

Georgia Environmental Protection Division
Upper Flint Council
Existing Regulatory and Local Plan Summary

I. INTRODUCTION

The Georgia Comprehensive State-wide Water Management Plan, as approved by the Water Council on January 8, 2008, is the guiding document for the development of Regional Water Plans. The Upper Flint Water Planning Council (the Council) was designated to oversee the development of the Regional Water Plan for the Upper Flint Water Planning Region. A recommended plan is to be submitted by the Council to the Director of the Georgia Environmental Protection Division (EPD) by May 2, 2011. The regional water planning process uses an integrated water management approach, which includes water resource assessments, estimates of current and future water needs for supply and assimilative capacities, and identification and selection of management practices. It also builds upon the knowledge base of previous planning efforts by state and local governments and authorities throughout the planning region.

This memorandum summarizes existing water resources related regulations and reviews existing plans and practices, which were used to assist in the development of the Regional Water Plan by the Upper Flint Council. In particular, the Council conducted a comprehensive review of existing local and regional water management plans and relevant related documents to frame the selection of management practices. When possible, successful management practices already planned for and/or in use in the Region formed the basis for the water management practices selected by the Council. The information reviewed and summarized in this memorandum includes the following:

- Georgia Water Quality Control Act
- Watershed Assessments and Watershed Protection Plans
- *Water Quality in Georgia 2006- 2007* (305(b)/303(d) Report)
- TMDL Implementations Plans
- Nonpoint Source Implementation Plans
- Local Comprehensive Plans
- Water and sewer master plans
- Stormwater master plans
- Plans directly submitted for consideration by Council members
- Review of Local Comprehensive Plans and Water Resources Best Management Practices provided by the River Valley and Three Rivers regional commissions

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A. Regulatory Background

This section summarizes guiding federal and state regulations that affect water supply, water quality, and human health and safety. The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, and the Federal Safe Drinking Water Act (SDWA) of 1986 are the primary federal regulatory drivers for protecting and improving water quality. Administration and enforcement of these Acts are delegated in Georgia to the EPD by the Environmental Protection Agency (EPA). Provisions of the Clean Water Act are established in the state primarily by the Water Quality Control Act, Chapter 391-3-6 of the Georgia Rules and Regulations. These rules provide guidance on and regulate water use classifications, water quality standards, surface water intakes, wastewater treatment and discharges, stormwater permitting, land disposal, underground injection control, water quality monitoring requirements, the State Revolving Fund (SRF) and state-wide water management planning.

The National Pollutant Discharge Elimination System (NPDES) permit program was established under the Clean Water Act to control water pollution by regulating the discharge of pollutants into waters of the United States from point sources. The NPDES program covers several pollutant sources that are regulated by permits issued by the EPD. In impaired waterbodies, these permits are to be based on established Total Maximum Daily Loads (TMDLs), which specify the maximum amount of pollutant that a waterbody can safely assimilate and still meet prescribed water quality standards.

Chapter 391-3-5 of the Georgia rules includes provisions as promulgated by the Georgia Safe Drinking Water Act of 1977 (OCGA 12-5-170), the Georgia Water Supply Act (OCGA 12-5-470), and the Georgia Water Well Standards Act (OCGA 12-5-120). Additional legislation affecting water quality and water resources throughout the state includes the Georgia Erosion & Sedimentation Control Act, the Georgia Safe Dams Act, and the Georgia Endangered Wildlife Act.

Statewide watershed protection programs which implement these regulations are illustrated in Figure I-1.

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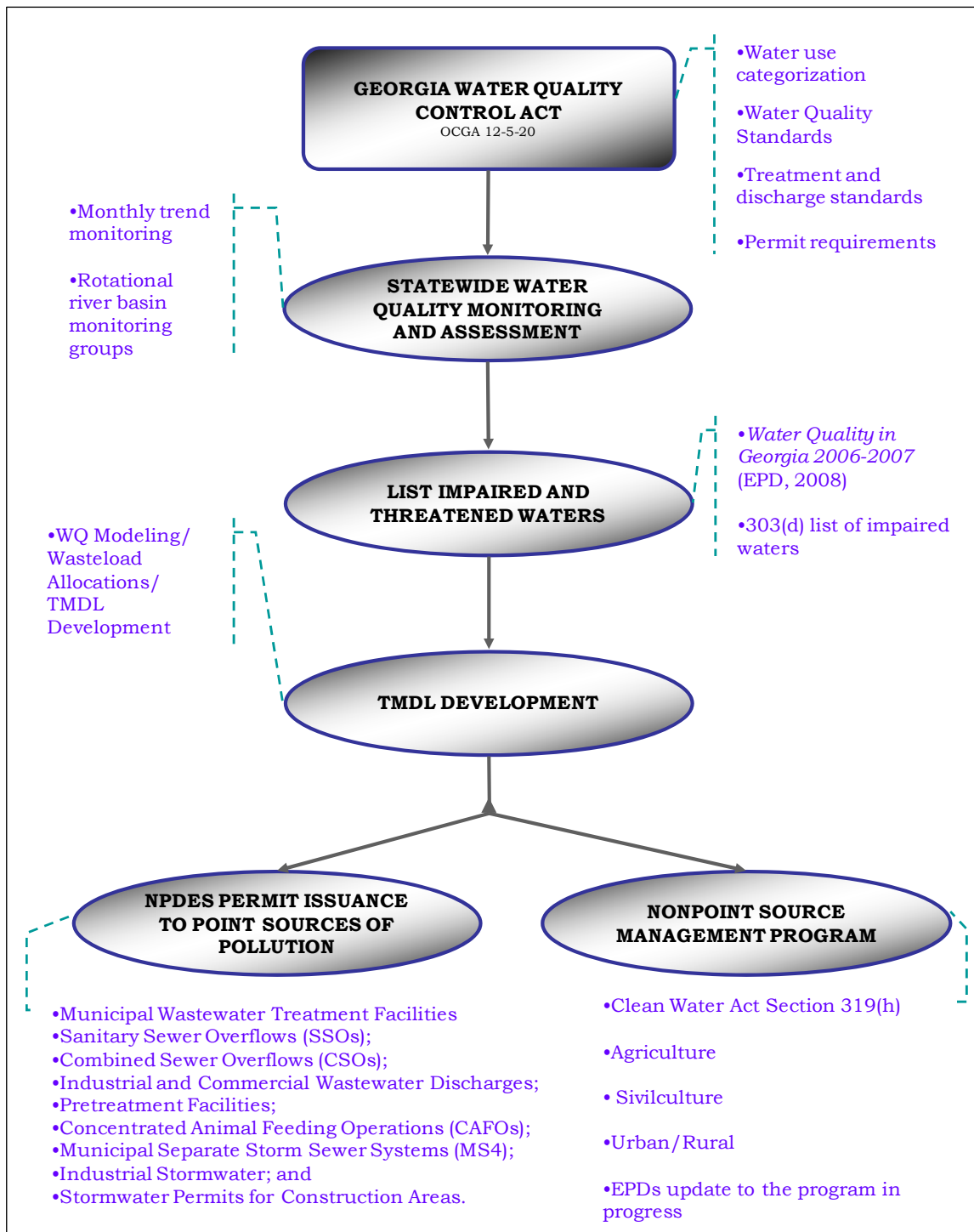


Figure I-1. Statewide Watershed Protection Program

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B. Watershed Assessments and Watershed Protection Plans

EPD requires watershed monitoring plans, watershed assessments, and watershed protection plans from all publicly owned treatment works greater than 1 MGD or for new or expanding facilities as a part of the National Pollutant Discharge Elimination System. Those activities initiate monitoring, assessment and ultimately the establishment of Best Management Practices (BMPs) employed to enhance water quality from point and non-point sources of pollution. The three elements are outlined in Figure I-2.

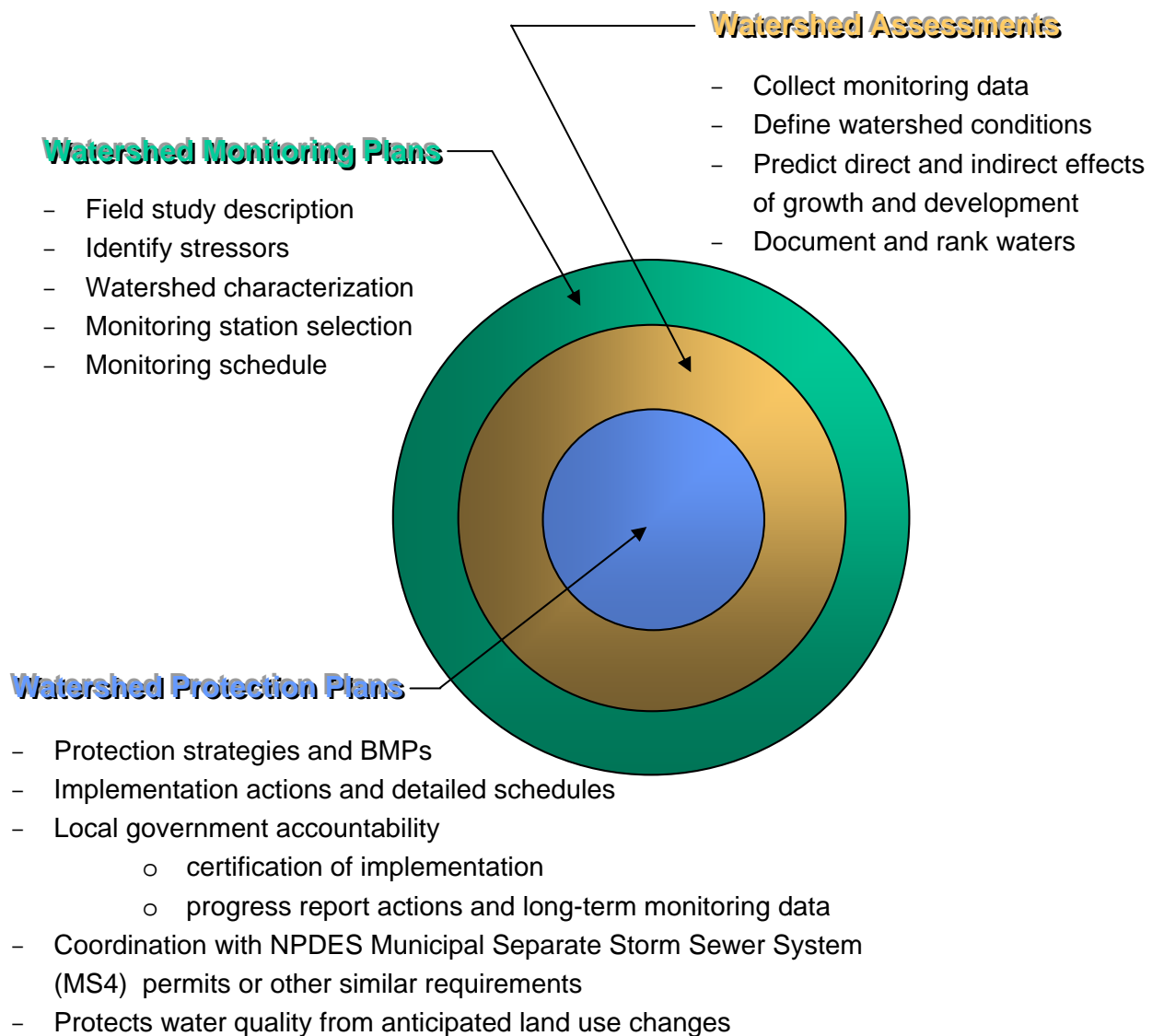


Figure I-2. Watershed Monitoring, Assessments, and Protection Plans

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C. Water Quality in Georgia 2006-2007 (305(b)/303(d) Report)

