



Purpose

The District-wide Watershed Management Plan (WMP) includes a suite of strategies and activities to be implemented over time by local governments, the District, and Georgia Environmental Protection Division (GAEPD). This section outlines the recommended tasks and measurable milestones for implementation of the various components of the District-wide WMP. Implementation of the full set of recommendations will address the District's goals for water quality and biotic integrity protection and improvement, flood management, source water protection, Total Maximum Daily Load (TMDL) implementation, and education and public awareness. The long-term planning horizon of the District-wide WMP supports an adaptive management approach that allows time to evaluate options and make optimal decisions on allocation of limited resources to achieve desired results.

Tasks are identified for the near term (1 to 5 years) and the long term (beyond 5 years). Following each discussion of tasks, a table is provided that identifies specific activities to be completed in Years 1 through 5 and also identifies tasks that will occur following Year 5, but not necessarily the specific year in which these later tasks will occur. It is essential that an updated WMP be prepared no less frequently than every 5 years in order to adjust the plan as needed and to identify specific tasks for the following 5-year interval. The information in these tables provides a schedule, on a yearly basis, for implementation of tasks and can serve as a checklist of achievements resulting from District-wide WMP implementation.

Accurate and concise reporting is integral to implementation of the District-wide WMP. Local governments, the District, and GAEPD must be able to track plan implementation and evaluate the extent to which water quality goals are being achieved. Local governments and the District must submit accurate and thorough annual reports to GAEPD that include information on the implementation of the District-wide WMP activities and provide a mechanism to track progress and assess progress towards implementation of the recommended strategies for future watershed management.

Watershed Management Responsibilities

Responsibilities for implementation of the District-wide WMP are divided among the local governments (counties and cities), the District, and the State of Georgia.

Local Governments

Local governments will be responsible for implementing most of the recommendations due to the direct connection between stormwater management, land use planning decisions, and infrastructure development and maintenance. Specific responsibilities include:

- ***Implementation of the Local Stormwater Management Program Activities*** – including implementation of the Model Ordinances for stormwater management, additional management measures, adoption of stormwater management technical criteria, and local Education and Public Awareness activities.
- ***Development and Implementation of Total Maximum Daily Load (TMDL) Implementation Plans*** – Required in watersheds with TMDL-listed waterways to meet TMDL requirements.
- ***Implementation of Source Water Protection Strategies*** – Required in all watersheds (within a local government’s jurisdiction) that are water supply sources.
- ***Development and Implementation of Watershed Improvement Plans*** – Required in those 20 percent of the 12-digit Hydrologic Unit Codes (HUCs) in the District that are substantially impacted due to existing development. These watersheds will require the development of watershed improvement plans, as well as restoration and/or retrofit to meet water quality standards.

This plan recognizes that projects required pursuant to a federal or state court order will take precedence over the recommendations contained in this plan.

The District

The District, or a similar regional entity, will assist with coordination and support for implementation of the following activities identified in O.C.G.A. § 12-5-582:

- ***Training and Coordination for Implementation of the Model Ordinances*** – developed by the District.
- ***Coordination, Training, and Database Management Support*** – to local governments for the environmental monitoring plan.
- ***Development and Implementation Support for Education and Public Awareness*** – as required by the law establishing the District.
- ***Annual Reviews*** – review the District-wide WMP and its implementation annually to determine whether there is a need to update such plan and to report on progress.

The State of Georgia

Georgia Environmental Protection Division (GAEPD)

The GAEPD will continue to be responsible for overall District-wide WMP implementation and management of water quality compliance. As required by Senate Bill (SB) 130, GAEPD has responsibility for:

- *Incorporation of WMP Requirements in Permits* – for local governments to be granted permits for wastewater discharges, surface-water withdrawals, or stormwater discharges.
- *Annual Reviews of Compliance* –to determine the extent to which local governments have met the prescribed milestones in the District-wide WMP. GAEPD will work with the District after the plans are adopted to develop specific guidelines for local government compliance with the District-wide WMP.
- *Enforcement of the District-wide WMP* - through the water withdrawal, wastewater discharge, and municipal stormwater discharge permits.
- *Assistance in Development of Additional Programs/Regulations* – for watershed management and nonpoint source pollutant load reductions.

Georgia Department of Transportation (GDOT)

- *Implementation of Stormwater Management Strategies* – Develop and implement post-development stormwater design criteria and management measures and best management practices (BMPs) for stormwater runoff quality and quantity for transportation projects consistent with the National Pollutant Discharge Elimination System (NPDES) requirements under Phase II, using the guidance set forth in the District Model Stormwater Management Ordinances and the Georgia Stormwater Management Manual.
- *Coordination with Local Watershed Improvement Plans* – Coordinate with local governments on watershed improvement projects to provide support where possible.

Watershed Management Strategies

Watershed management strategies include the policies and measures whereby the local governments, the District, and the state will move toward achievement of water quality goals. Watershed management strategies include local stormwater management activities, tasks for addressing TMDL issues, methods for protecting source water areas, watershed improvement tasks, education and public awareness tasks, and water quality monitoring. The entities responsible for implementing the watershed management tasks discussed below were identified in Table 5-8 and Table 6-1. The specific tasks, responsible entities, and milestones are discussed below.

Implementation Tasks for Local Stormwater Management Program Activities

The recommended local stormwater management program activities form a comprehensive program for local governments that addresses the goals of water quality and watershed protection while meeting multiple existing regulatory requirements.

Local stormwater management program activities will be implemented by all jurisdictions in the District and are intended to protect water quality and biotic integrity, ensure that waters meet designated uses, and mitigate the impacts of future land use changes within these watersheds. Additional watershed protection and management measures will need to be implemented in source water supply watersheds and watersheds that have TMDLs or do not meet designated uses as identified later in this section.

The majority of the local stormwater management program activities will be implemented by cities and counties within the District; however, there are a number of related program activities that will be coordinated by the District and GAEPD. In addition, transportation infrastructure activities on State roads and highways will be the responsibility of GDOT. The tasks and milestones for implementing these activities are listed in Table 9-1 for local governments, Table 9-2 for the District, and Table 9-3 for GAEPD and GDOT.

TABLE 9-1

Local Government Implementation Tasks and Milestones for Local Stormwater Management Program Activities
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Post-Development Stormwater Ordinance					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Adopt Ordinance ^a					
Adopt Stormwater Management Technical Standards and Design Criteria ^a					
Revise Development (Site Plan) Review Process and Procedures					
Develop and Implement Construction Inspection Program	Implement Construction Program in Each Year				
	Develop and Implement Long-Term Compliance Tracking/Operation and Maintenance (O&M) Program for New Stormwater Management Facilities	Implement Long-Term Compliance Tracking / O&M Program for New Stormwater Management Facilities			
Implement Floodplain Management Ordinance					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Adopt Ordinance ^a					
	Develop Floodplain Maps; complete mapping on 10% of Streams	Develop Floodplain Maps; complete mapping on 10% of Streams	Develop Floodplain Maps; complete mapping on 10% of Streams	Develop Floodplain Maps; complete mapping on 10% of Streams	Continue to Develop Floodplain Maps on 10% of Streams per Year;

^a NPDES MS4 Phase I Municipal Stormwater Program communities will be required to adopt these ordinances in April 2004. Phase II communities will be required to adopt these ordinances by April 2005. All other jurisdictions will be required to adopt these ordinances by April 2006.

TABLE 9-1 (CONTINUED)

Local Government Implementation Tasks and Milestones for Local Stormwater Management Program Activities
 Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Floodplain Management Ordinance (Continued)					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Regulate using Future Floodplain Mapping as it is Available					
Develop Floodplain Review Process	Implement New Flood Protection Requirements				
Implement Illicit Discharge / Illegal Connection Ordinance					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Adopt Ordinance ^a					
Develop enforcement process and procedures					
Document Violations and Enforcement Actions for Annual Report					
Implement Conservation Subdivision Ordinance					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Adopt Ordinance ^a					
Implement Ordinance Provisions					
Implement Litter Ordinance					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Adopt Ordinance ^a					
Develop Enforcement Process and Procedures					
Document Compliance, Violations, and Enforcement Actions for Annual Report					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Adopt Ordinance ^a					
Develop Review and Enforcement Process and Procedures					
Document Compliance, Violations, and Enforcement Actions for Annual Report					
Implement Stream Buffer Protection Ordinance					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
	Adopt Ordinance within 18 months of adoption of District-wide WMP by District Board ^b				
Develop Review and Enforcement Process and Procedures					
Document Compliance, Violations, and Enforcement Actions for Annual Report					
Implement Stormwater Good Housekeeping Ordinance					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
			Adopt Ordinance		
			Develop Review and Enforcement Process and Procedures	Document Compliance, Violations, and Enforcement Actions for Annual Report ,	

^a NPDES MS4 Phase I Municipal Stormwater Program communities will be required to adopt these ordinances in April 2004. Phase II communities will be required to adopt these ordinances by April 2005. All other jurisdictions will be required to adopt these ordinances by April 2006.

