to Reedy Creek and Wildwood Lake to Tiger Creek) from January through December of 1999. As was the case mentioned earlier for Tiger Creek, for the months of May through October, fecal coliform should not exceed 400 counts per 100ml on any given sample collected from a given sampling site. In the months of November through April, fecal coliform should not exceed 4,000 colonies per 100ml, on any given sample collected from a given sampling site. The data gathered indicated two exceedances of the fecal coliform level during the months of May through October for the 7-mile segment from Sand Hill Lake to Reedy Creek and the 12-mile segment from Wildwood Lake to Tiger Creek. Again, due to a lack of sufficient sampling data during the period, a more generous standard for fecal coliform was utilized for both segments of Pendleton Creek. Normally, the standard for the months for May through October is 200 colonies per 100ml. In 2000, both segments of Pendleton Creek were placed on the 303(d) list.

The purpose of the implementation plan is to identify the actions that must be taken in the future to decrease the level of fecal coliform in Tiger Creek by 99.2%, Swift Creek by 78.3%, and both segments of Pendleton Creek by 99.8% through reducing the amount of bacteria entering the streams. This should improve the water quality and better enable the creeks to meet the state water quality standard.

### **Plan Preparation**

The implementation plan was developed by the Heart of Georgia Altamaha RDC with the assistance of a watershed committee comprised of stakeholder representatives from the forestry industry, agriculture, the Georgia Forestry Commission, the Ohoopsee Soil and Water Conservation District, Cooperative Extension Service, Altamaha and Canoochee RiverKeepers, the Pine Country R C & D, the NRCS, the Montgomery, Emanuel, Treutlen, and Toombs County Commissions, one mayor, two city managers, and the local presidents of Farm Bureau. The Heart of Georgia Altamaha RDC was in charge of drafting the plan under a contract signed with the GA EPD to prepare a TMDL Implementation Plan. A preliminary copy of the plan and planning process was discussed and a presentation was given at the initial watershed committee meeting on April 29, 2003 at the City of Vidalia City Council Chambers. Along with the watershed committee, landowners with 500 acres or more of property within two miles of either side of the creeks were invited to attend this initial committee meeting to give comments.

A meeting to educate the public and receive further stakeholder input by discussing and reviewing the draft plan took place with a presentation at the Toombs County Courthouse in Lyons, GA on May 20, 2003. At this meeting, any landowners who owned 25 acres or more of property within two miles of either side of the creeks were sent a letter informing and inviting them to the public meeting. Forty-seven persons attended this meeting. Public comments were

solicited and input was placed into the plans. The plan addresses the steps that will be taken in the future to improve the water quality standard. The plan provides for monitoring and implementation actions to achieve goals submitted on the TMDLs. A draft of the final plans was mailed to the watershed stakeholder committee on June 27, 2003, for solicitation of comments before final submittal to EPD.

### **TMDL Data and Potential Sources of Pollution**

In January 1999, the USGS and the GAEPD began a follow-up sampling and monitoring study as a part of a five-year River Basin Planning cycle (Georgia EPD). The United States Department of Interior-Geological Survey (USGS) and the Georgia Environmental Protection Division (GAEPD) gathered samples from Tiger Creek beginning in January of 1999 through December of 1999. The GAEPD tested samples to detect the level of fecal coliform. For the months of May through October, fecal coliform should not exceed 400 counts per 100ml on any given sample collected from a given sampling site. In the months of November through April, fecal coliform should not exceed 4,000 colonies per 100ml, on any given sample collected from a given sampling site. The data gathered indicated four exceedances of the fecal coliform level during the months of May through October. Due to a lack of sufficient sampling data during the period, a more generous standard for fecal coliform was utilized for Tiger Creek. Normally, the standard for the months for May through October is 200 colonies per 100ml. For the months of November through April, the normal standard is 1,000 colonies per 100ml. In 2000, the 16-mile segment of Tiger Creek was placed on the 303(d) list.

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In addition, the GAEPD also tested samples to detect the level of fecal coliform in two segments of Pendleton Creek (Sand Hill Lake to Reedy Creek and Wildwood Lake to Tiger Creek) from January to December of 1999. Similar to the standard mentioned earlier for Tiger Creek, for the months of May through October, fecal coliform should not exceed 400 counts per 100ml on any given sample collected from a given sampling site. In the months of November through April, fecal

coliform should not exceed 4,000 colonies per 100ml, on any given sample collected from a given sampling site. The data gathered indicated two exceedances of the fecal coliform level during the months of May through October both segments. Again, due to a lack of sufficient sampling data during the period, a more generous standard for fecal coliform was utilized for both segments of Pendleton Creek. Normally, the standard for the months for May through October is 200 colonies per 100ml. In 2000, both the 7-mile segment of Pendleton Creek (Sand Hill Lake to Reedy Creek) and the 12-mile segment of Pendleton Creek (Wildwood Lake to Tiger Creek) were placed on the 303(d) list.