The state of Georgia assesses its water bodies for compliance with water quality standards criteria established for their designated uses as required by the Federal Clean Water Act (CWA). Waters of the state are monitored by EPD, USGS, and other local authorities contracted by EPD. Permanent monthly trend monitoring sites and an annual rotational river basin monitoring system are in place throughout the state to gather water quality data. Assessed water bodies are placed into two categories, supporting or not supporting their designated uses, depending on water quality assessment results. These water bodies are found on Georgia's 305(b)/303(d) list, as required by those sections of the Clean Water Act and are published in *Water Quality in Georgia 2006-2007* (EPD 2008).

Some of the not supporting water bodies are assigned to Georgia's 303(d) list, if "data indicates that at least one designated use is not being met and TMDL(s) need to be completed for one or more pollutants". Water bodies on the 303(d) list are required to have a Total Maximum Daily Load (TMDL) evaluation for the water quality constituent(s) in violation of the water quality standard. The TMDL represents the sum of allowable loads of a single pollutant from all contributing sources (including nonpoint sources) and includes a margin of safety and seasonal variations in water quality. The TMDL process provides for water quality-based controls to be developed to reduce pollution and restore and maintain water quality.

Water Quality in Georgia 2006-2007 also includes information and background on Comprehensive State-wide Water Management Planning, wetlands programs, estuary and coastal programs, public health and aquatic life issues, water protection programs, groundwater and surface water supplies, and major issues and challenges affecting water resources.

D. TMDL Implementation Plans

All assessed waters whose data indicate that at least one designated use is not being met and that TMDL(s) need to be completed for one or more pollutants are required to have TMDL Implementation Plans developed. These plans are used as a platform to facilitate corrective management strategies. These strategies vary depending on the pollutant of concern and severity of the problem. For point sources, NPDES issuance or re-issuance is performed by EPD in coordination with local governments and industries. For nonpoint sources of pollution TMDL

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Implementation Plans are conducted through the development of Tier 3 and Tier 2 plans. These tiers are summarized in Table I-1.

Table I-1. TMDL Implementation Plan Development for Nonpoint Sources	
Tier 3	Tier 2
Developed by EPD	Developed by Regional Development Centers (RDCs) and other public contractors
Applicability:	Applicability:
Waters “partially impaired” due to fecal coliform	Instituting and/or continuing local water quality protection and restoration programs
Waters “impaired” due to natural conditions	
Waters with fish consumption advisories	Public outreach coordination
Waters with legacy sediment	
Waters where TMDL models estimate a zero percent load reduction is necessary to achieve standards	Local stakeholder collaboration, planning, and implementation

TMDL Implementation Plans include background information on monitoring activities, information on the pollutant of concern, potential sources of contamination, land use, implementation actions, monitoring plans, and planned outreach activities. Implementation actions may include wasteload allocation changes to existing NPDES permit holders or setting new NPDES permits to unpermitted sites or facilities.

E. Nonpoint Source Management Plans and Programs

The Nonpoint Source Management Program administered by the EPD provides regulatory and non-regulatory approaches to nonpoint source pollution abatement. Implementation of the program is achieved through collaboration with state and federal agencies, local and regional governments, state colleges and universities, businesses and industries, non-governmental organizations, and individual citizens.

Program specific approaches for agriculture, silviculture, and rural/urban nonpoint source pollution are implemented by different state agency leads other than EPD. The agencies and their programs are summarized in Table I-2.

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Table I-2. Nonpoint Source Management Program

Sector	Lead Agency	Program Highlights
Agriculture	Georgia Soil and Water Conservation Commission (GWSCC)	<ul style="list-style-type: none"> • Non-regulatory • Voluntarily installed BMPs • Erosion and sediment control • Streambank restoration • Interagency support includes technical resources and financial resources for priority watersheds • Additional funding and assistance from Federal Farm Bill and NRCS programs
Silviculture	Georgia Forestry Commission (GFC)	<ul style="list-style-type: none"> • Non-regulatory • Voluntarily installed BMPs • Erosion and sediment control • Streambank restoration • Wetlands delineation • Community assistance program • Biennial Statewide BMP Compliance Survey conducted
Urban/Rural	Department of Community Affairs (DCA)	<ul style="list-style-type: none"> • Multiple targets for management practice implementation from site specific, system-wide, river corridors, and watersheds • Comprehensive watershed management • Water Resources Toolkit • Urban nonpoint management driven in part by TMDLs • <i>Georgia Stormwater Management Manual – Volume 1</i> and <i>Georgia Stormwater Policy Guide – Volume 2</i> (ARC, EPD 2001) • Georgia Project WET and Georgia Adopt-A-Stream Program

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A major financial driver behind implementation of the nonpoint source programs are federal monies allocated to the states under Section 319(h) of the Clean Water Act. With these funds, grants can be awarded by EPD directly to local governments or to the GWSCC, GFC, Regional Development Council's (RDCs), Resource Conservation and Development Councils (RC&Ds), and Universities who award and oversee 319(h) grants within their respective areas. Grantees are responsible for analysis of nonpoint source pollution problems within their jurisdictions and the design of an implementation plan employing innovative methods and practices to protect and improve water quality. Grant awardees are responsible for full implementation of the program and a 40 percent cost share with the state. Follow-up monitoring and load reduction reporting are submitted to the state upon project completion to gauge effectiveness.

F. Local Comprehensive Plans

The Georgia Department of Community Affairs (DCA) administers the rules promulgated by the Georgia Planning Act of 1989, which require all counties and cities within the state to develop comprehensive plans. The plans must provide 20 year forecasts of expected activities. The "Minimum Planning Standards" per Chapter 391-3-16 of the Georgia Rules and Regulations, require those plans to establish protection measures for the water resources within the given jurisdictional boundary. The rules specifically provide guidance for water supply watersheds, groundwater recharge areas, wetlands protection, river corridor protection, and mountain protection.

City and county roles and responsibilities for water supply and wastewater services are established via the Service Delivery Strategy Act and must be coordinated with the comprehensive plans. Service Delivery Strategies are defined as the "intergovernmental arrangement among city governments, the county government, and other affected entities within the same county for delivery of community services..." per Chapter 110-12-1 of the DCA rules. Water related services are provided by the city, county, or both per negotiated agreements under the Act.

It is noted that water and sewer master plans are not necessary per the rules and regulations as a stand-alone document. In many cases however, the development of such master plans are required as part of a discharge permit condition. This is particularly the case in large urban areas.

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G. Stormwater Management Plans

Similar to water and sewer master planning, stormwater management planning should be included within local comprehensive planning efforts. The local provider(s) of stormwater system services should be identified per the Service Delivery Strategy Act within individual counties.

Municipal separate storm sewer systems (MS4) that discharge into surface waters are required to have a permit under the Clean Water Act. The U.S. Environmental Protection Agency (EPA) NPDES stormwater regulations have established two phases (Phase I and Phase II) for the municipal stormwater permit program. Phase I communities have individual permits and discharge limitations, and Phase II communities are covered under a general permit requiring implementation of BMPs in lieu of monitoring. MS4 permit holders are required to submit annual Stormwater Management Plans (SWMP) to the EPD.

In addition to municipalities, the Phase I federal regulations include general permit conditions for 11 industrial subcategories. EPD issued a corresponding NPDES General Permit No. GAR000000 that regulates stormwater discharge for 10 industrial categories.

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II. Findings

A. Watershed Assessments and Watershed Protection Plans

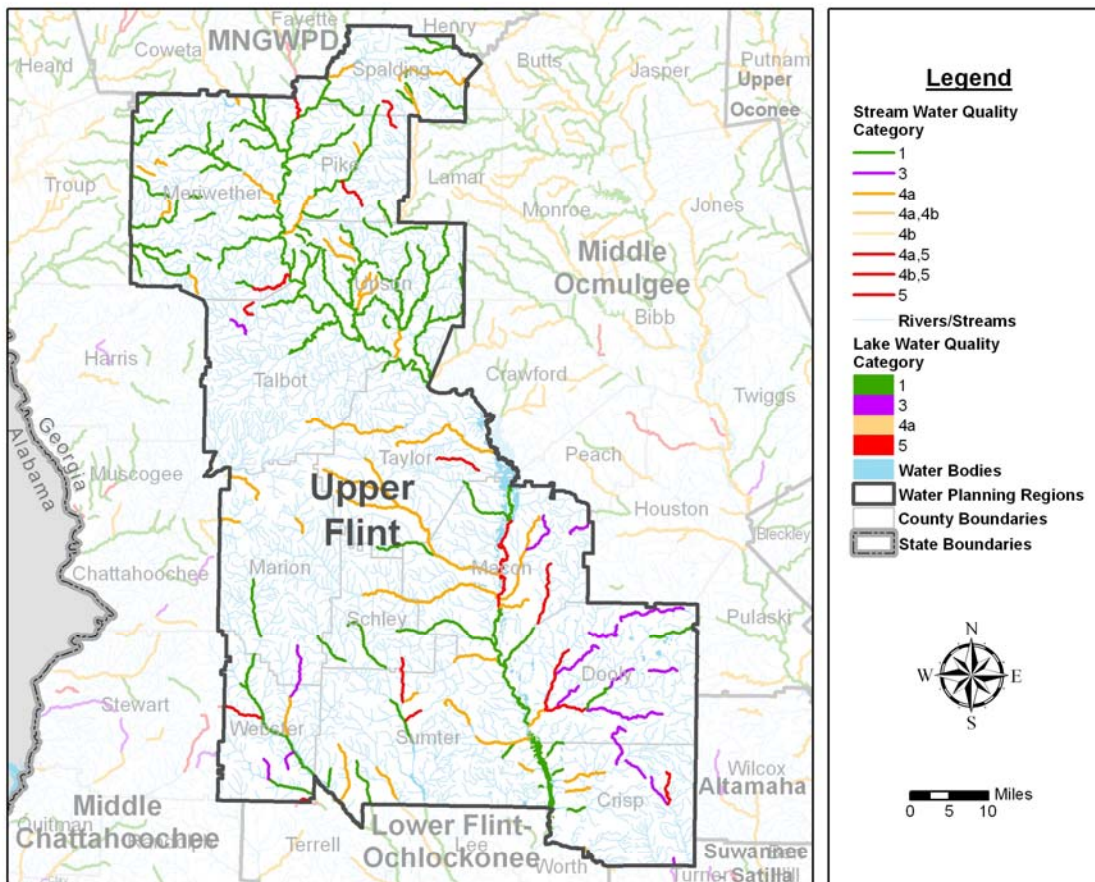
Several cities and counties within the planning region have recently completed or are in the process of developing a Watershed Monitoring Plan (WMP), Watershed Assessment (WA), and Watershed Protection Plan (WPP). A summary of ongoing assessments as provided by EPD is presented in Table II-1.