^b All local government in the District will be required to adopt a Stream Buffer Protection Ordinance by April 2005.

TABLE 9-1 (CONTINUED)

Local Government Implementation Tasks and Milestones for Local Stormwater Management Program Activities
Metropolitan North Georgia Water Planning District Watershed Management Plan

Establish Judicial Process					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Evaluate existing judiciary to determine whether new or existing staff can handle environmental case load	Establish judicial authority to hear environmental cases and penalties for violations	Environmental magistrate tries cases and assesses penalties, as appropriate			
	Notify public of new court and start date				
Magistrates attend environmental training as continuing education, as necessary					
Participate in District Training for Local Staff					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
	Untrained staff complete District training seminars	Untrained staff complete District training seminars	Untrained staff complete District-wide training	Untrained staff complete District training seminars	Untrained staff complete District training seminars each year
Implement Developer/Contractor Training/Certification Program					
Develop Certification Program					
Implement Certification Program					
Implement Operation and Maintenance Programs for Stormwater Facilities (Drainage Systems and Structures)					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Develop and Implement Long-Term Tracking / O&M Program for Existing Stormwater Management Facilities; Inventory and Map 10% of Jurisdiction	Inventory and Map 10% of Jurisdiction	Inventory and Map 10% of Jurisdiction	Inventory and Map 10% of Jurisdiction	Inventory and Map 10% of Jurisdiction	Continue mapping 10% per year until done; revise previously mapped areas as changes occur
Develop and Implement Stormwater O&M Plan including Emergency Response and General Routine and Remedial Maintenance	Implement Stormwater O&M Plan in each year				
Track and Document Stormwater O&M Activities in each year					
	Develop capital improvements and repair strategies	Implement repair of damaged/failing systems in each year			Implement repair of damaged/failing systems in each year as needed; develop and implement Capital Improvement Plan (CIP) for retrofits
Implement Permit Monitoring and Compliance Tracking					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 - 2030
Develop Process for monitoring issued permits and Tracking Compliance with Permits					
Implement permit monitoring					
Implement Compliance tracking					

TABLE 9-1 (CONTINUED)

Local Government Implementation Tasks and Milestones for Local Stormwater Management Program Activities
Metropolitan North Georgia Water Planning District Watershed Management Plan

Prepare Annual Report					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 – 2030
	Prepare Annual Report for Previous Year; provide water quality monitoring data to District; submit report to District and GAEPD.	Prepare Annual Report for Previous Year; provide water quality monitoring data to District; submit report to District and GAEPD.	Prepare Annual Report for Previous Year; provide water quality monitoring data to District; submit report to District and GAEPD.	Prepare Annual Report for Previous Year; provide water quality monitoring data to District; submit report to District and GAEPD.	Prepare Annual Report for Previous Year; provide water quality monitoring data to District; submit report to District and GAEPD.
Implement Animal Control Measures					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 – 2030
Establish Requirement that any New Public Recreational Area have Pet Posts					
Install Pet Posts in New Recreational Areas as They are Constructed					
Identify Existing Recreational Area Where Pet Posts Should be Added	Install Pet Posts in Existing Recreational Area as Resources are Available				
Implement Pollution Prevention Program					
Year 1 2004	Year 2 2005	Year 3 2006	Year 4 2007	Year 5 2008	2009 – 2030
Establish Annual Household Hazardous Waste Recycling Program	Implement Annual Household Hazardous Waste Recycling Program				
Establish Municipal Good Housekeeping Practices for Landscaping, Site Management, and Vehicle Maintenance	Implement Municipal Good Housekeeping Program				

TABLE 9-2
 District Implementation Tasks and Milestones for Local Stormwater Management Program Activities
Metropolitan North Georgia Water Planning District Watershed Management Plan

Recommend Additional Programs / Measures					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Implement Septic Tank Maintenance Recommendations according to Schedule in Long-Term Wastewater Management Plan (JJG, 2003a)					
Develop technical committee to determine appropriate lawn fertilizer phosphorus content recommendations	Conduct field testing to support recommendations, revise recommendations if necessary	Recommend to State legislature new legislation to regulate phosphorus content in lawn fertilizer and phased approach to implementation.			
Work with GAEPD after the Plans are adopted to develop specific guidelines for local government compliance with the District-wide Watershed Management Plan					
Develop Stormwater Good Housekeeping Model Ordinance					
District TCC to develop appropriate guidelines for local stormwater operations and maintenance activities.					
				Examine additional infiltration stormwater control alternative and incentives during 5-year update of plan	
Facilitate Stormwater Authority Authorizing Legislation					
Develop and Undertake District-Wide Training of Local Staff					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Develop Basic Training Courses and Refresher Courses for Development Plan Review, SECP inspection, Environmental Monitoring, and Watershed Protection Tool	Develop Basic Training Courses and Refresher Courses for Development Plan Review, SECP inspection, Environmental Monitoring, and Watershed Protection Tool	Develop Basic Training Courses and Refresher Courses for Development Plan Review, SECP inspection, Environmental Monitoring, and Watershed Protection Tool	Develop Basic Training Courses and Refresher Courses for Development Plan Review, SECP inspection, Environmental Monitoring, and Watershed Protection Tool	Develop Basic Training Courses and Refresher Courses for Development Plan Review, SECP inspection, Environmental Monitoring, and Watershed Protection Tool	Continue to offer training courses every year
Facilitate Communication and Data Management					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Facilitate communication and information flow among District local governments, state agencies, and other entities					
Develop database for water quality monitoring data.	Maintain database of water quality monitoring data collected by local governments, USGS, and District.				
Revise District-wide WMP					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
				Revise plan to reflect regulatory changes, actions implemented, and data collected	Continue to revise plan every 5 years.
Prepare Annual Report					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
	Prepare Annual Report for Previous Year; submit report to local governments and GAEPD.	Prepare Annual Report for Previous Year; submit report to local governments and GAEPD.	Prepare Annual Report for Previous Year; submit report to local governments and GAEPD.	Prepare Annual Report for Previous Year; submit report to local governments and GAEPD.	Prepare Annual Report for Previous Year; submit report to local governments and GAEPD.

SECP = Sedimentation and Erosion Control Plan

TABLE 9-3
 Georgia State Agency Implementation Tasks and Milestones for Local Stormwater Management Program Activities
 Metropolitan North Georgia Water Planning District Watershed Management Plan