The Tiger Creek watershed consists primarily of forest and cropland, with minimal areas of pasture and wetlands. Of the 112,011 acres that make up the impaired segment, 54 percent is comprised of forest. Another 28 percent is cropland. The Pendleton Creek (Sand Hill Lake to Reedy Creek) watershed consists primarily of forest and cropland as well, with minimal areas of pasture and wetlands. Of the 28,086 acres that make up the impaired segment, 59 percent is comprised of forest. Another 25 percent is cropland. The Pendleton Creek (Wildwood Lake to Tiger Creek) watershed also consists primarily of forest and cropland, with minimal areas of pasture and wetlands. Of the 40,956 acres that make up the impaired segment, 53 percent is comprised of forest. Another 26 percent is cropland. The Swift Creek watershed consists primarily of forest and cropland, with minimal areas of pasture and wetlands. Of the 35,890 acres that make up the impaired segment, 41 percent is comprised of forest. Another 35 percent is cropland. Urban non-point sources were identified by EPD as a possible primary source of the fecal coliform. One of the sources is the general storm water runoff that originates from the cities of Soperton, Vidalia and Lyons. This is the runoff from construction, streets, and residential areas that results from rainfall. Also, there are several point sources with NPDES permits that are possible contributors to the problem of fecal coliform in these water bodies. In Tiger Creek, The City of Soperton WPCP (#0020826) and the Treutlen County Development Authority (#GA0048534) have an NPDES permit. In Pendleton Creek, the Johnson County Nursing Home has an NPDES permit (#GA0031551). In Swift Creek, the City of Vidalia WPCP (#GA002225488), the City of Lyons WPCP2 North (#GA0033391), and the City of Lyons Pond #1 (#GA0033405), all have NPDES permits.

As mentioned in the introduction, a large number of geese reside along Tiger Creek. Many locals believe that the large number of geese has no doubt contributed to the fecal coliform problem. Indeed, waste from geese is known to contain a substantial quantity of fecal coliform bacteria.

Along with the geese, locals believe that the fecal coliform problem in Pendleton Creek (Sand Hill Lake to Reedy Creek) has a strong correlation with the recent drought. Locals pointed out that the water in Pendleton Creek (Sand Hill Lake to Reedy Creek) has been stagnant for some time, even with the recent rainfall that

has occurred. Locals mentioned that all of the streams have been intermittent in recent memory.

Locals at the public meeting pointed out a common problem with local deer hunters dumping deer carcasses into the water bodies. They felt that not enough enforcement was being utilized at the local level to help to at least deter the problem of dumping deer carcasses. With animal carcasses being a good source of fecal coliform, any pattern of illegal dumping would require prompt attention by local authorities.

Attendees from the Georgia Environmental Protection Division pointed out the need for better science in the examination of the standards themselves, as well as in determining actual pollution sources. All were in agreement that public education and the use of Best Management Practices could only help regardless.

### **Regulatory and Voluntary Measures: Existing and Future**

Septic tank maintenance ordinances are an effective way to curtail urban and residential runoff. In Montgomery, Treutlen, Emanuel, and Toombs counties, such ordinances are not in effect, though septic tank installations are regulated. It is important that future septic tank regulations, particularly relating to post-construction maintenance, be implemented at the local level. Future use of residential BMPs should also be explored as a practical means of limiting residential runoff. The local Cooperative Extension office can help individual homeowners assess and utilize BMPs through its Home\*A\*Syst Program.

Public education measures, beginning with the TMDL Implementation Plans and continuing in the future concerning Best Management Practices, are an efficient way to reach the local citizenry. Agriculture BMPs include, but are not limited to, the use of a waste storage structure, conservation tillage, waste storage pond, diversion, fencing, filter strips, stock trails/walkways, stream/shoreline protection, nutrient management, and well protection. Farmers utilize some of the agriculture BMPs currently; however, many do not practice them, and some do not know how to define a BMP. The NRCS and the Pine Country RC&D continue to work with farmers by educating them and providing them with the proper resources/information to enable them to install current and future BMPs. Cooperative Extension can also provide individually tailored assistance with BMPs through its Farm\*A\*Syst Program.

The use of forestry BMPs are becoming more prevalent, however, some landowners continue to ignore forestry BMPs. The Georgia Forestry Commission has and continues to make a conscious effort to educate and monitor BMPs by aerial surveillance. Some forestry BMP categories include, but are not limited to, harvesting in SMZ's, mechanical site preparation, chemical site preparation, fertilization, firebreaks, skid trail stream crossings and road crossings, and logging roads. The State Implementation Committee of the forest industry's Sustainable Forestry Initiative can lend valuable support/assistance. It is unlikely

that forestry contributes to any fecal coliform problems. To the contrary, more forested buffers of streams could help prevent such contamination.

Currently, the cities of Lyons and Vidalia have planning and zoning regulations in place within their city limits. However, the cities of Tarrytown and Soperton currently do not have planning and zoning regulations within their city limits. Montgomery, Treutlen, Emanuel, and Toombs counties currently do not have any planning and zoning regulations in the unincorporated areas as well. Montgomery, Treutlen, Emanuel, and Toombs counties enforce erosion and sedimentation control measures at the state level. However, there are no erosion and sedimentation measures enforced at the local level.

The implementation of Land Use Management Regulations is planned in the future on a county-by-county basis. The regulations will be put into place as the necessary support at the local level is obtained. They will be enforced by local governments, GA DNR, GA Department of Human Resources, GA Department of Community Affairs, and the GA Forestry Commission. The regulations would utilize state-mandated environmental planning criteria, local planning and zoning ordinances, BMPs for agriculture and forestry, erosion and sedimentation measures, and septic tank permitting to manage runoff and development. The Heart of Georgia Altamaha RDC will provide technical assistance in developing a “zoning lite” ordinance to encourage local governments to implement planning and zoning measures.

Storm Water Management Regulations are planned for implementation in the future as well on a county-by-county basis. The new regulations will be put into effect as requisite local support is obtained, and the GA DNR, GA EPD, and local governments will enforce them. The regulations would utilize local ordinance enforcement to produce better erosion and sedimentation control at the time of construction. These regulations could possibly require post-construction erosion and sedimentation control and possibly utilize passive design elements in new developments and stream buffers to prevent runoff.