Table III-1. Ongoing Watershed Assessments and Protection Plans					
City -or- County	NPDES Permit No.	Basin	WMP	WA	WPP
Cordele	GA0024503	Flint	x	x	
Dooly County (Vienna-North LAS)	GAU020167	Flint	x	x	
Montezuma	GA0021288 WPCP#1 GA0020486 WPCP#2	Flint			
Zebulon		Flint	x		
Griffin	GA0030791 (Potato Creek)	Flint	x	x	x
Americus		Flint	x	x	x

B. Water Quality in Georgia 2006-2007 (305(b)/303(d) Report)

The 305(b)/303(d) list includes assessed waters by major watershed and assigns a categorical value based on whether or not the water is meeting water quality standards to support its designated use classification. A summary of the 305(b)/303(d) list is provided in Figure II-1. The 305(b)/303(d) list for stream segments and lakes within the Upper Flint Water Planning Region is an Attachment to this technical memorandum (see Tables A-1 and A-2).

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Category Definitions:

- 1 – Waters meeting designated use(s).
- 2 – Waters having more than 1 designated use and data indicate at least one is being met, but there is insufficient evidence to determine that all uses are being met.
- 3 – Insufficient data or other information to make a determination as to whether or not the designated use(s) is being met
- 4a – Data indicate that at least one designated use is not being met, but TMDL(s) have been completed for the parameter(s) that are causing impairment
- 4b – Data indicate that at least one designated use is not being met, but there are actions in place (other than a TMDL) that are predicted to lead to compliance with water quality standards.
- 4c – Data indicate that one designated use is not being met, but the impairment is not caused by a pollutant.
- 5 – Data indicates that at least one designated use is not being met and TMDL(s) need to be completed for one or more pollutants.

River Basin	Total River Miles Impaired in the Middle Chattahoochee Region				Total
Chattahoochee	1	0	0	9	9
Flint	18	169	8	200	351
Ocmulgee	0	0	0	16	16
Suwannee	0	0	0	12	12
Criterion Violated	DO	Fecal Coliforms	Metal	Other	Regional Total = 388 miles

Note: Stream reaches may have more than one criterion violated, i.e. the sum of DO, Fecal Coliforms, Metals, and Other may be greater than the total number of stream miles listed as impaired. Metals includes mercury trophic-weighted residue value and fish consumptive guidance.

Figure II-1. 305(b)/303(d) Summary for Upper Flint Region

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C. TMDL Implementation Plans

TMDL implementation plans for stream reaches and lakes within the Upper Flint Region are summarized in Table A-1. The pollutant criterion violated and potential cause codes as defined by EPD are provided in the table along with the year which the plan was adopted. These listed waters correspond to assessment category 4a stream reaches as is defined in Figure II-1. EPD continues to monitor and assess these impaired waters per their respective plans. Future permitting within watersheds having impaired waters will continue to be reassessed as additional information becomes available. All TMDL Implementation Plans are available through the following EPD website: http://www.gaepd.org/Documents/TMDL_page.html.

D. Nonpoint Source Management Plans and Programs

Best management practice programs and oversight are in place regarding water quality protection in the region and the state by the Georgia Forestry Commission (GFC) in cooperation with EPD. The GFC investigates water quality complaints and works with landowners, timber buyers, and loggers to correct any problems. In cases where the GFC cannot get satisfactory compliance, the case is turned over to EPD for enforcement. In addition the GFC conducts a biennial statewide Best management Practice (BMP) compliance survey. The GFC conducts field surveys and documents compliance with implementation of BMPs. In 2009, the GFC completed a standardized survey at 221 sites totaling 27,000 acres. The number of acres with BMP compliances was 99.7%. This effort provides the forestry industry with documentation of BMP compliance.

Several active Section 319(h) projects fall within the region or are statewide initiatives. These projects are summarized in Table II-2. On August 16, 2010, EPD issued a memorandum to the regional councils to inform them that recommended nonpoint source pollution management projects identified in the regional water plans could be considered for 319(h) funding. The Upper Flint Council issued a letter of support to Georgia EPD on April 14, 2011 regarding a Section 319(h) grant proposal from the Two Rivers Resource Conservation & Development Council (RC&D) to implement nonpoint source controls on dirt roads in the Upper Flint region. This letter is appended to this technical memorandum. The Upper Flint Council intends to continue coordinating with EPD and Two Rivers RC&D to support implementation of this 319(h) project in the Upper Flint Region as part of the implementation of the Council's Regional Water Plan.

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Table II-2. Nonpoint Source Management Plans/Programs		
Plan/Program Name	Lead Agency	Description
Silvicultural Nonpoint Source Management Program	Georgia Forestry Commission	Statewide effort to assess the use of BMPs within the Forestry community
Georgia Stormwater Management Manual - Volume 3	Atlanta Regional Commission	Volume 3 will identify "good housekeeping" measures to control and reduce nonpoint source pollution from stormwater. These measures will be for use Statewide
Potato Creek BMP Implementation	McIntosh Trail RDC	Project will implement BMPs for grazing and waste management
City of Griffin Storm Drain Filter System Evaluation in the Potato Creek Basin	EPD (McIntosh Trail Regional Development Center, Spalding County)	Evaluation of the effectiveness of modified Delaware Sand Filters for stormwater pollution removal using various media readily available in the State of Georgia.
Demonstrating the Benefits of Portable Timber Bridges for Forest Road Stream Crossings	Pine Country RC&D Council	BMP demonstration project / forestry
Better Back Roads Sediment Reduction Project	Two Rivers RC&D Council	Project is using practices from the Better Back Roads Manual to address unpaved roads as sources of sediment
Georgia Better Back Roads Manual	Pine Country RC&D Council	Nonpoint source tool development

E. Local Comprehensive Plans

The Georgia Department of Community Affairs maintains all local comprehensive plans determined to be compliant with the Local Planning Requirements. Approved plans falling with the Upper Flint Region and reviewed by the Upper Flint Council for consistency with the Upper Flint Regional Water Plan are summarized in Table II-3.

Table II-3. DCA Approved Local Government Plan Survey			
County	City/Towns	Comprehensive Plan	Community Assessment
Crisp	-		x
	Cordele		

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Table II-3. DCA Approved Local Government Plan Survey			
County	City/Towns	Comprehensive	Community
	Arabi	x	
Dooly	-		x
	Unadilla		
	Pinehurst		
	Dooling		
	Byromville		
	Lilly		
	Vienna		
Macon	-	x	
	Marshallville		
	Ideal		
	Oglethorpe		
	Montezuma		
Marion	-	x	
	Buena Vista		
Meriwether	-		x
	Greenville		
	Woodbury		
	Gay		
	Warm Springs		
Pike	-	x	
	Williamson		
	Zebulon		
	Concord		
	Molena		
	Meansville		
Schley	-		x
	Ellaville		
Spalding	-	x	
	Sunny Side		

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Table II-3. DCA Approved Local Government Plan Survey			
County	City/Towns	Comprehensive	Community
	Griffin	x	
	Orchard Hill		
Sumter	-	x	
	Andersonville		
	Americus		
	Plains		
	Leslie		
Talbot	-	x	
	Woodland		
	Talbotton		
	Junction City		
	Geneva		
Taylor	-		x
	Butler		
	Reynolds		
Upson	-		x
	Yatesville		
	Thomaston		
Webster	-	x	
	Preston		
	Weston		

Additional plans and reports provided by to the Council were also reviewed and where applicable used to frame the selection of management practices. When possible, successful management practices already planned for and/or in use in the Region formed the basis for the water management practices selected by the Council. These plans were also used to refine water and wastewater forecasting when necessary. A summary of planning reports and documents submitted directly by Council members for consideration is provided in Table II-4.

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Table II-4. Additional Plans Considered When Selecting Management Practices	
<i>Plan Type or Specific Title</i>	Flint River Basin Regional Water Development and Conservation Plan
<i>Regional Resource(s) Impacted (Watershed/Aquifer)</i>	Watersheds within Subarea 4 of the Flint River Basin (Spring Creek, Ichawaynochaway Creek, Lower Flint River), Upper Floridan Aquifer
<i>Organization or Entity Associated With Plan</i>	Georgia EPD
<i>Date of Plan</i>	March 20, 2006
<i>Description of Relevant Plan Content (i.e. Practices currently planned for and/or in use in the Region to form the basis for the Council’s selected water management practices)</i>	See section III of this technical memorandum

<i>Plan Type or Specific Title</i>	A Comprehensive Wildlife Conservation Strategy for Georgia
<i>Regional Resource(s) Impacted (Watershed/Aquifer)</i>	Multiple regional surface waters
<i>Organization or Entity Associated With Plan</i>	Georgia Department of Natural Resources – Wildlife Resources Division
<i>Date of Plan</i>	August, 31, 2005
<i>Description of Relevant Plan Content (i.e. Practices currently planned for and/or in use in the Region to form the basis for the Council’s selected water management practices)</i>	Emphasizes the conservation of “Georgia’s animals, plants, and natural habitats through proactive measures emphasizing voluntary and incentive-based programs on private lands, habitat restoration and management by public agencies and private conservation organizations, rare species survey and recovery efforts, and environmental education and public outreach activities.” A summary of aquatic species which are currently under state or federal protection and a list of high priority waters specific to the Upper Flint region identified by the Wildlife Resources Division are appended to this document.