GAEPD Tasks					
Develop New Regulations and Guidance					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Finalize new <i>Escherichia coli</i> standards and guidance	Implement new <i>E. coli</i> standards and guidance				
Establish Program to Improve Enforcement of Ordinances, Regulations, and Maintenance of Stormwater Facilities					
Work with District after the plans are adopted to develop specific guidelines for local government compliance with the District-wide WMP					
Review 20% of Existing (pre-District-wide WMP) NPDES wastewater and stormwater discharge permits for consistency with the District-wide WMP	Review 20% of Existing (pre-District-wide WMP) NPDES wastewater and stormwater discharge permits for consistency with the District-wide WMP	Review 20% of Existing (pre-District-wide WMP) NPDES wastewater and stormwater discharge permits for consistency with the District-wide WMP	Review 20% of Existing (pre-District-wide WMP) NPDES wastewater and stormwater discharge permits for consistency with the District-wide WMP	Review 20% of Existing (pre-District-wide WMP) NPDES wastewater and stormwater discharge permits for consistency with the District-wide WMP	
Require modification of existing NPDES wastewater and stormwater discharge permits that are not consistent with District-wide WMP	Require modification of existing NPDES wastewater and stormwater discharge permits that are not consistent with District-wide WMP	Require modification of existing NPDES wastewater and stormwater discharge permits that are not consistent with District-wide WMP	Require modification of existing NPDES wastewater and stormwater discharge permits that are not consistent with District-wide WMP	Require modification of existing NPDES wastewater and stormwater discharge permits that are not consistent with District-wide WMP	Require modification of existing NPDES wastewater and stormwater discharge permits that are not consistent with District-wide WMP
Develop rules requiring all local governments to comply with MS4 Phase II NPDES permit requirements	Enact rules requiring all local governments to comply with MS4 Phase II NPDES permit requirements				
GDOT Tasks					
Address Transportation Infrastructure					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Develop the required management plan per NPDES Phase II requirements					
Revise Construction Design Standards to be Consistent with Stormwater Ordinances and Technical Design Manual Criteria	Implement revised Construction Design Standards Throughout the District	Implement revised Construction Design Standards Throughout the District	Implement revised Construction Design Standards Throughout the District	Implement revised Construction Design Standards Throughout the District	Implement revised Construction Design Standards Throughout the District
Revise Post-Construction Stormwater Management Standards to be Consistent with District Policy.	Implement Revised Post-Construction Stormwater Management Standards Throughout the District.	Implement Revised Post-Construction Stormwater Management Standards Throughout the District.	Implement Revised Post-Construction Stormwater Management Standards Throughout the District.	Implement Revised Post-Construction Stormwater Management Standards Throughout the District.	Implement Revised Post-Construction Stormwater Management Standards Throughout the District.
Develop Roadway and Right-of-Way Maintenance Procedures that Enhance Pollution Prevention.	Implement Pollution Prevention Maintenance Procedures Throughout the District.	Implement Pollution Prevention Maintenance Procedures Throughout the District.	Implement Pollution Prevention Maintenance Procedures Throughout the District.	Implement Pollution Prevention Maintenance Procedures Throughout the District.	Implement Pollution Prevention Maintenance Procedures Throughout the District.
	Develop CIP to retrofit identified priority areas	Implement retrofit CIP in identified priority areas	Implement retrofit CIP in identified priority areas	Implement retrofit CIP in identified priority areas	Implement retrofit CIP in identified priority areas

TMDL Strategies Implementation Tasks

Implementation of the local stormwater management program activities (outlined above) will provide a base level of management for many nonpoint pollution sources. However, additional management measures are required in watersheds with a TMDL-listed water body.

Currently, several Regional Development Centers (RDCs) are assisting local governments and GAEPD in developing specific TMDL implementation plans. Local governments should follow the recommended process, in conjunction with GAEPD and the RDCs, to refine the TMDL implementation plan for each listed stream segment. A key element of these plans will be coordination with other local governments in watersheds that cross-jurisdictional boundaries.

The specific tasks and milestones for implementing the TMDL measures are summarized in Table 9-4 for local governments and Table 9-5 for GAEPD.

TABLE 9-4
Local Government Implementation Tasks and Milestones for TMDL Strategies
Metropolitan North Georgia Water Planning District Watershed Management Plan

Confirm Parameter Violation					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Confirm violation in all TMDL-listed stream segments		Reassess all TMDL-segments based on new <i>E. coli</i> standards			
Identify Sources					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Review existing data on potential sources and confirmation data					
Develop TMDL Plans					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Implement TMDL Plans for all listed stream segments in the Oconee and Ocmulgee basins					
With GAEPD and other regional entities, complete development of TMDL Plan for all listed stream segments in the Chattahoochee and Flint basins	Implement TMDL Plans for all listed stream segments in the Chattahoochee and Flint basins				
	Revise any TMDL plans where new <i>E. coli</i> standards indicate revision is warranted				
	With GAEPD and other regional entities, develop TMDL Implementation Plans for all listed stream segments in Coosa and Tallapoosa Basins				
	Implement TMDL Plans for all listed stream segments in the Coosa and Tallapoosa Basins after plans are complete				
Implement Plans					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
	Implement all TMDL Plans				
Inter-jurisdictional Agreements					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Identify watersheds requiring inter-jurisdictional cooperation	Develop inter-jurisdictional agreements		Implement inter-jurisdictional agreements		

TABLE 9-4 (CONTINUED)

Local Government Implementation Tasks and Milestones for TMDL Strategies
Metropolitan North Georgia Water Planning District Watershed Management Plan

Monitor TMDL Effectiveness					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Implement Environmental Monitoring Program					
	Continue Environmental Monitoring Program & submit annual reports	Continue Environmental Monitoring Program & submit annual reports	Continue Environmental Monitoring Program & submit annual reports	Continue Environmental Monitoring Program & submit annual reports	Environmental monitoring continues until segments are removed from 303(d) List
Re-evaluate TMDL Implementation Strategies					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
				Examine data and re-evaluate TMDL program as part of 5-year revision of plan	Re-evaluate program every 5-years.

Note: Implementation of local stormwater management program activities will address many TMDL implementation requirements. See Local Stormwater Management Program Activities .

TABLE 9-5

GAEPD Implementation Tasks and Milestones for TMDL Strategies
Metropolitan North Georgia Water Planning District Watershed Management Plan

Develop TMDL Plans					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
With local governments and other regional entities, complete development of TMDL Plan for all listed stream segments in the Chattahoochee and Flint basins					
	With local governments and other regional entities, develop TMDL Implementation Plans for all listed stream segments in Coosa and Tallapoosa Basins				
Refine 303(d) List					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Reassess 303(d) List; include assessment based on revised E. coli standards	Update/revise 305(b) report	Reassess 303(d) List		Update/revise 305(b) report and reassess 303(d) list	Continue to reassess lists and revise standards as required by regulations
Incorporate TMDL Implementation into Permits					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Review NPDES wastewater and stormwater permits, and require modification of those that are not consistent with TMDL Plans and new E. coli standards					

Source Water Protection Strategies Implementation Tasks

The recommendations for source water protection include the local stormwater management program activities that will be applied District-wide as well as source-specific management tasks in water supply watersheds. Local stormwater management program activities include:

- Implementation of the District Model Stormwater Management Ordinances to address nonpoint source loadings
- Implementation of the Part V Environmental Planning Criteria to establish the minimum setbacks, impervious surface limits, and septic tank/drainfield limits
- Improved enforcement of existing regulations
- Acquisition and preservation of land, and education and awareness measures focused on pollutant-specific sources

Several implementation tasks associated with source water protection involve other aspects of the plan, especially the local stormwater management program activities, which will provide significant reductions in nonpoint source pollutant loadings. Local governments have much of the responsibility for implementing source water protection, including implementation of the Part V Environmental Planning Criteria, land acquisition, and public education concerning potential pollution sources. The recommended specific tasks and milestones for local government implementation of the source water protection tasks are summarized in Table 9-6. District tasks for source water protection are identified in Table 9-7.

TABLE 9-6

Local Government Implementation Tasks and Milestones for Source Water Protection Strategies
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Part V Criteria					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009 – 2030
Implement setbacks and buffers on stream in small and large water supply source watersheds.	Enforce setback and buffer restrictions in small and large source water supply watersheds.				
Develop planning and geographic information system (GIS) maps	Utilize planning process to maintain impervious cover limits in small water supply source watersheds				
Inter-jurisdictional Agreements					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009 – 2030
Identify watersheds requiring inter-jurisdictional cooperation	Develop binding, enforceable inter-jurisdictional agreements	Implement inter-jurisdictional agreements			
Integrate Source Water Protection with Greenspace Program					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009 – 2030
Integrate Source Water Protection with State Greenspace Program	Identify parcels where acquisition of land would augment source water protection	Coordinate land acquisition and preservation with State Greenspace Program			

TABLE 9-6 (CONTINUED)

Local Government Implementation Tasks and Milestones for Source Water Protection Strategies
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Source Water Protection Strategies Among Potential Polluters					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009 – 2030
Identify businesses and industries that are potential polluters in source water protection areas	Evaluate new businesses and industries in source water protection areas to determine whether they are potential polluters				
	Distribute educational materials to businesses and industries identified as potential polluters	Distribute educational materials to any new businesses or industries identified as potential polluters as they are identified.			
Identify transportation routes near water sources and businesses/industries that may use these transportation routes	Evaluate new businesses and industries for potential to use transportation routes near water sources				
	Distribute educational materials to businesses and industries that may use transport routes near source waters	Distribute educational materials to any new businesses that may use transport routes near source waters			
Identify businesses and industries that use or store hazardous materials	Evaluate new businesses and industries to determine whether they would use or store hazardous materials				
	Distribute educational materials to businesses and industries that may use or store hazardous materials	Distribute educational materials to any new businesses that may use or store hazardous materials			
Identify businesses and industries that store fuel in underground storage tanks	Evaluate new businesses and industries to determine whether they would store fuels in underground storage tanks				
	Distribute educational materials to businesses and industries that stores fuel in underground storage tanks	Distribute educational materials to any new businesses that stores fuel in underground storage tanks			

Note: Implementation of local stormwater management program activities will address many source water protection requirements. See Local Stormwater Management Program Activities.