A Cooperative Monitoring Program is needed for future implementation. The GA DNR, GA EPD, local governments, and possibly local volunteers would conduct the program. Additional regular monitoring of the creeks are needed to better define pollutant sources. The program could also consist of a scientific study of issues such as fecal coliform levels in slow-moving blackwater streams. It also could possibly seek funding and cooperation for watershed assessments, including possible model demonstration assessments for small watersheds, and develop a program for implementation assessments for Tiger, Swift, and Pendleton creeks.

An implementation of an Adopt-A-Stream program is needed. The program would be utilized through various organizations and groups throughout the

watershed. The program will provide updates on current stream conditions in the future as the requisite funding and support are developed.

### **Schedule for Implementation**

BMPs for the agriculture and forestry community will be promoted beginning in 2003 and continuing. The schedule for implementing the Land Use Management Regulations and the Storm Water Management Regulations is on a county-by-county basis in the near future, as local support is obtained. It would be helpful if the Cooperative Monitoring Program could be implemented in 2004 pending funding. An Adopt-A-Stream Program would also be helpful if implemented by 2004, pending local support and funding.

### **Monitoring Plan**

The GA Forestry Commission will continue to do aerial and land surveillance of the watershed area. It is possible for Adopt-A-Stream monitoring to begin to take place in the future, as the requisite funding and support are developed.

### **Funding**

The GA Forestry Commission will continue to do aerial and land surveillance of the watershed area. Also, the Georgia Forestry Commission will continue to administer Best Management Practices Assurance Examinations. The U.S. Fish and Wildlife Service is funding a program called "Partners for Wildlife," which is sponsored through the GA Soil and Conservation Service. Also, some funding will originate from the USDA through the Farm Service Agency and the Natural Resource Conservation Service. The UGA Cooperative Extension Service is funding two programs; Home\*A\*Syst and Farm\*A\*Syst, which are enacted by the local agriculture extension agent offices. Finally, the State Implementation Committee (SFI) is funding a program called "Sustainable Forestry Initiative." The National Fish and Wildlife Foundation is funding a program called the General Grant Challenge Program. The Georgia Department of Natural Resources Wildlife Resources Division has produced two booklets that are available to the public, "Small Game Management in Georgia" and "Beaver Management and Control in Georgia." Additional funding is likely needed to establish more in-depth monitoring.

### **Criteria to Determine Progress**

The criteria to determine whether progress toward attainment is being made will be shown through the results of future monitoring by any improved fecal coliform levels through reducing the amount of bacterial loading in the creeks.

### **Conclusion**

Improved future utilization and implementation of best management practices at the agricultural, residential, and urban levels will provide substantial progress in reducing the levels of fecal coliform bacteria in the creeks. The examination of potential non-point sources would be helpful. Any action(s) taken as a result of such an examination would further assist in producing progress. We anticipate

the removal of Tiger, both segments of Pendleton, and Swift creeks from the State of Georgia's 303(d) list.

**STATE OF GEORGIA**  
**TMDL IMPLEMENTATION PLAN**  
**WATERSHED APPROACH**  
**Altamaha River Basin**

Local Watershed Governments

Heart of Georgia-AltamahaRDC

- Treutlen County
- Toombs County
- Montgomery County
- Emanuel County
- City of Tayyrtown
- City of Soiperton
- City of Lyons
- City of Vidalia

TMDL Implementation Plans are platforms for establishing a course of actions to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies.

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.