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F. Stormwater Management Plans

A survey of existing permitted municipal separate stormwater systems (MS4) within the planning region has been performed. Each local and/or county government or jurisdiction with a MS4 NDES permit is responsible for submitting an annual stormwater management plan to EPD. Permitted MS4 discharges within the planning region are presented in Table III-5.

Table II-5. Permitted Municipal Separate Stormwater Systems (MS4) in the Upper Flint Region	
Phase I Permits (individual permits and discharge limitations)	Phase II Permits (general permit holders requiring implementation of BMPs in lieu of monitoring)
None	City of Griffin Spalding County City of Cordele

A survey of existing regulated stormwater discharges within the planning region has also been performed. Each discharger is responsible for submitting an annual stormwater management plan to EPD. Regulated stormwater discharges within the planning region are presented in Table II-6.

Table II-6. Permitted Industrial Stormwater Discharges		
NOI #	Facility	City
Spalding County		
03514	CATERPILLAR DPP GRIFFIN	GRIFFIN
00201	EXOPACK, LLC	GRIFFIN
04436	DIVERSIFIED FABRICATORS, INC.	GRIFFIN
04435	CARVER ROAD BORROW SITE	GRIFFIN
00574	STOWE WOODWARD COMPANY	GRIFFIN
04434	SPALDING COUNTY FACILITIES COMPLEX	GRIFFIN
00143	SHOAL CREEK ROAD C&D LANDFILL	GRIFFIN
00533	WEYERHAEUSER COMPANY	GRIFFIN
01322	BLAZE RECYCLING & METALS	GRIFFIN
04206	SWEET RETURNS RECYCLING	SUNNYSIDE
02992	NACOM CORPORATION	GRIFFIN
00532	BANDAG, INC. - GRIFFIN PLANT	GRIFFIN
00753	UPS - GRIFFIN	GRIFFIN
03387	PERKINS SHIBAURA ENGINES LLC	GRIFFIN
01121	WALKER CONCRETE	GRIFFIN

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Table II-6. Permitted Industrial Stormwater Discharges		
NOI #	Facility	City
02529	SPRINGS GLOBAL US - PLANT NO. 1	GRIFFIN
03841	GRIFFIN READY MIX	GRIFFIN
02534	SPRINGS GLOBAL US - GRIFFIN FINISHING PLANT	GRIFFIN
Meriwether County		
04473	READY MIX USA LLC PINE MOUNTAIN PLANT	PINE MOUNTAIN
04231	SIMS BARK OF GEORGIA, LLC	WOODBURY
02463	MANCHESTER CONCRETE PLANT	MANCHESTER
00921	J. O. BARBER LUMBER COMPANY, INC.	LUTHERSVILLE
02537	DOBCO	MANCHESTER
03545	CROWN TECHNOLOGY II. LLC.	WOODBURY
02885	GEORGIA - PACIFIC CORPORATION	WARM SPRINGS
04348	SPURLIN INDUSTRIES - WOODBURY PLANT	WOODBURY
Upson County		
02080	STANDARD TEXTILE THOMASTON ROAD	THOMASTON
04361	ROBBINS MANUFACTURING COMPANY	THOMASTON
01741	KEADLE LUMBER ENTERPRISES, INC.	THOMASTON
02757	VEOLIA ES THOMASTON TRANSFER & HAULING FACILITY	THOMASTON
02036	PLANT RAY - SOUTHERN MILLS, INC,	MOLENA
04335	QUAD GRAPHICS, INC. - THE ROCK FACILITY	THE ROCK
02464	THOMASTON CONCRETE PLANT	THOMASTON
Talbot County		
04461	MCKEE & COMPANY TREATMENT SERVICES	GENEVA
01905	MARTIN MARIETTA AGGREGATES - JUNCTION CITY QUARRY	TALBOTTON
04498	JUNCTION CITY MINING COMPANY - HEATH QUARRY	TALBOTTON
Taylor County		
04416	BASF CONSTRUCTION CHEMICALS, LLC	REYNOLDS
04474	READY MIX USA LLC SUDDETH SAND	BUTLER
03548	AMERICAN COLLOID COMPANY	BUTLER
10583	VEOLIA ES TAYLOR COUNTY LANDFILL, LLC	MAUK
Marion County		
04342	BABY'S DREAM FURNITURE	BUENA VISTA
00365	TYSON FOODS, INC. BVG	BUENA VISTA
Macon County		
02430	TYSON FOODS, INC.	OGLETHORPE
04410	ALLEN'S INC- PLANT #22	MONTEZUMA

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Table II-6. Permitted Industrial Stormwater Discharges		
NOI #	Facility	City
04255	GRAY READY MIX - MONTEZUMA	MONTEZUMA
00662	MULLITE CO. OF AMERICA - ENGLISH MINING AREA	ANDERSONVILLE
10626	ALLEN'S INC- PLANT #20	MONTEZUMA
04292	MIDDLE GEORGIA SWMA REGIONAL MSWL	MONTEZUMA
Schley County		
03207	KING'S CUSTOM BUILDERS, INC.	ELLAVILLE
02804	TCI, INC.	ELLAVILLE
02654	COOPER LIGHTING - ELLAVILLE FACILITY	ELLAVILLE
Dooly County		
01005	ROSEBURG FOREST PRODUCTS	VIENNA
01171	GEORGIA - PACIFIC CHEMICALS LLC	VIENNA
02591	UNITED PARCEL SERVICE, INC.	UNADILLA
10317	ROSEBURG FOREST PRODUCTS	VIENNA
Webster County		
00463	TOLLESON LUMBER COMPANY	PRESTON
01912	COOPER LIGHTING - PRESTON PLANT	PRESTON
Sumter County		
00720	HICKORY SPRINGS MFG., COMPANY	AMERICUS
04570	MULLITE CO. OF AMERICA - LARKIN AREA	ANDERSONVILLE
04341	TRIWOOD CORPORATION OF GEORGIA, INC.	AMERICUS
04571	MULLITE CO. OF AMERICA - JOHNSON/VANLANDING	ANDERSONVILLE
00440	CARAVELLE POWERBOATS	AMERICUS
01914	COOPER LIGHTING, INC. AMERICUS	AMERICUS
00127	REEVES CONSTRUCTION COMPANY	AMERICUS
10632	JOHNSON BORROW PIT	AMERICUS
10610	AMERICUS BIN	AMERICUS
00656	MULLITE CO. OF AMERICA - WEBB MINING AREA	ANDERSONVILLE
04562	MULLITE CO. OF AMERICA - LANE/MCMICHAEL AREA	ANDERSONVILLE
00258	AGRIRUM U.S., INC.	AMERICUS
04569	MULLITE CO. OF AMERICA - PLANT 6	ANDERSONVILLE
00894	COLLINS & AIKMAN PRODUCTS COMPANY	AMERICUS
00664	MULLITE CO. OF AMERICA - JUSTICE MINING AREA	ANDERSONVILLE
02005	J & M TANK LINES, INC.	AMERICUS
00657	MULLITE CO. OF AMERICA - PLANT NO. 1	ANDERSONVILLE

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Table II-6. Permitted Industrial Stormwater Discharges		
NOI #	Facility	City
00661	MULLITE CO. OF AMERICA - JOINER MINE	ANDERSONVILLE
04253	GRAY READY MIX - AMERICUS	AMERICUS
Crisp County		
10252	SOUTHERN STATES CO-OP	CORDELE
10253	EBAA IRON	CORDELE
03420	PALM HARBOR HOMES/NATIONWIDE HOMES, INC.	ARABI
10251	CORDELE BLOCK PLANT	CORDELE
00366	ADM NUTRITION	CORDELE
00407	DREXEL CHEMICAL COMPANY	CORDELE
10481	GOLDENS' FOUNDRY & MACHINE CO	CORDELE
01422	LASCO BATHWARE, INC.	CORDELE
01339	CRISP COUNTY - U.S. 41S PHASE 2 MSWLF	CORDELE
02030	HELENA CHEMICAL COMPANY	CORDELE
10543	WARWICK BIN	CORDELE
01405	HARRIS WASTE MANAGEMENT GROUP , INC.	CORDELE
00199	GRIFFIN LUMBER COMPANY	CORDELE
10397	CORDELE TRUCK TERMINAL	CORDELE
03878	RECYCLE USA	CORDELE
10326	DREXEL CHEMICAL CO	CORDELE
02457	READY MIX USA	CORDELE

G. Georgia Association of Regional Commissions – Review of Local Comprehensive Plans & Water Resource Best Management Practices

A review of local comprehensive plans and water resources best management practices provided by the River Valley and Three Rivers regional commissions was also used to assist the Council in framing management practice selection. The regional commissions established throughout the state help develop and promote comprehensive planning to sustainably develop regional economies while meeting the minimum planning standards established in Chapter 391-3-16 of the Georgia Rules and Regulations.

Lists of best management practices established in existing local plans provided by the River Valley and Three Rivers regional commissions are Attachments to this technical memorandum (see tables A-3 and A-4).

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III. Flint River Basin Regional Water Development and Conservation Plan

The adopted Flint River Basin Regional Water Development and Conservation Plan (the Plan) was released on March 20, 2006 by EPD. This document provides the current basis for agricultural water use permit issuance by EPD as authorized by the Water Quality Act (O.C.G.A. 12-5-31(h)) and Groundwater Use Act (O.C.G.A. 12-5-96(e)) with a focus on agricultural use in the lower Flint River Basin. The statutes direct the Plan to:

- Promote conservation and reuse of water;
- Guard against a shortage of water;
- Promote the efficient use of water resources; and
- Manage the water resources of the Flint River Basin such that they are sustainable and consistent with the public welfare.

Development of the Plan included policy recommendations made by a Stakeholder Advisory Committee (SAC); several, but not all, of these recommendations were incorporated into the final Plan. The SAC consisted of farmers and agribusiness representatives, the Southwest Georgia Water Task Force, Flint River Regional Water Council, local elected officials, municipal authority and/or utility representatives, recreational advocates, the Georgia Conservancy, League of Conservation Voters, and others. The SAC worked with a Technical Advisory Committee (TAC) which consisted of experts well versed in the water resources, geology, and agricultural systems of the Flint River Basin. The SAC partnered with EPD in shaping a plan based upon evaluation of technical data, existing EPD regulatory limits, and ground- and surface water modeling results that would protect existing permitted users and the water resource.