Setback and buffer requirements for small and large water supply source watersheds are provided in Section 4.

TABLE 9-7
 District Implementation Tasks and Milestones for Source Water Protection Strategies
Metropolitan North Georgia Water Planning District Watershed Management Plan

Develop Education Materials					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009 – 2030
Prepare education materials addressing BMPs for large industries that use hazardous wastes				Evaluate education materials and update as necessary	
Prepare education and awareness materials that promote return business to facilities that recycle hazardous materials used in their operations				Evaluate education materials and update as necessary	
Prepare education materials addressing BMPs for businesses and industries that store fuel in underground storage tanks				Evaluate education materials and update as necessary	
Distribute Education Materials					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009 – 2030
Coordinate with water suppliers to provide educational material to pipeline companies and railroads that operate in source water protection areas.					
Coordinate with water suppliers to provide educational material to businesses and industries that may transport hazardous materials on roads in source water protection areas.					

Watershed Improvement Strategies Implementation Tasks

In substantially impacted watersheds where existing levels of development and associated impervious area can result in conditions that do not meet water quality standards and designated uses, watershed improvement plans containing watershed improvement measures will be required.

Development and implementation of watershed improvement plans will help restore the physical, chemical, and biological quality, and improve the aquatic integrity of streams not meeting State standards. Watershed restoration and retrofits will also support future NPDES permitting activities. During the first 2 years of plan implementation, the District and local governments will work with the Technical Coordinating Committee (TCC) to develop specific guidance on Watershed Improvement Plan project implementation. Local governments will implement most watershed improvement programs with oversight from the State and District. These tasks and milestones are listed in Table 9-8.

TABLE 9-8
Local Government Implementation Tasks and Milestones for Watershed Improvement Plans
Metropolitan North Georgia Water Planning District Watershed Management Plan

Initiate Watershed Improvement Plan Planning					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Work with District and Technical Coordinating Committee to develop specific guidance on watershed improvement plan implementation					
Develop schedule for watershed improvement plan development based on watershed priorities					
Inventory Existing Systems					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
		Inventory existing systems in 1st priority watershed	Inventory existing systems in 2nd priority watershed	Inventory existing systems in 3rd priority watershed	Continue inventorying systems until all impacted watersheds are completed
Evaluate Retrofit and Restoration Alternatives					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
			Evaluate Retrofit and Restoration Alternatives based on inventory data in 1st priority watershed	Evaluate Retrofit and Restoration Alternatives based on inventory data in 2nd priority watershed	Continue evaluating alternatives as watersheds are inventoried.
Develop Watershed Improvement Plans					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
			Develop watershed improvement plan for 1st Priority Watershed	Develop watershed improvement plan for 2nd priority watershed	Continue developing watershed improvement plans at one/year until all watersheds are addressed
Implement Watershed Improvements					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
				Implement watershed improvement plan projects consistent with specific guidance until water quality objectives are met.	

Land Use Based Implementation Tasks

There are a variety of ways for local governments in the District to move forward with the land use strategies presented in Section 5. Each city and county will have a unique approach and combination of strategies to successfully implement land use planning that considers the protection of water resources. Each local government will also need an additional level of inter-jurisdictional coordination to plan for watersheds that cross political boundaries, particularly for source water protection and TMDL plans.

All local governments are required by the Georgia Department of Community Affairs (DCA) to prepare a complete update to their comprehensive plans sometime during the period of 2004-2008. Table 9-9 indicates the upcoming deadlines for local government land use plan updates in the District. All municipalities in a county are subject to the same update deadline as their county government, thereby facilitating the coordinated planning process. It is recommended that these required comprehensive plan updates be made consistent with the District-wide WMP and address inter-jurisdictional coordina-

tion. Additionally, local governments should review their future land use and zoning maps for consistency with the District-wide WMP and to identify opportunities to utilize some of the land use-based strategies described in Section 5.

TABLE 9-9

DCA Requirements for Local Comprehensive Plan Updates
Metropolitan North Georgia Water Planning District Watershed Management Plan

2004	2005	2006	2007	2008
Forsyth	DeKalb	Cobb	Bartow	Gwinnett
Hall	Fulton	Coweta	Paulding	Henry
Clayton			Walton	Rockdale
Douglas			Fayette	
			Cherokee	

Source: <http://www.dca.state.ga.us/planning/coordinated.html>

Education and Public Awareness Tasks

Implementation of an Education and Public Awareness campaign is focused on years 2004-2006, to meet the SB 130 goals within the specified timeframe. Tasks to be implemented during this period are identified in Table 9-10 for local governments and in Table 9-11 for the District.

TABLE 9-10

Local Government Implementation Tasks and Milestones for Education and Public Awareness
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Public Awareness Media Campaign					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Include campaign messages in all public outreach materials; and distribute supporting materials at public meetings and events; assist District in publicizing website, CD-ROM					
Provide names and contact numbers of local media outlets to District					
Schedule and conduct Speakers Bureau presentations					
Establish Information Clearinghouse					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Provide information and educational materials to District for cataloging	Provide any new materials developed to District for addition to clearinghouse				
Provide feedback to District on effectiveness of materials; customize and update materials as needed					

TABLE 9-10 (CONTINUED)

Local Government Implementation Tasks and Milestones for Education and Public Awareness
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Targeted Outreach and Education Programs					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Complete identification of target groups	Prepare and conduct workshops, presentations and demonstration projects to increase awareness of target groups.				
Support District and Participate in Nonpoint Source Education for Municipal and Elected Officials (NEMO) Program: identify target groups, distribute materials					
Support District and Participate in Speakers Bureau: identify target groups, make presentations					
Support District and Participate in Homeowner and Commercial/Industrial Workshops.					
Distribute educational materials to target groups.					

TABLE 9-11

District Implementation Tasks and Milestones for Education and Public Awareness
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Public Awareness Media Campaign					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Bring creative consultant on staff (loaned executive) to begin developing message points; develop and place initial series of PSAs and press releases to announce expansion of Clean Water Campaign (CWC) and publicize other District initiatives and activities	Implement paid mass media campaign (purchase air time; place PSAs; purchase advertisements, issue press releases, etc.)	Evaluate goal achievement, determine need for extended mass media campaign			
Create and place initial series of PSAs and press releases about expanded CWC and planned activities; provide bill insert copy to local governments	Develop new PSAs bimonthly to address key messages; issue press releases to announce significant events and activities				
Develop and Present Proposal for Partnership with Radio Weather Broadcaster; provide watershed information and nonpoint source pollution content to TV weather broadcast partner	Continue to provide watershed information and nonpoint source pollution content to TV/Radio broadcast partners for broadcast and website				
Develop and Implement Interactive Website	Update Interactive Website				
Develop and Distribute Interactive CD-ROM	Distribute Interactive CD-ROM				
Develop promotional items and provide art and specifications to local governments	Distribute promotional items at events				
Develop Clean Water Partners Program and begin to recruit local businesses to participate	Recruit local businesses to participate in Clean Water Partners program				

TABLE 9-11 (CONTINUED)

District Implementation Tasks and Milestones for Education and Public Awareness
Metropolitan North Georgia Water Planning District Watershed Management Plan