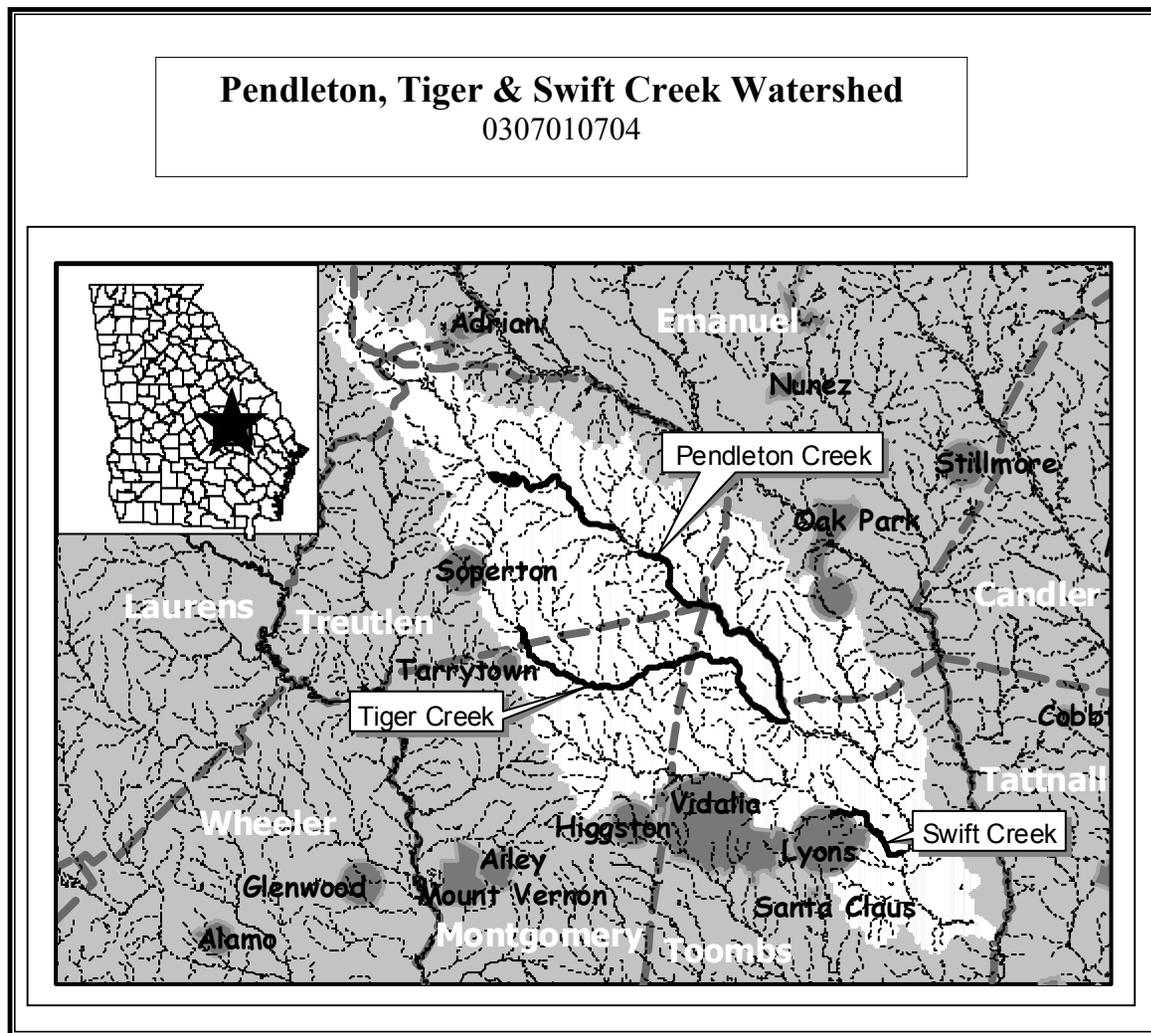


FIGURE 1

Impaired Waterbody*	Impaired Stream Location	Impairment
1. Tiger Creek	Little Creek to Pendleton Creek	Fecal Coliform
2. Swift Creek	Old Normantown Rd. to Pendleton Creek	Fecal Coliform
3. Pendleton Creek	Sand Hill Lake to Reedy Creek	Fecal Coliform
4. Pendleton Creek	Wildwood Lake to Tiger Creek	Fecal Coliform

\*These Waterbody Numbers are referenced throughout the Implementation Plan.

# Action Plan for Tiger/Swift/Pendleton Creeks

Pendleton, Tiger & Swift Creek  
Watershed 0307010704

POLLUTANT:	SOURCE:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	At Work: Business, Government
<input type="checkbox"/> Dissolved Oxygen (DO) <input checked="" 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 type="checkbox"/> Industrial <input checked="" type="checkbox"/> Urban <input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Forestry <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other (Please List)	<input type="checkbox"/> Habitat <input type="checkbox"/> Recreation <input type="checkbox"/> Drinking Water <input type="checkbox"/> Aesthetics <input checked="" type="checkbox"/> Other (Please List) Fishing	Get Involved in Adopt-A-Stream Public Education Use Proper BMPs Check Septic System	Develop Zoning Ordinances Dispose of Harmful Chemicals Properly

## 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)
Heart of Georgia Altamaha RDC	TMDL Presentation at Vidalia City Council Chambers for the committee	Tiger, Pendleton, and Swift creeks	Local Governments, Agriculture Organizations, Georgia Forestry Commission, Forestry Industries, Ohoopce Soil and Water Conservation Service, Natural Resource Conservation Service, Pine Country RC & D, Altamaha and Canoochee RiverKeepers	April 29, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at Montgomery County Commissioners Meeting	Tiger, Pendleton, and Swift creeks	County Officials	May 6, 2003
Heart of Georgia Altamaha RDC	A Press Release to The Advance Progress concerning Public Meeting (May 8, 2003)	Tiger, Pendleton, and Swift creeks	General Public	May 8, 2003
Heart of Georgia Altamaha RDC	A Press Release to The Montgomery Monitor and The Soperton News concerning Public Meeting (May 8, 2003)	Tiger, Pendleton, and Swift creeks	General Public	May 8, 2003
Heart of Georgia Altamaha RDC	A Press Release to The Forest Blade concerning Public Meeting (May 8, 2003)	Tiger, Pendleton, and Swift creeks	General Public	May 8, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Vidalia City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	May 12, 2003
Heart of Georgia Altamaha RDC	A Public Service Announcement to Vidalia Communications (97.7 FM/WTCQ, 101.7 FM/WYUM, 970 AM/WVOP) in Vidalia, GA	Tiger, Pendleton, and Swift creeks	General Public	May 19, 2003
Heart of Georgia Altamaha RDC	A Public Service Announcement to WLYU (100.9 FM) in Lyons, GA	Tiger, Pendleton, and Swift creeks	General Public	May 19, 2003
Heart of Georgia Altamaha RDC	A Public Service Announcement to WXRS (100.5 FM) in Swainsboro, GA	Tiger, Pendleton, and Swift creeks	General Public	May 19, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation for Public Meeting at the Toombs County Courthouse in Lyons, GA	Tiger, Pendleton, and Swift creeks	Landowners with 25 Acres or more within 2 miles on either side of Tiger, Pendleton, and Swift creeks in Toombs, Montgomery, Treutlen, and Emanuel counties	May 20, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Uvalda City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	May 21, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Lyons City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	June 3, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at Toombs County Commissioners Meeting	Tiger, Pendleton, and Swift creeks	County Officials	June 10, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Alston City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	June 10, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Santa Claus City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	June 17, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Higgston City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	July 1, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at Treutlen County Commissioners Meeting	Tiger, Pendleton, and Swift creeks	County Officials	July 1, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Tarrytown City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	July 7, 2003
Heart of Georgia Altamaha RDC	TMDL Presentation at City of Soperton City Council Meeting	Tiger, Pendleton, and Swift creeks	City Officials	July 21, 2003

## STAKEHOLDERS

EPD encourages public involvement and the active participation of stakeholders in the process of improving water quality. Stakeholders can provide valuable information and data regarding their community and the impaired water bodies and can provide insight and/or implement management measures.