The goal of the Plan was to achieve a balance between the long-term sustainability of the environment and the economic viability of farmers in the region. The Plan provides a scientific and policy foundation for water resources planning in the Flint River Basin and will be implemented in concert with the Regional Water Plans of the Lower Flint-Ochlockonee and Upper Flint Councils.

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A. Background

The circumstances leading to the initiation of the Plan in October of 1999 were as follows:

- The worst drought in Georgia since the mid 1950s began in May 1998. Before the drought years of 1998–2002 took their toll, Georgians had experienced relatively infrequent and mild drought conditions from the 1960s through the 1990s. Long-term climate records however, indicate drought durations of two or more years are likely to occur, on average, one in every 25 years (Stooksbury, 2003).

The compounding effects of irrigation and drought are cited in the Plan. These effects include more frequent and prolonged periods when low flow criteria established by the U.S. Fish and Wildlife Service (USFWS) are not met for certain segments of the Flint River and its tributaries;

- Two years preceding the drought USGS Open-File Report 95-321 (1996) was published. The report was undertaken to better understand groundwater availability and its relation to surface water in the lower portion of the Apalachicola-Chattahoochee-Flint River Basin, particularly Subarea 4 of the Flint River Basin. Quantitative models were developed to predict current and future groundwater withdrawals and the affects to surface water flow during drought conditions. The USGS model indicated that under extreme drought conditions and increased irrigation the Flint River could cease to flow in some sub-basins.

In other sub-basins, Floridan aquifer withdrawals showed limited to no effect on stream flow conditions during drought conditions. In the Plan, EPD concludes that groundwater withdrawals in some small watersheds are attributed with having the greatest impact on stream flows outside of direct surface water withdrawals. The primary USGS HUC-8 designated watersheds identified as having the greatest impact include portions of the Ichawaynochaway Creek sub-basin, Spring Creek sub-basin, and Lower Flint River sub-basin.

- Agricultural permit applications within the lower Flint Basin began to rise at an accelerated pace in response to concerns of a pending moratorium on permit issuance.

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EPD announced the moratorium on issuance of new agricultural water use permits for Floridan aquifer withdrawals in Subarea 4 and for all surface water withdrawals within the Flint River Basin on December 1, 1999. The moratorium lasted through March 17, 2006 after which a backlog of permit applications (1,134 permit applications in total accounting for irrigation of an additional 96,219 acres) began to be reviewed against the criteria set forth in the Plan.

The Georgia General Assembly enacted the Flint River Drought Protection Act (O.C.G.A. 12-5-540) amid the drought years of 1999-2000. The Georgia rules and regulations promulgated by the Act were drafted concurrently with the Plan under Chapter 391-3-28 with the latest revision adopted on June 23, 2006. The rules provide for an incentive based program by which lands irrigated from aquifers or streams directly impacting flows of the Flint River be voluntarily discontinued by farmers by means of an irrigation reduction auction during prescribed drought conditions.

The Director of the EPD is responsible for issuing a severe drought declaration on or before March 1st of each year. A severe drought declaration is to be followed by the determination of the extent of acreage on which irrigation should be suspended. Then, an irrigation suspension auction is held (funding permitting), and eligible agricultural permit holders can submit per acre bids to suspend irrigation on acreage they identify. The Director has the purview to set a cap on the bid amount during the process. An auction may continue iteratively through March 22 of the announced severe drought year. The Director is authorized to enact non-voluntary irrigation acreage reductions if the total acreage voluntarily suspended through the auction process is less than the pre-determined objective. Permittees are compensated based upon the average auction price in such circumstances.

B. Summary

Permitting and water resource management actions as summarized in the Plan are presented below.

- The moratorium on the issuance of agricultural permits within the Flint River Basin was lifted upon approval of the final Plan;

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- USGS HUC-12 watersheds within Subarea 4 of the Flint River Basin have been categorized based upon the compounded impacts of permitted irrigation withdrawal quantities and severe drought conditions as modeled in the USGS and EPD hydrologic models. These categories are described in terms of baseflow reduction to the Flint River and are summarized in Table III-1;

Table III-1. Use Area Designation			
Area Designation / Sub-basin	CAPACITY USE AREAS	RESTRICTED USE AREAS	CONSERVATION USE AREAS
	MODELED BASEFLOW REDUCTION¹		
Spring Creek	> 5	1 – 5	< 1
Ichawaynochaway Creek	>10	1 – 10	< 1
Lower Flint River	> 30	3 – 30	< 3

1. All values shown are in cubic feet per second.
 2. These values may change over time as irrigation amounts and patterns change and/or as models are updated.

- USGS HUC-8 watersheds serve as the largest hydrologic units on which water management and permitting decisions are based. Where applicable USGS HUC-12 watershed scales can be also be used;
- The USGS HUC 8 watersheds within the Flint River Basin include: Upper Flint, Middle Flint, Kinchafoonee-Muckalee Creeks, Lower Flint, Ichawaynochaway Creek, and Spring Creek;
- Permit applicants are required to submit proof of ownership or lease of land and latitude/longitude coordinates of proposed well or surface water pumps;
- Permit applications are evaluated for potential impacts to stream flows, impacts to existing permitted users, overlapping radii of influence of adjacent permitted wellheads and proximity to existing users;
- Conservation measures are conditional to all permits issued after January 1, 2006;
- Standard low flow protection plans are standard conditions for newly issued surface water withdrawals within the Spring Creek and Ichawaynochaway sub-basins;

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- Use of conservation measures and innovative irrigation technologies are taken into consideration as means of extending irrigation use as long as possible into times of severe drought conditions;
- Permit applicants location of proposed withdrawal, proposed pump capacity, date of application, and date of letter of concurrence are disclosed to the public via internet;
- Duplicate permits are revoked by EPD. A 30-day appeal period is provided to revoked applicants; and
- The Plan is to be renewed every 3-years to account to reflect additional modeling, ecological, legal, and miscellaneous data.

IV. ATTACHMENTS

Tables as previously described are attached to this technical memorandum in the pages that follow. The tables include the following:

- Table A-1. 305(b)/303(d) Listed Streams (Pages A1-A8)
- Table A-2. 305(b)/303(d) Listed Lakes (Page A9)
- Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs (Pages A9-A15)
- Table A-4. Three Rivers Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs (Pages A15-A19)
- Table A-5, State and Federally Protected Aquatic Species Specific to the Upper Flint Water Planning Region
- Table A-6, High Priority Waters for Protecting Aquatic Biodiversity in the Upper Flint Water Planning Region
- Upper Flint Council Letter of Support for Two Rivers RC&D's 319(h) Project in Upper Flint Region
 - Section 319(h) Project Description: Georgia Better Back Roads Sediment Reduction Project

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Table A-1. 305(b)/303(d) Listed Streams										
<i>Stream Data</i>					<i>305(b)/303(d) & TMDL Data</i>					
HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
Chattahoochee River Basin										
031300020701	Ollie Creek	Meriwether	Meriwether County	1	4a	Bio F, DO	NP	Fishing	Not Supporting	2004
031300020704	Beech Creek	Meriwether	U/S Ross Keith Road	10	1	-	-	Fishing	Supporting	-
031300020707	Blue Creek	Meriwether	Meriwether County	6	1	-	-	Fishing	Supporting	-
031300020710	Flat Creek	Meriwether	Headwaters to Tom Keith Rd.	6	1	-	-	Fishing	Supporting	-
031300020711	Beech Creek	Meriwether	D/S Ross Keith Road	17	1	-	-	Fishing	Supporting	-
031300020712	Piney Woods Branch	Meriwether	Headwaters to Tom Keith Rd.	2	4a	Bio F	NP	Fishing	Not Supporting	2004
031300020713	Flat Creek	Meriwether/ Troup	Tom Keith Road to Yellow Jacket Creek	9	1	-	-	Fishing	Supporting	-
031300021001	Mt. Hope Branch	Meriwether	Meriwether County	4	4a	Bio F	NP	Fishing	Not Supporting	2004
031300021004	Sulfur Creek	Meriwether	U/S White Sulfur Creek	7	1	-	-	Fishing	Supporting	-
031300021005	Sulfur Creek	Meriwether/ Troup	D/S White Sulfur Creek	6	1	-	-	Fishing	Supporting	-
031300021006	White Sulfur Creek	Meriwether	Meriwether County	9	1	-	-	Fishing	Supporting	-
031300021010	Crawford Creek	Meriwether/ Troup	Meriwether/Troup Counties	6	1	-	-	Fishing	Supporting	-
031300021012	Flatshoals Creek	Meriwether	Meriwether County	7	1	-	-	Fishing	Supporting	-
031300021013	Tributary to Flat Shoal Creek	Meriwether	Headwaters to Flat Shoal Creek	2	4a	Bio F	NP	Fishing	Not Supporting	2004
Flint River Basin										
031300050101	Heads Creek	Spalding	D/S Griffin Reservoir to Wildcat Creek	2	4a	Bio F	NP	Fishing	Not Supporting	2004
031300050105	Flat Creek	Spaulding	Spaulding County	11	1	-	-	Fishing	Supporting	-
031300050117	Wildcat Creek	Spalding	Heads Creek to Flint River	2	4a	FC	UR	Fishing	Not Supporting	2004
031300050209	Line Creek	Fayette/ Spaulding/ Coweta	Flat Creek to Flint River	15	5	FC	NP	Fishing	Not Supporting	2007
031300050301	Beaver Creek	Meriwether	Meriwether County	6	1	-	-	Fishing	Supporting	-
031300050305	Little White Oak Creek	Coweta/ Meriwether	Downstream Linch Creek	8	1	-	-	Fishing	Supporting	-