Establish Information Clearinghouse					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Develop library of information and education materials	Maintain information clearinghouse as a resource to support local education and outreach programs				
Develop and Implement Targeted Education Program					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Identify target groups	Assess effectiveness of target group outreach and continue identification of target groups				
Work with Georgia Water & Pollution Control Association (GWPCA) to develop NEMO program	Implement NEMO program				
Develop Speakers Bureau and make Presentations	Make Presentations throughout the District				
Develop plan and industry-specific materials to support program	Coordinate implementation of targeted outreach and education campaign: provide educational materials, contribute to pollution prevention and industry workshops and demonstration projects.				
Develop and implement industry-specific training courses	Implement industry-specific training courses.				
Support Watershed Education Taskforce					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Support and Encourage environmental education professionals formation of a Watershed Education Task Force to promote watershed education in schools and the State Legislature					
Develop Localized Watershed Information to Support Teaching of Watershed Education					
Support Protect WET					
Year 1-2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Support Georgia's Project WET, other identified watershed education programs					

During the first 6 months of 2004, District staff should be implementing recommendations that do not require outside resources, as well as establishing the partnerships with other entities that will support future activities. Activities in the first 6 months of 2004 include:

- Developing key message points and slogans
- Extracting watershed- and District-specific information from the District-wide WMP for incorporation into the communication and training documents that will be developed (e.g., utility bill messages, public service announcements [PSAs], fact sheets, brochures, Speakers Bureau presentation)
- Developing media campaign and creating interactive CD-ROM and website pages
- Selecting and producing promotional items and providing artwork and specifications to local governments
- Producing the interactive CD-ROM
- Developing the portable information kiosks
- Reviewing potential sponsors list, developing strategy and script for the approach to potential sponsors

- Developing the Clean Water Partner Program (defining incentives and benefits, partnership levels, etc.)
- Establishing the Information Clearinghouse
- Preparing baseline target group communication survey
- Defining Education and Public Awareness preparatory tasks for local governments and making formal requests for information and assistance (names for key target group database, schedules for bill inserts/messages, names of local media outlets, material for the Information Clearinghouse, etc.)
- Chartering the Watershed Education Task Force
- Developing calendar of events, including kiosk display and Speakers Bureau opportunities

In the second 6 months of 2004, the District should continue seeking opportunities to publicize activities and goals. The District should also focus on establishing corporate sponsorships and encouraging local employers to participate in the Clean Water Partner Program. In addition, the District should work with agency and educational partners to develop supplemental environmental science curricula, with a goal of having the curricula in place for the fall 2005 school year. This will provide adequate lead time to work with school administration and faculty to secure their understanding and support.

Training and outreach to key target groups should begin in January 2005. Therefore, in the second half of 2004, the District should work with Nonpoint Source Education for Municipal Officials (NEMO) and the Agency and University Partners (such as those listed below) to develop the workshop training materials and begin to schedule training workshops with key target groups (working through the associations wherever possible to streamline the coordination process):

- Georgia Environmental Partnership (GEP)
- GWPCA
- Pollution Prevention Assistance Division (P2AD)
- Georgia Tech
- University of Georgia (UGA)

Water Quality Monitoring Tasks

The District-wide water quality monitoring plan allows water quality goals to be tracked through measurable changes in water quality parameters. Tasks in the water quality monitoring plan to be implemented by local governments are identified in Table 9-12, District tasks are identified in Table 9-13, and USGS tasks are identified in Table 9-14.

TABLE 9-12
Local Government Implementation Tasks and Milestones for Environmental Monitoring
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Environmental Monitoring					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Implement biota and habitat sampling on 20% of stations in jurisdiction. All stations to be sampled every 5 years.	Implement biota and habitat sampling on 20% of stations in jurisdiction. All stations to be sampled every 5 years.	Implement biota and habitat sampling on 20% of stations in jurisdiction. All stations to be sampled every 5 years.	Implement biota and habitat sampling on 20% of stations in jurisdiction. All stations to be sampled every 5 years.	Implement biota and habitat sampling on 20% of stations in jurisdiction. All stations to be sampled every 5 years.	Continue biota and habitat sampling on 20% of stations in jurisdiction per year to complete all stations every 5 years
Implement long-term ambient monitoring plan to collect 6 wet weather, 2 baseflow, and 3-4 fecal coliform (fecal) geometric means from all stations in District	Implement long-term ambient monitoring plan to collect 6 wet weather, 2 baseflow, and 3-4 fecal geometric means from all stations in District	Implement long-term ambient monitoring plan to collect 6 wet weather, 2 baseflow, and 3-4 fecal geometric means from all stations in District	Implement long-term ambient monitoring plan to collect 6 wet weather, 2 baseflow, and 3-4 fecal geometric means from all stations in District	Implement long-term ambient monitoring plan to collect 6 wet weather, 2 baseflow, and 3-4 fecal geometric means from all stations in District	Implement long-term ambient monitoring plan to collect 6 wet weather, 2 baseflow, and 3-4 fecal geometric means from all stations in District
	Implement Commercial/Industrial Inspections at the number of sites specified in the Monitoring Plan prioritized based on Data Collected for Water Quality Monitoring	Implement Commercial/Industrial Inspections at the number of sites specified in the Monitoring Plan prioritized based on Data Collected for Water Quality Monitoring	Implement Commercial/Industrial Inspections at the number of sites specified in the Monitoring Plan prioritized based on Data Collected for Water Quality Monitoring	Implement Commercial/Industrial Inspections at the number of sites specified in the Monitoring Plan prioritized based on Data Collected for Water Quality Monitoring	Annually Implement Commercial/Industrial Inspections at the number of sites specified in the Monitoring Plan prioritized based on Data Collected for Water Quality Monitoring
Annually implement Dry Weather Illicit Discharge Screening on number of sites specified in the Monitoring Plan OR Annually implement pedestrian streamwalk program on 33% of stream miles in jurisdiction per year, to complete all stream miles every 3 years					
Implement TMDL monitoring following GAEPD protocols on all streams with TMDL Implementation Plans					
Implement Commercial/Industrial Inspection Program to Evaluate Facility Operation and Good Housekeeping					
	Provide data to District; submit annual reports	Provide data to District; submit annual reports	Provide data to District; submit annual reports	Provide data to District; submit annual reports	Provide data to District; submit annual reports
Revise Monitoring Plans					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Revise local monitoring plans to be consistent with District-wide WMP				Examine data and re-evaluate Environmental Monitoring program as part of 5-year revision of plan	Re-evaluate program every 5-years.

TABLE 9-13

District Tasks and Milestones for Environmental Monitoring
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement District-Wide Water Quality Database					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Establish database and data transfer protocols	Update and maintain database as local government and USGS stream and river data from previous year are added				
	Update and maintain database as USCOE, USGS, and GAEPD lake data from previous year are added				
Meet with GAEPD, TCC, and USGS to develop funding strategy & identify additional locations	Establish new stations, contingent on funding availability. Continue meetings with GAEPD, TCC, and USGS until stations have been established at all additional locations.				
Implement BMP/Restoration Effectiveness Monitoring					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
	Establish agreement with regional research entities and develop funding mechanisms	Implement 2 BMP Effectiveness pilot Projects	Implement 2 BMP Effectiveness pilot Projects		Assess whether additional pilot projects are needed, revise program
		Evaluate effectiveness of in-place BMP pilot projects	Evaluate effectiveness of in-place BMP pilot projects	Evaluate effectiveness of in-place BMP pilot projects	Evaluate effectiveness of in-place BMP pilot projects

TABLE 9-14

Federal Government (USGS) Implementation Tasks and Milestones for Environmental Monitoring
Metropolitan North Georgia Water Planning District Watershed Management Plan

Implement Environmental Monitoring					
Year 1- 2004	Year 2-2005	Year 3-2006	Year 4-2007	Year 5-2008	2009-2030
Implement regional water quality monitoring at all available regional stations and maintain all existing stations					
Locate/install/ upgrade additional regional monitoring stations as funding allows					
	Submit data for previous year to web-based database	Submit data for previous year to web-based database	Submit data for previous year to web-based database	Submit data for previous year to web-based database	Submit data for previous year to web-based database

Implementation Costs

Implementation of the District-wide WMP will entail additional costs which local governments, the District, and the State will need to include in future budgets. The majority of these costs would already be required under existing regulatory requirements. Actual costs for implementation of the District-wide WMP will vary significantly among entities within the District due to the variability in existing programs, levels of development and associated watershed impacts, and existing funding programs.