List of local governments, agricultural organizations or significant landholders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

<b>Name/Organization</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>	<b>Phone</b>	<b>E-Mail</b>
GA Forestry Commission	1891 GA Highway 178	Lyons	GA	30436	(912)-526-8680	
GA Forestry Commission	105 Martin Luther King JR Drive	Soperton	GA	30457	(912)-529-6652	
Ohoopsee Soil and Water Conservation District	PO Box L	Vidalia	GA	30474	N/A	
Ohoopsee Soil and Water Conservation District	837 Cypress Creek Road	Mount Vernon	GA	30445	N/A	
Ohoopsee Soil and Water Conservation District	PO Box 86	Soperton	GA	30457	N/A	
Toombs County Cooperative Extension Service	200 Courthouse Square, Suite 1	Lyons	GA	30436	(912)-526-3101	
Montgomery County Cooperative Ext. Service	PO Box 276	Mount Vernon	GA	30436	(912)-583-2240	
Treutlen County Cooperative Ext. Service	206 Third Street	Soperton	GA	30457	(912)-529-3766	
Emanuel County Cooperative Ext. Service	129 North Anderson Drive	Swainsboro	GA	30401	(478)-237-1226	
Toombs County Commissioners	100 Courthouse Square	Lyons	GA	30436	(912)-526-3311	
City of Lyons	257 North State Street	Lyons	GA	30436	(912)-526-6578	
Treutlen County Commissioners	PO Box 79	Soperton	GA	30457	(912)-529-3664	
City of Vidalia	114 Jackson Street	Vidalia	GA	30475	(912)-537-7661	
Montgomery County Commissioners	PO Box 295	Mount Vernon	GA	30445	(912)-583-2363	
City of Soperton	PO Box 229	Soperton	GA	30457	(912)-529-6173	
Emanuel County Commissioners	PO Box 787	Swainsboro	GA	30401	(478)-237-3881	
Natural Resource Conservation Service	145 N. Anderson Drive	Swainsboro	GA	30401	(912)-237-8866	
Natural Resource Conservation Service	303 Fulton Street	Mount Vernon	GA	30445	(912)-583-4432	
Rayonier Southeast Forest Products	PO Box 626	Jesup	GA	31598	(912)-530-8471	
Pine Country RC & D	105 Martin Luther King JR Drive	Soperton	GA	30457	(912)-529-6652	
International Paper	RT 2 Box 2	Soperton	GA	30457	(912)-529-3447	
Altamaha RiverKeeper	PO Box 2642	Darien	GA	31305	(912)-437-8164	
Canoochee RiverKeeper	PO Box 263	Swainsboro	GA	30401	(478)-289-6523	
Toombs County Farm Bureau	PO Box 505	Vidalia	GA	30475	N/A	
Montgomery County Farm Bureau	PO Box 194	Alston	GA	30412	N/A	
Treutlen County Farm Bureau	105 Georgia Avenue	Soperton	GA	30457	N/A	
Emanuel County Farm Bureau	PO Box 450	Swainsboro	GA	30401	N/A	

**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)
<b>Tiger Creek</b>	Little Creek to Pendleton Creek	16	Fishing	NS
<b>Primary County</b>	<b>Secondary County</b>	<b>Second RDC</b>		<b>Source (Point/ Nonpoint)</b>
Montgomery	Treutlen, Toombs			NP
<b>Pollutants</b>	<b>Water Quality Standards</b>	<b>Required Reduction</b>	<b>TMDL ID</b>	<b>Date TMDL Established</b>
Fecal Coliform	1000/100 ml (geometric mean Nov.-April) 200/100 ml (geometric mean May-Oct.)	99.2 %		February 2002

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
<b>Swift Creek</b>	Old Normantown Rd. to Pendleton CReek	5	Fishing	NS
<b>Primary County</b>	<b>Secondary County</b>	<b>Second RDC</b>		<b>Source (Point/ Nonpoint)</b>
Toombs				UR, NP
<b>Pollutants</b>	<b>Water Quality Standards</b>	<b>Required Reduction</b>	<b>TMDL ID</b>	<b>Date TMDL Established</b>
Fecal Coliform	1000/100 ml (geometric mean Nov.-April) 200/100 ml (geometric mean May-Oct.)	78.3 %		February 2002

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
<b>Pendleton Creek</b>	Sand Hill Lake to Reedy Creek	7	Fishing	PS
<b>Primary County</b>	<b>Secondary County</b>	<b>Second RDC</b>		<b>Source (Point/ Nonpoint)</b>
Treutlen				NP
<b>Pollutants</b>	<b>Water Quality Standards</b>	<b>Required Reduction</b>	<b>TMDL ID</b>	<b>Date TMDL Established</b>
Fecal Coliform	1000/100 ml (geometric mean Nov.-April) 200/100 ml (geometric mean May-Oct.)	99.8 %		February 2002

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
<b>Pendleton Creek</b>	Wildwood Lake to Tiger Creek	12	Fishing	PS

Primary County	Secondary County	Second RDC	Source (Point/ Nonpoint)
Treutlen	Toombs, Emanuel		NP

Pollutants	Water Quality Standards	Required Reduction	TMDL ID	Date TMDL Established
Fecal Coliform	1000/100 ml (geometric mean Nov.-April) 200/100 ml (geometric mean May-Oct.)	99.8 %		February 2002

## POLLUTANT SOURCES

It is important to recognize the potential source(s) causing water quality impairment. Each source must be controlled to comply with target TMDL/Load Allocations for each pollutant. Included is a description of how the sources contribute to the impairment and the waterbody that is impaired.