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Table A-1. 305(b)/303(d) Listed Streams										
<i>Stream Data</i>					<i>305(b)/303(d) & TMDL Data</i>					
HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
031300050307	White Oak Creek	Meriwether	Little White Oak Creek to Flint River near Alvaton	9	1	-	-	Fishing	Supporting	-
031300050309	Winky Branch	Meriwether	Meriwether County	4	1	-	-	Fishing	Supporting	-
031300050310	Wolf Creek	Meriwether	Meriwether County	5	1	-	-	Fishing	Supporting	-
031300050311	White Oak Creek	Coweta/ Meriwether	Chandlers Creek to Bear Creek	14	4a	DO	UR	Fishing	Not Supporting	2004
031300050401	Birch Creek	Pike	Pike County	11	1	-	-	Fishing	Supporting	-
031300050403	Pappys Creek	Meriwether	Meriwether County	6	1	-	-	Fishing	Supporting	-
031300050404	Flint River	Fayette/ Spalding/ Pike	Horton Creek to Flat Shoals Road	23	1	-	-	Fishing	Supporting	-
031300050501	Brittens Creek	Meriwether	Meriwether County	5	1	-	-	Fishing	Supporting	-
031300050502	Little Redoak Creek (aka Sandy Creek)	Meriwether	Meriwether County	6	1	-	-	Fishing	Supporting	-
031300050503	Mill Creek	Meriwether	Meriwether County	6	1	-	-	Fishing	Supporting	-
031300050504	Red Oak Creek	Meriwether	Meriwether County	10	1	-	-	Fishing	Supporting	-
031300050507	Kendall Creek	Meriwether	Meriwether County	3	1	-	-	Fishing	Supporting	-
031300050508	Red Oak Creek	Meriwether	Little Red Oak Creek to Flint River near Imlac	8	4a	FC, Bio M	NP	Fishing	Not Supporting	2004
031300050509	Walnut Creek	Meriwether	Meriwether County	4	1	-	-	Fishing	Supporting	-
031300050601	Andrews Creek	Upson	Upson County	2	1	-	-	Fishing	Supporting	-
031300050602	Elkins Creek	Pike/ Upson	Bull Creek to Flint River near Molena	11	4a	FC	NP	Fishing	Not Supporting	2004
031300050603	Elkins Creek	Spalding/ Pike	Headwaters to Bull Creek	26	1	-	-	Fishing	Supporting	-
031300050604	Lewis Creek	Pike	Pike County	2	4a	Bio F	NP	Fishing	Not Supporting	2004
031300050605	Mock Woodall Creek	Upson	Upson County	2	1	-	-	Fishing	Supporting	-
031300050606	Mountain Creek	Pike	Pike County	6	1	-	-	Fishing	Supporting	-
031300050607	Powder Creek	Pike	Pike County	5	5	Bio M	NP	Fishing	Not Supporting	2017
031300050608	Spring Creek	Upson	Upson County	3	1	-	-	Fishing	Supporting	-
031300050701	Hurricane Creek	Upson	Upson County	3	1	-	-	Fishing	Supporting	-
031300050702	Cane Creek	Meriwether	Meriwether County	9	1	-	-	Fishing	Supporting	-

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<i>Stream Data</i>					<i>305(b)/303(d) & TMDL Data</i>					
HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
031300050703	Cold Springs Branch	Meriwether	Meriwether County	4	1	-	-	Fishing	Supporting	-
031300050704	Little Turkey Creek	Upson	Upson County	2	1	-	-	Fishing	Supporting	-
031300050705	Long Branch	Upson	Upson County	3	1	-	-	Fishing	Supporting	-
031300050706	Pigeon Creek	Meriwether	Meriwether County	8	5	Bio M	NP	Fishing	Not Supporting	2017
031300050707	Rocky Ford Branch	Meriwether	Meriwether County	2	1	-	-	Fishing	Supporting	-
031300050708	Big Turkey Creek	Upson	Headwaters to Little Turkey Creek	3	1	-	-	Fishing	Supporting	-
031300050709	Hurricane Branch	Meriwether	Meriwether County	3	1	-	-	Fishing	Supporting	-
031300050710	Mud Creek	Talbot	Headwaters to Flint River	6	1	-	-	Fishing	Supporting	-
031300050801	Lazer Creek	Talbot	Marshall Creek to Flint River near Talbotton	17	1	-	-	Fishing	Supporting	-
031300050802	Coleoatchee Creek	Meriwether/ Talbot	Headwaters to Copeland Lake Tributary	3	5	Bio M	NP	Fishing	Not Supporting	2017
031300050803	Lazar Creek	Talbot	Mossy Branch to Rush Creek	4	3			Fishing	Assessment Pending	
031300050901	Ison Branch	Spalding	Griffin	3	1	-	-	Fishing	Supporting	-
031300050902	Jerry Reeves Creek	Upson	Upson County	4	1	-	-	Fishing	Supporting	-
031300050903	Basin Creek	Upson	Upson County	6	4a	Bio(sediment)	NP	Fishing	Not Supporting	2004
031300050904	Bell Creek	Upson	Headwaters, d/s Thomaston, to Potato Creek	4	4a	FC	UR	Fishing	Not Supporting	2004
031300050905	Drake Branch	Upson	Upson County	2	1	-	-	Fishing	Supporting	-
031300050906	Five Mile Creek	Pike	Pike County	4	1	-	-	Fishing	Supporting	-
031300050907	Five Mile Creek	Upson	Upson County	3	1	-	-	Fishing	Supporting	-
031300050909	Grape Creek	Spalding	Griffin	2	1	-	-	Fishing	Supporting	-
031300050911	Marby Creek	Upson	Upson County	4	1	-	-	Fishing	Supporting	-
031300050912	Potato Creek	Spalding/ Lamar	Headwaters to U.S. Hwy. 333	11	4a	Bio F	NP, UR	Fishing	Not Supporting	2004
031300050913	Potato Creek	Upson	Drake Branch to Flint River near Thomaston	11	1	-	-	Fishing	Supporting	-
031300050914	Rose Creek	Upson	Willis Road to Potato Creek	6	1	-	-	Fishing	Supporting	-

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Table A-1. 305(b)/303(d) Listed Streams										
<i>Stream Data</i>					<i>305(b)/303(d) & TMDL Data</i>					
HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
031300050915	Ten Mile Creek	Upson	Smyrna Road to Potato Creek	8	1	-	-	Fishing	Supporting	-
031300050916	Town Branch	Upson	Thomaston	4	4a	Bio F	UR	Fishing	Not Supporting	2004
031300050917	Willingham Spring Creek	Upson	Upson County	3	4a	Bio F	NP	Fishing	Not Supporting	2004
031300050918	Womble Creek	Upson	Upson County	6	1	-	-	Fishing	Supporting	-
031300050920	Baroucho Creek	Upson	Headwaters (New Lake Dam) to Potato Creek	3	1	-	-	Fishing	Supporting	-
031300050921	Wasp Creek	Spalding/ Pike	Headwaters to Little Wasp Creek	5	5	Bio F	NP	Fishing	Not Supporting	2007
031300051001	Dye Branch	Upson	Thomaston	2	1	-	-	Fishing	Supporting	-
031300051003	Starling Branch	Upson	Upson County	2	1	-	-	Fishing	Supporting	-
031300051004	Sullivan Creek	Upson	Upson County	4	1	-	-	Fishing	Supporting	-
031300051006	Tobler Creek	Upson	Upson County	23	1	-	-	Fishing	Supporting	-
031300051007	Wolf Creek	Upson	Upson County	5	1	-	-	Fishing	Supporting	-
031300051009	Swift Creek	Upson	Tobler Creek to Flint River	5	4a	FC	NP	Fishing	Not Supporting	2004
031300051010	Swift Creek	Upson	Headwaters to Tobler Creek	14	1	-	-	Fishing	Supporting	-
031300051101	Flint River	Pike/ Meriwether/ Upson/ Talbot	Flat Shoals Rd. to Taylor County line	43	1	-	-	Fishing	Supporting	-
031300051102	Tributary to Flint River	Taylor/ Talbot/ Upson	Headwaters to Flint River	3	1	-	-	Fishing	Supporting	-
031300051201	Horseley Creek	Upson	Upson County	2	1	-	-	Fishing	Supporting	-
031300051202	Auchumpkee Creek	Upson	Upson County	23	1	-	-	Fishing	Supporting	-
031300051311	Little Vine Creek	Taylor	Headwaters to Beaver Creek	7	5	Bio M	NP	Fishing	Not Supporting	2017
031300051401	Patsiliga Creek	Taylor	Beaver Cr. to Flint River, Butler	6	4a	TWR, FC	NP	Fishing	Not Supporting	2004
031300051403	Beaver Creek	Taylor	Headwaters to Patsiliga Creek, Butler	6	4a	TWR	NP	Fishing	Not Supporting	2004
031300051404	Patsiliga Creek	Talbot/ Taylor	Headwaters to McCants Mill Pond	15	4a	Bio F	NP	Fishing	Not Supporting	2004
031300051502	Little Whitewater Creek (aka Big Whitewater Creek)	Taylor	Black Creek to Whitewater Creek	6	4a	Bio F	NP	Fishing	Not Supporting	2004

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<i>Stream Data</i>					<i>305(b)/303(d) & TMDL Data</i>					
HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
031300051503	Whitewater Creek	Taylor	Headwaters to Little Whitewater Creek	9	4a	Bio F	NP	Fishing	Not Supporting	2004
031300051504	Cedar Creek	Macon	Turkey Branch to Whitewater Creek	10	1	-	-	Fishing	Supporting	-
031300051505	Whitewater Creek	Macon	Cedar Creek to Flint River	13	4a	FC, pH	UR	Fishing	Not Supporting	2004
031300051506	Whitewater Creek	Taylor/ Macon	Big Whitewater Creek to Cedar Creek	17	4a	FC, pH	NP	Fishing	Not Supporting	2004
031300051507	Rambulette Creek	Taylor	Headwaters to Whitewater Creek	9	4a	Bio F	NP	Fishing	Not Supporting	2004
031300051601	Flint River	Taylor/ Upson/ Crawford/ Macon	Taylor Co. Line to Horse Creek	49	1	-	-	Fishing	Supporting	-
031300051602	Horse Creek	Macon	Taylor Mill Lake to Flint River	10	1	-	-	Fishing	Supporting	-
031300060101	Beaver Creek	Macon	Headwaters to Spring Hill Creek, SW Marshallville	4	4a	FC	NP	Fishing	Not Supporting	2001
031300060102	Camp Creek	Macon	Triple Creek to Flint River, Oglethorpe	4	1	-	-	Fishing	Supporting	-
031300060103	Flint River	Macon	Horse Creek to Spring Creek	16	5	FC	NP	Fishing	Not Supporting	2017
031300060104	Spring Creek	Macon	Headwaters to Flint River near Montezuma	5	4a	Bio M	UR	Fishing	Not Supporting	2004
031300060105	Sweetwater Creek	Sumter/ Macon	Headwaters to Flint River, Andersonville	9	4a	pH, Bio F	NP, UR	Fishing	Not Supporting	2004
031300060107	Camp Creek	Schley/ Macon	Headwaters to Triple Creek	12	1	-	-	Fishing	Supporting	-
031300060108	Beaver Creek	Macon	Spring Hill Creek to Flint River	9	4a	FC	UR	Fishing	Not Supporting	2004
031300060109	Springhill Creek	Macon	Headwaters to Beaver Creek	6	3			Fishing	Assessment Pending	
031300060201	Buck Creek	Schley/ Macon	Fox Branch to Flint River near Oglethorpe	16	4a	FC	NP	Fishing	Not Supporting	2001
031300060202	Shoal Creek	Marion	Little Shoal Creek to Little Creek	3	4a	Bio F	NP	Fishing	Not Supporting	2004
031300060301	Hog Crawl Creek	Dooly	U/S Flint River, NW Cordele	8	1	-	-	Fishing	Supporting	-
031300060302	Horsehead Creek	Macon	Headwaters to Hogcrawl Creek	6	5	Bio M	NP	Fishing	Not Supporting	2017
031300060401	Dominy Branch	Sumter	U/S Lime Creek near Cobb	3	1	-	-	Fishing	Supporting	-
031300060402	Flint River	Dooly	Spring Creek to Hwy 27	20	1	-	-	Fishing	Supporting	-
031300060403	Lime Creek	Sumter	Little Lime Creek to Lake Blackshear	5	4a	FC	NP	Fishing	Not Supporting	2004
031300060404	Bailey Branch	Sumter	Headwaters to Browns Millpond	6	4a	Bio F	NP	Fishing	Not Supporting	2004