Local Government Costs

Unit costs for each element of the District-wide WMP were estimated through a combination of technical literature reviews and experience with similar program elements. These estimates were refined based on information about actual expenditures obtained by surveying six Metro Atlanta counties with existing programs: Cobb, Clayton, DeKalb, Fulton, Gwinnett, and Rockdale (Table 9-15). Each county surveyed currently administers its stormwater program in its own manner and to different extents, so ranges of values are presented. Some elements are conducted with County staff and others are contracted out to other organizations. Projects required pursuant to a federal or state court order will take precedence over the recommendations contained in this plan.

TABLE 9-15
Annual Costs for Existing Metro Atlanta County Stormwater Programs¹
Metropolitan North Georgia Water Planning District Watershed Management Plan

Existing Stormwater Program Costs	Minimum	Maximum
Per Capita	\$ 7.71	\$ 46.00
Per Household	\$ 22.17	\$ 133.80

¹Counties surveyed included Cobb, Clayton, DeKalb, Fulton, Gwinnett, Rockdale.

Annual unit cost estimates for plan implementation are provided in Table 9-16. These unit costs are based on the following assumptions and conditions:

- **Operation and Maintenance (O&M)** expenses were assumed to consist of minor projects conducted in-house under the general operating budget.
- **Capital Improvement Projects (CIP)** were assumed to consist of relatively large capital projects that are not funded by the general operating budget. Funding is generally requested separately through an annual capital improvements budget.
- **Environmental Monitoring** costs generally include programs associated with NPDES stormwater permitting and watershed protection programs.
- **Administrative** costs were estimated based on the fraction of resources and time staff spend on stormwater-related work.

- **Watershed Improvement Plan** development includes field assessments of existing conditions of best management practices (BMPs) and streams, pollutant load modeling, cost estimates for retrofits and restoration, and prioritization of projects. Watershed improvement plan implementation costs assume that levels of water quality and quantity controls specified in the Georgia Stormwater Management Manual are met.

Based on this information, two estimates (high and low) were developed for each of the recommended watershed management tasks. Costs were estimated per plan reviews, per acre, or per capita (population).

TABLE 9-16

Annual Unit Cost Summary by Program Element
Metropolitan North Georgia Water Planning District Watershed Management Plan

Local Stormwater Management Program Activities	Unit	Low Unit Cost	High Unit Cost
<i>Model Ordinances</i>			
Post-Development SW Mgmt ^{1,3}	per plan review	\$ 500	\$2,000
Future Flood Plain Mapping ^{2,3}	per acre	\$ 8.00	\$ 16.00
Other SW Code Enforcement ^{1,3}	per capita	\$ 0.25	\$ 1.50
<i>Erosion/Sedimentation Control</i> ^{1,3}	per plan review	\$ 50	\$4,000
<i>O&M Program</i> ^{2,3}	per capita	\$ 4.00	\$ 18.00
<i>CIP Program</i> ^{1,2,3}	per capita	\$ 8.00	\$ 50.00
<i>Watershed/Stormwater Master Planning</i> ^{1,3}	per acre	\$ 2.25	\$ 12.00
<i>Public Education</i>			
Regional/District ²	per capita	\$ 0.50	\$ 1.00
Local efforts ^{1,3}	per capita	\$ 0.25	\$ 1.00
<i>Environmental Monitoring</i> ^{2,3}	per capita	\$ 0.75	\$ 5.00
<i>Administration</i> ^{1,3}	per capita	\$ 1.00	\$ 6.00
Watershed Improvement Plans			
<i>Plan Development</i> ³	per acre of watershed	\$ 4.00	\$ 15.00
<i>Plan Implementation</i> ³			
New Residential BMPs ⁴	per acre of pond	\$10,000	\$15,000
New Commercial BMPs ⁴	per acre of pond	\$40,000	\$50,000
BMP Retrofits ⁵	per acre of pond	\$35,000	\$150,000
Stream Restoration ⁵	per foot stream	\$250	\$350

Sources of Data:

¹ Atlanta Regional Commission (ARC) – Surveyed five Metro Atlanta Counties

² City of Tampa, FL, 15-year cost history; City/County Columbus GA; 5-year cost history; Billings, MT., 10-year cost history; APWA Manual No. 91 “Water Quality: Urban Runoff Solutions”, 1991; MACTEC review of municipal/county clients, and other stormwater and Public Works programs for NPDES Phase II and Program master planning, utility establishment.

³ CH2M HILL, Inc. – Surveyed one Metro Atlanta County, other information based on experience with similar projects

⁴ New BMPs were assumed to be constructed at the same time as new developments.

⁵ Retrofit and restoration costs include engineering, permitting, construction easements, retrofit construction, and maintenance.

Using these estimates, local governments can estimate their expected costs depending on their existing population and level of development activity. A detailed evaluation of the counties' existing stormwater programs, local citizens' needs and required levels of service, age of existing infrastructure, and watershed improvement needs will have to be performed to determine the actual costs for each entity.

District Costs

The annual estimated costs for the District responsibilities are summarized in Table 9-17. These costs include:

- Continued administration and coordination of District activities
- Development and maintenance of the water quality monitoring database
- Training on the water quality monitoring program, site design and BMP implementation, and the watershed protection tool
- Coordination and development of BMP effectiveness and watershed improvement studies
- Development and coordination of the education and public awareness activities

As discussed in Section 7, costs for the education and public awareness campaign will be highest in the first year and will decrease in subsequent years. The cost estimate in Table 9-17 is for the first year. In subsequent years this line item could decrease by as much as \$500,000.

TABLE 9-17

Estimated Annual District Costs for Implementation of District-Wide WMP
Metropolitan North Georgia Water Planning District Watershed Management Plan

Program Element	Description	Estimated Costs	
District Program Administration	Includes portions of a Principal Planner, Public Involvement Planner II, Stormwater Education Coordinator, Chief of Environmental Planning, and Administrative Assistant; and a Stormwater Engineer, and Senior Planner (database).	Salaries	\$250,000
		Fringe and Overhead	\$350,000
		Misc. Operating Expenses	\$50,000
		Sub-Total	\$650,000
Training Sessions	Includes training sessions on application of the watershed management requirements, including design and implementation of BMPs, environmental monitoring and data transfer.	\$200,000	
Education and Public Awareness	Includes the media campaign, brochures, and related education materials	\$2,085,800	
Total Estimated Annual Costs		\$2,935,800	

State of Georgia Costs

GAEPD's involvement in the TMDL program is currently limited to (1) periodically revising the state's 303(d) list of impaired waters and (2) incorporating TMDL implementation, where appropriate and supported by regulations, in issuance of NPDES wastewater and stormwater permits. GAEPD anticipates these activities will be accomplished with existing staff, and that no additional funding will be required.

In addition, GAEPD's TMDL Implementation Program staff will continue to work with the RDCs, local governments, and stakeholders by providing assistance in implementation of TMDL plans. This assistance is currently limited to (1) assisting RDCs and other qualified entities in obtaining grants from the US Environmental Protection Agency (EPA) to develop TMDL implementation plans, (2) helping coordinate TMDL-related activities among the RDCs, local governments, and stakeholders, and (3) assisting RDCs, local governments, and stakeholders in development of public education programs related to the TMDL process. Implementing TMDLs at the local level, with GAEPD's assistance as described above, is more efficient and cost-effective than placing the entire burden of TMDL implementation on GAEPD alone. Therefore, no additional costs have been estimated for GAEPD's role in TMDL implementation with the District.

Many of the TCC and BAC members participating in the development of the WMP have indicated that additional funding is needed to ensure that GAEPD has adequate staff to review and enforce existing regulations. However, GAEPD was not able to estimate the number of staff and associated additional funding that would be needed to address these concerns.

The GDOT will need to evaluate the costs associated with changing their design criteria (to include post-construction stormwater controls) for new highways. An increase in design and construction costs can be expected. The District and GAEPD will coordinate with GDOT during the District-wide WMP review to develop an estimate of the potential cost implications for new highway design and construction.