List of major nonpoint source categories and sub-categories or individual sources (Urban Runoff, Agriculture, Forestry, Municipal Sewage Treatment Plant )

Pollutant	Sources of Pollutants	Description of Contribution To Impairment	Impacted Waterbodies*
Fecal Coliform	Agriculture	Possible introduction of animal waste from upslope practices and sediment from storm water runoff when BMPs are not followed	Tiger, Swift, and Pendleton
Fecal Coliform	Residential	Possible introduction of discharges resulting from septic tank runoff and littering from nearby residential areas, including the cities of Soperton (Tiger), Tarrytown (Tiger), Lyons (Swift), and Vidalia (Swift)	Tiger and Swift
Fecal Coliform	Municipal (Storm water Runoff)	Possible introduction of storm water runoff from municipal areas (cities of Soperton, Tarrytown, Lyons, Vidalia)	Tiger and Swift
Fecal Coliform	Urban	Possible introduction of water runoff from urban development in and near cities of Soperton, Tarrytown, Lyons, Vidalia	Tiger and Swift
Fecal Coliform	Municipal (Wastewater)	Possible introduction of wastewater discharges from City of Soperton WPCP (Tiger), Treutlen County Development Authority (Tiger), City of Vidalia WPCP (Swift), City of Lyons WPCP2 North (Swift), City of Lyons Pond #1 (Swift), Johnson County Nursing Home (Pendleton)	Tiger and Swift

## 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
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)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Agriculture, Residential, Municipal	Tiger, Swift, and Pendleton	Effective in point source pollution in dealing with local governments and industry/ Limited effectiveness in dealing with non-point sources

Measurable Milestones	Schedule		Comments
	Start	End	
Land Use Application System Permits NPDES Permits	1964	Ongoing	Work with local governments and others to increase monitoring of Land Use Application System Permits and NPDES Permits/City of Soperton WPCP NPDES Permit #GA0020826, Treutlen Co. Development Authority NPDES Permit #*****, City of Vidalia WPCP NPDES Permit #GA0025488, City of Lyons WPCP2 North NPDES Permit #GA0033391, City of Lyons Pond #1 NPDES Permit #GA0033405, Johnson County Nursing Home NPDES Permit #GA*****

Regulation/Ordinance or 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
Fecal Coliform	Pesticide management, animal facility runoff, irrigation water management	Tiger, Swift, and Pendleton	Utilization of BMPs has been found to be effective in controlling runoff and other contaminants from farming practices

Measurable Milestones	Schedule		Comments
	Start	End	
Waste Storage Structure, Conservation Tillage, Waste Storage Pond, Diversion, Fencing, Field Borders, Filter Strips, Stock Trails/Walkways, Stream/Shoreline Protection, Nutrient Management, Well Protection, Land Use Application System Permits and NPDES Permits	1987	Ongoing	Additional BMPs possible depending on results of future monitoring/ Work with local governments and others to increase monitoring of Land Use Application System Permits and NPDES Permits

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory /Voluntary
Nutrient Application Plan	Natural Resource Conservation Service	Leads effort in agricultural water quality by developing plans to control nutrient runoff	2000	Current	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Pesticide management, irrigation water management	Tiger, Swift, and Pendleton	Effective in the initial stages of the program's beginning if plans are followed properly

Measurable Milestones	Schedule		Comments
	Start	End	
Increase the number of farming establishments utilizing nutrient application plans to limit nutrient runoff	2000	Ongoing	Plans will continue to be effective at the local level if they continue to be implemented by more and more farming establishments

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory /Voluntary
Comprehensive Nutrient Management Plan (CNMP)	Agriculture Extension Service, Department of Natural Resources	Leads effort in agricultural water quality by developing plans to control animal waste runoff	2001	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Animal facility runoff	Tiger, Swift, and Pendleton	Effective in the initial stages of the program's beginning if the plans are carried out properly

Measurable Milestones	Schedule		Comments
	Start	End	
Increase the number of farming establishments implementing plans/Encourage increased compliance with plan requirements	2001	Ongoing	Plans will continue to be effective at the local level if they continue to be implemented by more and more farming establishments

<b>Regulation/Ordinance or Management Measure</b>	<b>Responsible Government, Organization or Entity</b>	<b>Description</b>	<b>Enacted/ Projected Date</b>	<b>Status</b>	<b>Regulatory /Voluntary</b>
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

<b>Pollutant(s) Affected</b>	<b>Sources of Pollutant(s)</b>	<b>Impacted Waterbodies*</b>	<b>Anticipated or Past Effectiveness</b>
Fecal Coliform	Agricultural, Residential, Municipal	Tiger, Swift, and Pendleton	Effectiveness is minimal due to a lack of local enforcement of erosion and sedimentation control measures

<b>Measurable Milestones</b>	<b>Schedule</b>		<b>Comments</b>
	<b>Start</b>	<b>End</b>	
Local erosion and sedimentation control measures	2003	Ongoing	Work with local governments to obtain a greater enforcement of erosion and sedimentation control measures at the local level

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
Fecal Coliform	Residential	Tiger, Swift, and Pendleton	Effective at point of construction and poor at point of post-construction follow up maintenance

Measurable Milestones	Schedule		Comments
	Start	End	
Continuous updating of health inspector manual to upgrade current standards	1969	Ongoing	Better enforcement at local level needed

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	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, groundwater recharge areas, and wetlands	1989	Current	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Agricultural, Residential, Municipal	Tiger, Swift, and Pendleton	Effectiveness is minimal because of lack of land use management regulations at the local level