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HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
031300060501	Turkey Creek	Dooly	Pennahatchee Creek, NW Cordele to Flint River	4	4a	FC	NP	Fishing	Not Supporting	2001
031300060503	Sandy Mount Creek	Dooly	US 41 to Pennahatchee Creek	5	1	-	-	Fishing	Supporting	-
031300060505	Turkey Creek	Dooly	Rogers Branch to Pennahatchee Creek	9	5	FC	M, NP	Fishing	Not Supporting	2007
031300060506	Pennahatchee Creek	Dooly	Sandy Mount Creek to Turkey Creek	6	5	FC	NP	Fishing	Not Supporting	2007
031300060507	Little Creek	Dooly	Headwaters to Turkey Creek	8	3			Fishing	Assessment Pending	
031300060508	Lilly Branch	Dooly	Headwaters to Little Pennahatchee Creek	6	3			Fishing	Assessment Pending	
031300060509	Little Creek	Dooly	Headwaters to Turkey Creek	6	3			Fishing	Assessment Pending	
031300060510	Pennahatchee Creek	Dooly	Headwaters to Sandy Mount Creek	12	3			Fishing	Assessment Pending	
031300060511	Tributary to Sandy Mount Creek	Dooly	Headwaters to Sandy Mount Creek	4	3			Fishing	Assessment Pending	
031300060601	Gulley Creek	Crisp	Upstream Lake Blackshear	4	4a	DO	NP	Fishing	Not Supporting	2004
031300060603	Cedar Creek	Crisp	Crisp County	3	1	-	-	Fishing	Supporting	-
031300060604	Limestone Creek	Crisp	Lake Blackshear	3	1	-	-	Fishing	Supporting	-
031300060605	Pecan Creek	Sumter	Trib. to Lake Blackshear	1	1	-	-	Fishing	Supporting	-
031300060606	Gum Creek	Crisp	Downstream Cordele to Lake Blackshear	6	4a	FC, Bio F	UR	Fishing	Not Supporting	2004
031300060607	Spring Creek	Sumter	Lake Blackshear	2	4a	Zn, Pb	NP	Fishing	Not Supporting	2004
031300060608	Swift Creek	Turner/ Crisp	U/S Lake Blackshear	7	4a	FC	NP	Fishing	Not Supporting	2004
031300060609	Vallhalla Branch	Crisp	Trib. to Lake Blackshear	1	1	-	-	Fishing	Supporting	-
031300060610	Tributary to Gum Creek #1	Dooly/ Crisp	Headwaters to Gum Creek	8	3			Fishing	Assessment Pending	
031300060611	Tributary to Gum Creek #2	Crisp	Headwaters to Gum Creek	4	3			Fishing	Assessment Pending	
031300070101	Slaughter Creek	Webster	Christmas Branch to Kinchafoonee Creek	1	1	-	-	Fishing	Supporting	-
031300070102	Kinchafoonee Creek	Marion	Headwaters to Lanahasee Creek	10	1	-	-	Fishing	Supporting	-

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Table A-1. 305(b)/303(d) Listed Streams										
<i>Stream Data</i>					<i>305(b)/303(d) & TMDL Data</i>					
HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
031300070201	Lanahassee Creek	Webster	W. Fork Lanahassee Creek to Kinchafoonee Creek	6	4a	FC	NP	Fishing	Not Supporting	2004
031300070202	Lanahassee Creek	Marion/ Webster	Headwaters to West Fork Lanahassee Creek	8	3			Fishing	Assessment Pending	
031300070203	Clear Creek	Stewart/ Webster	Headwaters to Kinchafoonee Creek	7	5	Bio M	NP	Fishing	Not Supporting	2017
031300070301	Kinchafoonee Creek	Webster	Marion Co. Line to Terrell Co. Line	23	1	-	-	Fishing	Supporting	-
031300070302	Ty Ty Creek	Sumter	Unnamed trib. 1.4 miles u/s Thomas Mill Road to Kinchafoonee Cr.	3	1	-	-	Fishing	Supporting	-
031300070303	Pessell Creek	Sumter	Headwaters to Kinchafoonee Creek	8	4a	Bio F	NP	Fishing	Not Supporting	2004
031300070304	Tributary to Kinchafoonee Creek	Webster	Headwaters to Kinchafoonee Creek	3	3			Fishing	Assessment Pending	
031300070402	Tributary to Bear Creek	Terrell/ Webster	Headwaters to Bear Creek	3	5	Bio M	NP	Fishing	Not Supporting	2017
031300070403	Long Branch	Webster	Headwaters to Bear Creek	3	3			Fishing	Assessment Pending	
031300070604	Kinchafoonee Creek	Terrell/ Sumter/ Lee/ Dougherty	Ga. Hwy. 45 (Webster Co. Line) to Lake Chehaw/Worth	40	1	-	-	Fishing	Supporting	-
031300070701	Little Muckalee Creek	Schley	Headwaters to Galey Creek	9	1	-	-	Fishing	Supporting	-
031300070702	Angelica Creek	Sumter	Unnamed Tributary 1.9 miles U/S US Hwy 19 to Lake Collins	2	4a	Bio F	NP	Fishing	Not Supporting	2004
031300070703	Muckalee Creek	Marion/ Schley	Unnamed tributary 1 mi. u/s Marion/Schley Co. Line to Owens Creek	6	1	-	-	Fishing	Supporting	-
031300070704	Parkers Mill Creek	Schley/ Sumter	Headwaters to Angelica Creek	5	5	Bio M	NP	Fishing	Not Supporting	2017
031300070801	Muckalee Creek	Sumter	Little Muckalee Creek to Americus	5	1			Fishing	Supporting	-
031300070802	Town Creek	Sumter	Rigas Road to Muckalee Creek	2	5	Bio M	NP	Fishing	Not Supporting	2017
031300070803	Muckalee Creek	Sumter	Americus to McLittle Bridge Rd.	2	1	-	-	Fishing	Supporting	-

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Table A-1. 305(b)/303(d) Listed Streams										
<i>Stream Data</i>					<i>305(b)/303(d) & TMDL Data</i>					
HUC 12	Reach Name	County	Location Description	Stream Extension (miles)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
031300070901	Muckaloochee Creek	Sumter	Little Muckaloochee Creek to Smithville Pond	5	4a	Bio F	NP	Fishing	Not Supporting	2004
Ocmulgee										
030701031102	Buck Creek	Lamar/ Spalding	Tributary to High Falls Lake	14	1	-	-	Fishing	Supporting	-
030701031103	Cabin Creek	Spalding	Headwaters, Griffin to Towaliga River	16	4a	Bio F, Tox, FC	I1, UR	Fishing	Not Supporting	2003
030701031107	Troublesome Creek	Spalding	Spalding County	5	1	-	-	Fishing	Supporting	-
030701031111	Johnson Creek	Spalding	Tributary to Cabin Creek, Griffin	1	1	-	-	Fishing	Supporting	-
030701031113	Towaliga River	Spalding/ Butts/ Monroe	Thompson Creek to Indian Creek	10	1	-	-	Fishing	Supporting	-
030701040212	Tributary to Big Indian Creek	Macon/ Houston/ Peach	Headwaters to Big Indian Creek	5	3			Fishing	Assessment Pending	
Suwannee River Basin										
031102020205	Tributary to West Fork Deep Creek	Crisp/ Turner	Headwaters to West Fork Deep Creek	3	3			Fishing	Assessment Pending	
031102020206	Deep Creek	Crisp	Headwaters to Red Oak Creek	4	3			Fishing	Assessment Pending	
031102020207	Red Oak Creek	Crisp	Headwaters to Deep Creek	12	5	Bio M	NP	Fishing	Not Supporting	2015

Notes:

- 1.) BioF = Biota Impacted (Fish Community); BioM = Biota Impacted (Macroinvertebrate Community); DO = Dissolved Oxygen; FC = Fecal Coliform; FCG = Fish Consumption Guidance; Zn = Zinc; Pb = Lead; TWR = Trophic-Weighted Residue Value of mercury in fish tissue exceeding the EPD human health standard of 0.3 mg/kg
- 2.) M = Municipal Facility; NP = Nonpoint Source/Unknown Source; UR = Urban Runoff/Urban Effects I1 = Industrial Facility Point Source

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Table A-2. 305(b)/303(d) Listed Lakes										
Lake Data					305(b)/303(d) & TMDL Data					
HUC 12	Lake Name	County	Location Description	Lake Area (acres)	303(b)/303(d) Assessment Category	Criterion Violated ¹	Potential Cause Code ²	Water Use	Evaluation	TMDL Implementation Plan -OR- Priority Year
Flint River Basin										
R031300060612	Blackshear Lake	Crisp/ Sumter/ Dooly/ Lee	Crisp, Sumter, Lee, Dooly Counties	8518	1	-	-	Recreation	Supporting	-

Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
Crisp County					
None					
Arabi					
None					
Cordele					
Prepare and adopt environmental protection ordinances for wetlands and groundwater recharge areas (per revised state standards)	2011	City	\$1,000	Local	Water quality
Revise flood damage prevention ordinance in response to new digital floodplain maps	2010	CD Director	\$1,000	Local	Water quality
Issue bonds needed for water and wastewater improvements	2002-2006	City	N/A	N/A	Water quantity and quality
Continue wastewater systems upgrades and necessary land acquisition	2004-2006	City	N/A	N/A	Water quality
Implement EPD required program for backflow prevention on water system	2002-2006	City	N/A	N/A	Water quality
Prepare for pending state regulations regarding non-point source pollution	2004-2006	City	N/A	N/A	Water quality
Continue current GEMA buyout program floodplain areas	2002-2006	City	N/A	N/A	Water quality
Dooly County					
Adopted River Corridor Protection Plan and ordinance for the portion of the Flint River north of Lake Blackshear	1990's	County	N/A	N/A	Water quality
Policy 3.1 Growth will be directed away from	N/A	County	N/A	N/A	Water quality