Implementation Funding

Successful implementation of the District-wide WMP hinges on the ability to fund the recommended activities. All local governments should develop a stable funding mechanism that will provide for complete implementation of the District-wide WMP. Local stormwater management program activities will primarily be implemented by local governments and may be most efficiently funded and administered through local stormwater utilities. A variety of funding options for District-wide WMP implementation were reviewed and a stormwater utility structure was the preferred approach, primarily because it provides a dedicated funding source for stormwater program implementation.

Two major types of stormwater utilities have proven successful: regional and local. A regional utility structure may facilitate distribution of cost responsibilities over a broad population and, therefore, reduce the burden on already-developed areas. Local utility funding of watershed retrofit and restoration may facilitate targeted program efforts and

assign revenue responsibility directly to contributing areas of concern. Under either financing structure, long-term financial planning and effective re-development planning can be used to manage the impacts on local governments and their rate-payers.

Local Stormwater Management Program Activities –Local Government Responsibilities

For the majority of watersheds in the District, implementation of the local stormwater management program activities identified in Table 9-1 will require supplemental funding. These tasks include compliance with stormwater management requirements already in effect under NPDES permits and a range of administrative and regulatory measures.

In Georgia, general revenues from property taxes are typically the main funding source for local stormwater management activities. However, the Georgia Stormwater Management Manual identifies a number of alternative funding methods for stormwater management programs, including the sale of bonds, development impact fees, the formation of local improvement districts, and the creation of stormwater user fee systems (ARC, 2001). In a given area, one method may be preferred because of its potential to generate revenue, its overall suitability, or its public acceptance. These alternative funding approaches are discussed below:

1. **General Fund** – General appropriations are the traditional way to fund most government programs and services. The principal advantage of this approach is that it represents a stable funding source from local taxes. The disadvantage is that stormwater activities must compete with other local programs for limited funds.
2. **General Obligation Bonds** – Debt financing of capital and O&M costs can be accomplished by issuing general obligation bonds, revenue bonds, or a combination of the two. This approach would require voter approval in a referendum and would be subject to local administrative policy regarding debt ceilings. Typically, stormwater project debt has been financed through issuance of 15-year term bonds.
3. **Development Impact Fees** – Under this approach, developers of new projects are assessed a development impact fee within a proposed watershed system service area. The assessment is determined not by the benefits received but by the impacts requiring new facilities and/or increased service levels. Development impact fees may be assessed as a permit or plan review fee. These are generally one-time fees with revenues used specifically to finance new stormwater facilities or other system components. Although these fees are paid by developers, this type of funding typically is passed on to the property owner through higher costs.
4. **Special Assessments/Tax Districts** – This approach is best suited for situations where a specific area directly benefits from capital improvements, land acquisition, special studies, and/or extraordinary maintenance of stormwater systems. It establishes a “user pays” approach where only those who benefit from the systems pay for them. Special districts function as quasi-municipal corporations created by law, with several funding options available: special taxes on property, development

fees, user fees, and debt financing. Creation of special assessment districts requires voter approval.

5. **User Fees / Stormwater Utilities** – This approach provides a stable and dedicated revenue source for stormwater management. User fees are an alternative to increased taxes or impact fees for the support of local program O&M. User fees also may be used to fund other stormwater program activities. In a stormwater user fee system, stormwater infrastructure and programs are considered a public service or utility similar to wastewater and water programs that are funded on a similar basis. Stormwater fees are assessed on users of the system based on average conditions for groups of customers. Typically, fees are based on some measure of a property's impervious area, with rates assessed on equivalent dwelling unit or unit area.

Operation of a stormwater utility is similar to that of water or sewer districts, which are funded through service fees and administered separately from the general tax fund. Stormwater utilities have existed for a number of years in several states, but are relatively new to Georgia. A stormwater utility can provide a vehicle for consolidating and coordinating activities and responsibilities; generating funding that is adequate, stable, equitable, and dedicated; and developing programs that are comprehensive, cohesive, and consistent

With all of these alternatives, local government retains full control over both the mechanisms for securing additional funding and the uses of proceeds (within the general boundaries of compliance with the District-wide WMP). Accordingly, the organizational implications are largely restricted to ensuring financial stewardship of funds generated through the above-listed mechanisms and providing for an effective stormwater management program. Local governments will need to assess funding requirements and establish a stable funding source to enforce ordinances and implement the District-wide WMP.

Local Stormwater Management Program Activities –District Responsibilities

The District-wide WMP will require implementation of a number of additional local stormwater management program activities that may be most cost-effectively administered and coordinated on a District basis. These tasks could include updating Model Ordinances, distributing guidance on new laws and regulations, and conducting education and public awareness efforts. From a practical perspective, a comprehensive and consistent water quality monitoring program will also require District administration. These District-wide local stormwater management program activities may be funded under several mechanisms (including the establishment of a separate District stormwater fee).

Resources for Land Use Management and Planning

The many challenges facing local governments in Georgia have prompted the creation of a variety of initiatives to promote greenspace preservation, alternative development patterns, and other innovative land use practices. This section describes some of the resources available to facilitate land use planning in the District.

State of Georgia Greenspace Program. As discussed in Section 5, every county in the District participates in the Georgia Greenspace Program. This program is an excellent resource for planning the acquisition of land for water quality protection at the local level. Greenspace Program involvement may be used for obtaining lands for buffers and other critical areas to protect local waters. The Georgia General Assembly created the Georgia Greenspace Program during the 2000 legislative session by enacting Senate Bill (SB) 399 (codified as Official Code of Georgia, Annotated [O.C.G.A.] Sec. 36-22-1 et seq.). The program is administered by the Georgia Department of Natural Resources (GADNR) and a five-member Georgia Greenspace Commission, which review and approve community greenspace programs submitted by eligible counties. All of the entities within the District are eligible to qualify for the 2003 program monies but must submit revised or new program documentation.

The program promotes the voluntary adoption of policies and rules that enable participants to preserve at least 20 percent of the county's land area as connected and open greenspace, which can be used for informal recreation and natural resource protection. The permanent protection of such lands enhances a community's quality of life and its economic competitiveness. It should therefore be considered part of the necessary infrastructure for a community's development, as are roads, water supply, and wastewater management. As such, the program provides a mechanism for local governments to incorporate greenspace into their long-term planning for development.

State of Georgia Quality Growth Grant Program. Until recently, the State of Georgia has not provided many incentives to encourage implementation of quality growth best practices that have been very successful in other parts of the country. However, on October 1st, 2002, the Georgia Department of Community Affairs (DCA) launched the Quality Growth Grant Program. This \$250,000 grant program is tailored to fund implementation of quality growth activities by local governments across the state.

All Georgia municipalities, counties, and consolidated governments are eligible to apply for Quality Growth Grants. There will be two funding rounds each year, with annual application deadlines of May 15 and November 15. Grants may be requested for any amount between \$5,000 and \$40,000, but a project must be particularly innovative to be funded above \$25,000. Recipient governments are expected to match the grant amount with cash and in-kind services.

The following are examples of the types of activities that are eligible for assistance:

- Projects directly promoting growth management concepts, infill housing, brownfield redevelopment, or similar projects that discourage urban sprawl.
- Preparation of local ordinances, regulations, or inter-governmental agreements promoting growth preparedness, sustainable development, and other quality growth strategies.
- Public education on quality growth topics.
- Programs to preserve community heritage, sense of place, and regional identity.
- Alternative/multi-modal transportation facilities.
- Preservation of critical environmental resources, wildlife habitat, prime farmland, or sensitive ecosystems.

ARC Livable Communities Program. To foster greater livability in these activity and employment centers in the District, the ARC developed the Livable Centers Initiative (LCI). LCI provides seed money to communities that are working to enhance livability and mobility for their residents. In May of 1999, ARC adopted policies in the 25-year Regional Transportation Plan that provide \$1 million per year for 5 years for LCI planning grants to regional communities. ARC also has \$350 million available for implementation of the more innovative ideas generated from these plans.

Although LCI studies show an impressive range of ideas and ways to achieve livability, all demonstrate the fundamental concepts of:

- Connecting homes, shops, and offices
- Enhanced streetscaping and sidewalks
- Emphasizing the pedestrian
- Improving access to transit and other transportation options
- Expanding housing options

The LCI Study Implementation program was established in 2003 to provide limited financial assistance to help communities that have completed an LCI study implement their plan. A total of 16 applications requesting \$378,500 from an available \$83,000 were received by the ARC. Five proposals were selected to cover the costs of preliminary market analysis, development of a commercial overlay district, and additional housing studies.