Measurable Milestones	Schedule		Comments
	Start	End	
Land Use Management Regulations	2003	Ongoing	Need to work with local governments to establish land use management regulations and other regulations as appropriate/ Need to work with local governments in enforcing DNR's Part 5 Environmental Planning criteria to better protect local streams

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Land Use Management Regulations	Heart of Georgia Altamaha Regional Development Center, Local Governments, Georgia Department of Natural Resources, Georgia Department of Human Resources, Georgia Department of Community Affairs, Georgia Forestry Commission	Utilize state-mandated environmental planning criteria, local planning and zoning ordinances, BMPs for agriculture and forestry, and septic tank permitting to manage runoff and development, RDC will provide technical assistance in developing a model “zoning-lite” 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
Fecal Coliform	Agricultural, Residential, Municipal	Tiger, Swift, and Pendleton	Not very effective due to lack of Land Use Regulations on county-wide level

Measurable Milestones	Schedule		Comments
	Start	End	
Establishment of County-wide Land Use Regulations	2008	Ongoing	There is a need to work with local governments to adopt Land Use Regulations

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory /Voluntary
Cooperative Monitoring Program	Georgia Department of Natural Resources, Georgia Environmental Protection Division, Local Governments, Heart of Georgia Altamaha Regional Development Center	Seek a scientific study of issues such as natural dissolved oxygen levels in slow-moving streams, could seek funding/cooperation for watershed assessments including possible model demonstration assessments for small watersheds, develop a program for implementation assessments for the Pendleton Creek Watershed Cluster (includes Tiger, Swift, and Pendleton creeks)		Planned	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Agricultural, Residential, Municipal	Tiger, Swift, and Pendleton	Anticipated effectiveness is significant because of more frequent monitoring which will produce better and more frequent data

Measurable Milestones	Schedule		Comments
	Start	End	
Implementation of Adopt-A-Stream programs with various organizations for purposes of more sampling/Additional monitoring to increase the amount of data collected	2003	Ongoing	Utilize monitoring programs of Georgia Forestry Commission, NRCS, Adopt-A-Stream to gather updated sampling data on a more frequent basis

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/ Projected Date	Status	Regulatory /Voluntary
Environmental Code Enforcement	Local Governments, Department of Natural Resources, Environmental Protection Division	Utilize local ordinances to ensure greater compliance with state environmental codes at the local level	2008	Planned	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Fecal Coliform	Residential	Tiger, Swift, and Pendleton	Limited effectiveness due to lack of enforcement at county-wide level

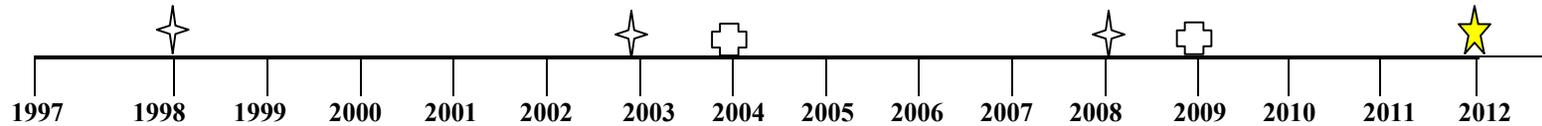
Measurable Milestones	Schedule		Comments
	Start	End	
Establishment of code enforcement program	2008	Ongoing	Greater enforcement of state standards at the local level could help to reduce the amount of man made wastes entering into local streams

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

<b>Funding Source</b>	<b>Responsible Authority</b>	<b>Status</b>	<b>Anticipated Funding Amount</b>	<b>Impacted Waterbodies*</b>
Georgia Forestry Commission	Georgia Forestry Commission	Current	Unknown	Tiger, Swift, and Pendleton
Georgia Department of Natural Resources	Environmental Protection Division	Current	\$75,000.00	Tiger, Swift, and Pendleton
U.S. Environmental Protection Agency	U.S. Environmental Protection Agency	Planned	Unknown	Tiger, Swift, and Pendleton
U.S. Department of Agriculture	Farm Service Agency	Planned	Unknown	Tiger, Swift, and Pendleton
U.S. Department of Agriculture	Natural Resource Conservation Service	Planned	Unknown	Tiger, Swift, and Pendleton
U.S. Fish and Wildlife Service	Georgia Soil and Water Conservation Service (“Partners for Wildlife” Program)	Planned	Unknown	Tiger, Swift, and Pendleton
University of Georgia Extension Service	Local Cooperative Extension Service (Home*A*Syst Program)	Planned	Unknown	Tiger, Swift, and Pendleton
University of Georgia Extension Service	Local Cooperative Extension Service (Farm*A*Syst Program)	Planned	Unknown	Tiger, Swift, and Pendleton
State Implementation Committee	Sustainable Forestry Initiative Program	Planned	Unknown	Tiger, Swift, and Pendleton
Georgia Forestry Commission	Georgia Forestry Commission (Best Management Practices Assurance Examinations)	Current	Unknown	Tiger, Swift, and Pendleton
The National Fish and Wildlife Foundation	The National Fish and Wildlife Foundation (General Challenge Grant Program)	Planned	Unknown	Tiger, Swift, and Pendleton
Georgia Department of Natural Resources (Wildlife Resources Division)	Georgia Department of Natural Resources (Wildlife Resources Division) “Small Game Management in Georgia” & “Beaver Management and Control in Georgia” Booklets	Current	Unknown	Tiger, Swift, and Pendleton

### 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	
1999 Study	United States Geological Survey	Tiger	Fecal Coliform	To detect the levels of Fecal Coliform at the USGS Certified Station #02225371 (Victory Drive near Normantown, GA)	1/99	12/99	Previous
1999 Study	United States Geological Survey	Swift	Fecal Coliform	To detect the levels of Fecal Coliform at the USGS Certified Station #02225420 (State Road 152 near Lyons, GA)	1/99	12/99	Previous
1999 Study	United States Geological Survey	Pendleton (Sand Hill Lake to Reedy Creek)	Fecal Coliform	To detect the levels of Fecal Coliform at the USGS Certified Station #02225348 (US Hwy. 221 near Soperton, GA)	1/99	12/99	Previous
1999 Study	United States Geological Survey	Pendleton (Wildwood Lake to Tiger Creek)	Fecal Coliform	To detect the levels of Fecal Coliform at the USGS Certified Station #02225360 (Blackston Road near Normantown, GA)	1/99	12/99	Previous
Best Management Practices Monitoring	Georgia Forestry Commission	Tiger, Swift, and Pendleton	Fecal Coliform	Within the watershed, can conduct monthly aerial and land reconnaissance to identify recent forestry practices, conduct BMP audit, and make recommendations for remediation if problems are found		On-going	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) Install BMPs and reduce the amount of fecal coliform by 20% by 2012

*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) Classification is proposed to remain fishing/ Delist from 303(d) list

- Regulatory controls or activities installed (ordinances, laws) Work with local governments and individuals to install Erosion and Sedimentation Controls, Land Use Management Regulations (Development Regulations such as stream buffers, limited impervious cover, porous pavement materials, limited clearing, grading, and disturbance); BMPs, Storm Water Management, Code Enforcement, etc. to help reduce runoff and minimize land disturbance.

- Best management practices installed (agricultural, forestry, urban) Agriculture – (Waste Storage Facilities, Conservation Tillage, Waste Storage Pond, Diversion, Fencing, Field Borders, Filter Strips, Stock Trails/Walkways)

**COMMENTS**

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Attachments

- Appendix A – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Committee Meeting Invitation List (April 30, 2003)
- Appendix B – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan List of Major Landowners Invited to Committee Meeting (April 29, 2003) (Toombs, Montgomery, Treutlen, and Emanuel counties)
- Appendix C – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Committee and Major Landowners Meeting Sign-in Sheet (April 29, 2003)
- Appendix D – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Committee and Major Landowners Meeting Handout (April 29, 2003)
- Appendix E – Stakeholder Notification List for Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Public Meeting (May 20, 2003) (Toombs, Montgomery, Treutlen, and Emanuel counties)
- Appendix F – Press Release for Public Meeting for Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan in The Advance-Progress (May 8, 2003)
- Appendix G – Press Release for Public Meeting for Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan in The Montgomery Monitor and The Soperton News (May 8, 2003)
- Appendix H – Press Release for Public Meeting for Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan in The Forest Blade (May 8, 2003)
- Appendix I – Public Service Announcement concerning Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan given to Vidalia Communications (97.7 FM/WTCQ, 101.7 FM/WYUM, 970 AM WVOP in Vidalia, GA) (May 19-20, 2003)
- Appendix J – Public Service Announcement concerning Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan given to WLYU (100.9 FM) in Lyons, GA (May 19-20, 2003)
- Appendix K – Public Service Announcement concerning Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan given to WXRS (100.5 FM) in Swainsboro, GA (May 19-20, 2003)
- Appendix L – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Public Meeting Sign-in Sheet (May 20, 2003)
- Appendix M – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Public Meeting Handout (May 20, 2003)
- Appendix N – Memo to Montgomery Co. Commissioners to be placed in the May 6<sup>th</sup>, 2003 Meeting Agenda Packet (April 7, 2003)
- Appendix O – Memo to City of Vidalia City Council to be placed in the May 12<sup>th</sup>, 2003 Meeting Agenda Packet (April 7, 2003)
- Appendix P – Memo to City of Uvalda City Council to be placed in the May 21<sup>st</sup>, 2003 Meeting Agenda Packet (April 9, 2003-Mailed)
- Appendix Q – Memo to City of Lyons City Council to be placed in the June 3<sup>rd</sup>, 2003 Meeting Agenda Packet (May 7, 2003)
- Appendix R – Memo to Toombs Co. Commissioners to be placed in the June 10<sup>th</sup>, 2003 Meeting Agenda Packet (May 12, 2003)
- Appendix S – Memo to City of Alston City Council to be placed in the June 10<sup>th</sup>, 2003 Meeting Agenda Packet (May 7, 2003)
- Appendix T – Memo to City of Santa Claus City Council to be placed in the June 17<sup>th</sup>, 2003 Meeting Agenda Packet (May 20, 2003-Mailed)
- Appendix U – Memo to City of Higgston City Council to be placed in the July 1<sup>st</sup>, 2003 Meeting Agenda Packet (June 12, 2003-Emailed)
- Appendix V – Memo to Treutlen Co. Commissioners to be placed in the July 1<sup>st</sup>, 2003 Meeting Agenda Packet (June 13, 2003)
- Appendix W – Memo to City of Tarrytown City Council to be placed in the July 7<sup>th</sup>, 2003 Meeting Agenda Packet (May 20, 2003-Mailed)
- Appendix X – Memo to City of Soperton City Council to be placed in the July 21<sup>st</sup>, 2003 Meeting Agenda Packet (June 13, 2003)
- Appendix Y – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Handout for Montgomery, Toombs, Treutlen County Commissioners meetings and Cities of Vidalia, Uvalda, Lyons, Alston, Santa Claus, Higgston, Tarrytown, and Soperton's City Council Meetings
- Appendix Z – Pendleton Creek Watershed Cluster Proposed TMDL Implementation Plan Committee Review Memo (June 27, 2003)

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

**TOGETHER WE CAN MAKE A DIFFERENCE!**

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