Restoration and Retrofit – Local Responsibilities

The more acute funding challenges are for the 20 percent of the District's 12-digit Hydrologic Unit Code (HUC) watersheds that may require some degree of restoration and retrofit to achieve water quality improvements. While local jurisdictions may draw from the same funding sources, financing these improvements will likely require long-range financial planning.

In some cases, debt financing may be an attractive mechanism to distribute costs over time. Additionally, in watersheds where retrofit or restoration improvements will cross jurisdictional boundaries, local governments may elect to share project financing. These local restoration projects may be funded through multiple sources including: storm-water utilities, grants, mitigation banks, or other federal funding such as the Section 206 program under the Water Resource Development Act. In most cases, local governments will need to utilize a combination of these funding options over time to implement the recommendations for watershed improvement.

Restoration and Retrofit – District Responsibilities

In addition to local stormwater management program activities, the District will also likely need to assume responsibility for limited retrofit and restoration activities. These requirements will largely be confined to research and evaluation efforts through demonstration projects. As with funding of local stormwater management program activities, funding for these activities would be coordinated with the District Board. A review of funding needs for these demonstration projects will be completed with support and direction from the TCC.

Stormwater Utility Development

With new or expanded responsibilities, Cities and Counties face growing costs to provide traditional services and additional costs related to new services. Traditional funding sources, such as general fund allocations, Federal and State grants, and special purpose sales taxes cannot keep up with the new funding demands. Increasingly, Cities and Counties are turning to Stormwater Utility Fees to provide consistent and stable funding for municipal stormwater services. For example, over 100 cities and counties in Florida have implemented stormwater utility programs to fund their enhanced services. In Georgia, three communities, Griffin, City of Decatur, and Columbia County, have implemented stormwater utility fees. DeKalb County and City of Conyers have adopted stormwater utility ordinances and are moving forward with implementation of their initial customer billings.

A stormwater utility user fee system is the most appropriate source of new revenue for the following reasons:

- **Equity** – Stormwater fees are based on planned stormwater management program expenditures; and fees are calculated using billing determinants related to customers' stormwater contributions to the local government's stormwater conveyance system.
- **Dedication** -- As a utility, all revenue collected under the stormwater user fee system will be allocated directly to stormwater programs. An annual audit and financial assessment will ensure that fees continue to be related to actual costs incurred, and that expenditures are aligned to the mission of the utility.
- **Continuity** – The stormwater utility user fee system will ensure that funding for future years will be in place for the local government to address its current and

future stormwater management challenges. Stormwater utility programs have proven effective at meeting the funding needs for stormwater management throughout the United States and in Georgia.

- **Legality** - When based on a rigorous utility rate study and detailed evaluation of billing determinants, stormwater utility user fees have withstood legal challenges in many cities and counties. The State of Georgia, through the Official Code of Georgia Annotated (OCGA) recognizes the authority and duty of local governments to operate the stormwater system as a utility and allows for the collection of fees from customers who use that system.

Under a stormwater utility program, property owners pay a stormwater fee based on the changes they have made to the character (volume, rate, and pollutant content) of stormwater that runs off their property. Each customer pays a fee in proportion to the relative burden that the customer places on the stormwater system. Most stormwater utility fees are based on the amount of impervious ground cover and typical household fees range from \$3 to 5 per month. Businesses would pay proportionately more based on their relative size and/or amount of impervious cover. While the structure of individual programs will vary, the elements of three existing stormwater utility programs in Georgia are summarized in Table 9-18.

TABLE 9-18

Elements of Existing Georgia Stormwater Utilities

Metropolitan North Georgia Water Planning District Watershed Management Plan

	Griffin	Decatur	Columbia County	DeKalb County
Implementation Date	1998	June 2000	October 2000	January 2004
Service Area	City Limits	City Limits	Developed, eastern part of the County	Entire County, excluding Decatur and Atlanta
Typical Residential Fee	\$2.95/month	\$5/month	\$3/month	\$4 per month
Billing System	City Utilities	User Fee on annual City tax statement	Separate quarterly billings	User Fee on annual tax statement
Credits Offered	For detention; water quality to be added soon	For detention	For detention	For detention and water quality
Annual Revenue	\$1.2 million	\$0.8 million	\$1.2 million	>\$10 million

Critical Issues

As the stormwater management program transitions from a general service supported by City or County General Fund tax revenues to a functional utility supported by user fees, the governing body must address these critical issues:

- Development of a compelling argument for the need for the stormwater service, including health and safety issues, regulatory requirements, and community quality of life.
- Execution of inter-jurisdictional agreements where Cities, Counties, or Authorities have NPDES permit compliance requirements or other reasons to provide stormwater service across jurisdictional boundaries. These agreements document the roles and responsibilities of each entity within that service area.
- Documentation of the costs associated with providing the level of service, including specific plans for revenue allocation to maintain and repair capital projects.
- Accountability concerning how stormwater revenues will be spent and how expenditures will be prioritized.
- A firm legal basis for the stormwater fee structure that relates the fee imposed on each property to the direct burden that property places on the stormwater system.
- A sound education and public awareness program to develop community understanding and support needed to empower elected officials to implement the program.
- Development of a customer interface to manage the data associated with the individual fees and to facilitate responses to customer queries.

Under a stormwater utility, stormwater infrastructure and programs are considered a public service or utility similar to wastewater and water programs that are funded on a similar basis. Stormwater fees are assessed on users of the system based on average conditions for groups of customers. Typically, fees are based on some measure of a property's impervious area, with rates assessed on equivalent dwelling unit or unit area. Implementation of a stormwater utility fee will require that local governments establish an ordinance giving them the authority to collect the new services fee. Appendix E provides the DeKalb County ordinance as an example for other local governments in the District should they decide to pursue implementing a utility.

District Role in Stormwater Utilities

Regional consistency is an important element of stormwater utility development. The District has attempted to provide consistency in the approach Cities and Counties will take to address water, wastewater, and watershed protection issues. Similarly, the District could be helpful in stormwater utility implementation by taking the following actions:

- Define consistent levels of service, so equitable service is provided in all parts of the District.

- Develop guidelines for enforceable inter-jurisdictional agreements that define the roles, responsibilities, and financial stakes various entities will have in a successful stormwater management program.
- Develop guidelines, Model Ordinances, and other templates for consistent implementation of stormwater utility structures.
- Develop supporting databases.
- Establish operating policies.

Typical Implementation Steps

Implementation of a stormwater utility program typically includes two phases:

Phase 1 Funding Study

- Define the services to be provided by the utility, including operations, management, and capital projects.
- Evaluate organizational and management needs.
- Estimate the costs of providing these services.
- Balance the projected program services and costs with the revenue estimated from a reasonable fee.
- Identify policy issues and develop options and recommendations for key decisions.
- Begin a public education program to educate citizens, businesses, and elected officials on the need for the program and the program characteristics.
- Evaluate billing and collection options for the fee.
- Evaluate the available information for developing a customer database and calculating stormwater fees.
- Develop an implementation strategy.

A Phase 1 study typically takes 6 to 12 months and includes a Phase 1 summary report that provides:

- Anticipated costs of the stormwater program.
- Planned rate structure for calculating fees.
- Implementation strategy to develop the initial billing data and manage the billing and collections.
- Financial plan comparing revenue and expenditures over the initial years.

Phase 2 – Implementation

- Complete cost-of-service analysis.
- Develop necessary ordinance.
- Develop stormwater utility customer database.
- Populate database with stormwater class of each customer and the fee to be imposed.
- Continue public education program.
- Finalize policies on exemptions, credits, appeals, and other operating factors.
- Perform strategic financial planning, including a cash flow analysis.
- Implement a customer service program to manage inquiries or challenges about fees.
- Implement billing and collection system.
- Develop data management protocols for updates and revisions to the customer database.

Phase 2 implementation can take 1 to 2 years. At the conclusion of Phase 2, a community is prepared to implement the stormwater utility and offer an enhanced level of service.