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Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
environmentally sensitive lands and other natural areas unsuitable for urban development; such as floodplains, groundwater recharge areas, etc.					
Petition FEMA to prepare updated official flood maps (FIRMs)	2008-2010	County	Staff Time	General Fund, FEMA	Water quality
Evaluate and re-adopt the Flint River Protection Plan and ordinance	2009-2010	County	Staff Time	General Fund	Water quality
Policy 5.2 Local services such as fire and police protection, roads, drainage, water and sewer, and parks and recreation will be planned to adequately serve the population and employment densities anticipated	N/A	County	N/A	N/A	Water quantity and quality
Byromville					
Water system improvements	2002	City	N/A	CDBG	Water quantity and quality
Secure engineer to perform review of wastewater treatment system	2003	City	N/A	N/A	Water quality
Secure engineer to review storm drainage needs and prepare plan as needed	2004	City	N/A	N/A	Water quality
Dooling					
Drainage improvements in southern portion of the Town	2002	City	N/A	CDBG, LDF	Water quality
Lilly					
Restore main drainage channel flowing E-W	2003	City	N/A	N/A	Water quality
Pinehurst					
Railroad Street drainage improvements, raise affected manholes	2002	City	N/A	N/A	Water quality
Unadilla					
Restore storm water flow through open ditches	2002-2005	City	N/A	CDBG	Water quality
Vienna					
Preliminary design for water/sewer extension across I-75	2001	City	N/A	N/A	Water quantity and quality
Rehabilitation/replacement of water and sewer lines	2001-2005	City	N/A	N/A	Water quantity and quality
Complete wastewater treatment plant upgrade and expansion of irrigation field	2001	City	N/A	N/A	Water quantity and quality
Extend water and sewer service across I-75	2002	City	N/A	N/A	Water quantity and quality
Complete computerization of water/sewer/gas systems	2003	City	N/A	N/A	Water quantity and quality
Clean sludge from old sewer ponds	2003	City	N/A	N/A	Water quality
Macon County					
Adopted an erosion and sedimentation control	N/A	County	N/A	Staff Time	Water quality

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Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
ordinance that entitles the county to be certified to issue permits to those wishing to conduct “land disturbing” activities within the county					
<i>Ideal</i>					
None					
<i>Marshallville</i>					
None					
<i>Montezuma</i>					
Policy 1.1 Require proof of compliance with state environmental planning criteria before issuance of building permits and/or approving zoning requests which involve properties located over significant groundwater recharge areas or areas of medium or high pollution susceptibility	N/A	City	N/A	N/A	Water quality
Policy 1.2 Require proof of Corps of Engineers permit before issuing building permits and /or approving zoning requests involving properties located in suspected wetlands	N/A	City	N/A	Staff Time	Water quality
Mapped for floodplains and Policy 1.3 has participated in the National Flood Insurance Program	1978	City	N/A	N/A	Water quality
Policy 1.4 Maintain local designation of “issuing authority” pursuant to provisions of the Georgia Erosion and Sedimentation Act of 1975	N/A	City	N/A	N/A	Water quality
<i>Oglethorpe</i>					
Mapped for floodplains and has participated in the National Flood Insurance Program	1986	City	N/A	N/A	Water quality
<i>Marion County – Buena Vista</i>					
Adopted Wetland Protection Ordinance	2001	County/City	N/A	N/A	Water quality
Adopted Groundwater Recharge Area Protection Ordinance	2001	County/City	N/A	N/A	Water quality
Water/sanitary sewer improvements	2003	County/City	N/A	N/A	Water quality
Our community has passed the necessary “Part V” environmental ordinances, and we enforce them	2001	County/City	N/A	N/A	Water quantity and quality
We have land use measures that will protect the natural resources in our community (steep slope regulations, floodplain or marsh protection, etc.). Both jurisdictions have adopted flood damage	2001	County/City	N/A	N/A	Water quality

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Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
prevention ordinances					
Schley County					
Construct Phase 2 of rural water system	2006-2008	County	\$8,000,000	RDA/GEFA	Water quantity and quality
Adopt Part V (environmental protection) ordinances	2007-2008	County	Nominal	Local	Water quality
Ellaville					
Adopt Part V (environmental protection) ordinances	2007-2008	City	Nominal	Local	Water quality
Sumter County					
There are 25 miles of protected river corridors along Sumter County’s corporate boundary. A 14 mile segment of the Flint River runs along Sumter County’s northeast side. Along Sumter County’s southwest boundary, there is an 11 mile segment of Kinchafoonee Creek. Under the current state definition, there are approximately 300 acres of river corridor in Sumter County; of which 170 acres is adjacent to the Flint River and 130 acres are adjacent to the Kinchafoonee Creek. These protected areas are exclusive to the area between the water’s edge and the uppermost part of the river bank.	N/A	County	N/A	N/A	Water quantity and quality
Community uses storm water Best Management Practices for all new development	N/A	County	N/A	N/A	Water quality
Community has land use measures that will protect natural resources in our community (steep slope regulations, floodplain or marsh protection, etc.)	N/A	County	N/A	N/A	Water quality
Participates in the National Flood Insurance Program and has adopted and enforces a flood protection ordinance in conformance with federal standards	N/A	County	N/A	N/A	Water quality
Adopt Groundwater Recharge Area Protection Ordinance	2011	County	N/A	N/A	Water quality
Adopt Wetland Protection Ordinance	2012	County	N/A	N/A	Water quality
Adopt Protected River Corridor Ordinance	2013	County	N/A	N/A	Water quality
Americus					
Participates in the National Flood Insurance Program and has adopted and enforces a flood protection ordinance in conformance with federal standards	N/A	City	N/A	N/A	Water quality
Andersonville					
Adopt Groundwater Recharge Area Protection Ordinance	2011	City	N/A	N/A	Water quality

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Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
Adopt Wetland Protection Ordinance	2012	City	N/A	N/A	Water quality
Adopt Flood Damage Prevention Ordinance	2012	City	N/A	N/A	Water quality
De Soto					
None					
Leslie					
Rework water system well and tank	2009	City	\$733,000	GEFA	Water quantity
Downtown sewage system	2010	City	\$50,000	City	Water quality
Participates in the National Flood Insurance Program and has adopted and enforces a flood protection ordinance in conformance with federal standards	N/A	City	N/A	N/A	Water quality
Adopt Groundwater Recharge Area Protection Ordinance	2011	City	N/A	N/A	Water quality
Adopt Wetland Protection Ordinance	2012	City	N/A	N/A	Water quality
Plains					
Replace water meters throughout city	2010	City	\$500,000	City/ DCA/ CDBG	Water quantity
Adopt Groundwater Recharge Area Protection Ordinance	2011	City	N/A	N/A	Water quality
Talbot County					
Adopted the water supply watershed protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	County	N/A	N/A	Water quantity and quality
Adopted the groundwater recharge area protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	County	N/A	N/A	Water quality
Adopted the wetlands protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	County	N/A	N/A	Water quality
Flint River is a Protected River Corridor as defined by the Georgia Department of Natural Resources Environmental Planning Criteria	N/A	County	N/A	N/A	Water quantity and quality
Mapped for flood prone areas under the Federal Emergency Management Agency (FEMA) and participates in the National Flood Insurance Program	N/A	County	N/A	N/A	Water quality
Request FEMA to map the city for floodplains	2006	City/County	N/A	Local	Water quality
Geneva					
Adopted the groundwater recharge area protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	City	N/A	N/A	Water quality

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Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
Adopted the wetlands protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	City	N/A	N/A	Water quality
Request FEMA to map the city for floodplains	2006	City/County	N/A	Local	Water quality
<i>Junction City</i>					
Adopted the groundwater recharge area protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	City	N/A	N/A	Water quality
Adopted the wetlands protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	City	N/A	N/A	Water quality
Request FEMA to map the city for floodplains	2006	City/County	N/A	Local	Water quality
Upgrade existing water lines	2005-2006	City/LCRDC	\$15,000	Local/ GA OTH	Water quantity
<i>Talbotton</i>					
Adopted the groundwater recharge area protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	City	N/A	N/A	Water quality
Adopted the wetlands protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	City	N/A	N/A	Water quality
Request FEMA to map the city for floodplains	2006	City/County	N/A	Local	Water quality
<i>Woodland</i>					
Adopted the wetlands protection ordinance as required by the Environmental Protection Division of the Department of Natural Resources	N/A	City	N/A	N/A	Water quality
Mapped for flood prone areas under the Federal Emergency Management Agency (FEMA) and participates in the National Flood Insurance Program	N/A	City	N/A	N/A	Water quality
Request FEMA to map the city for floodplains	2006	City/County	N/A	Local	Water quality
<i>Taylor County</i>					
Enacted flood damage prevention ordinance and participates in the National Flood Insurance Program	N/A	County	N/A	N/A	Water quality
Initiate development of county water system	2010	County	\$1,000,000+	USDA/CDBG	Water quantity and quality
Adopt applicable Part V environmental planning criteria (new wetlands, groundwater and river corridor protection standards)	2010	County	Staff Time	Local	Water quality
Investigate the feasibility of constructing a rural water system	2002	County	N/A	N/A	Water quantity and quality

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Table A-3. River Valley Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
Butler					
None					
Reynolds					
Enacted flood damage prevention ordinance and participates in the National Flood Insurance Program	N/A	City	N/A	N/A	Water quality
Purchase sanitary sewer flusher and camera	2009	City	\$60,000	Local	Water quality
Initiate expansion and upgrade of waste water treatment facility	2009-2010	City	About \$1,500,000	USDA/Local	Water quality
Adopt applicable Part V environmental planning criteria (new wetlands, groundwater and river corridor protection standards)	2010	City	Staff Time	Local	Water quality
Initiate rehabilitation of wastewater collection system	2011-2012	City	About \$1,000,000	GEFA/Local	Water quality
Water and sanitary sewer extensions as needed	2001-2005	City	N/A	N/A	Water quantity and quality
Drainage improvements as necessary	2001-2005	City	N/A	N/A	Water quality

Table A-4: Three Rivers Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
Short Term Work Program Project	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
Spalding County					
Adopt wider minimum stream buffer requirements (75 to 100 feet)	2008 - 2009	Spalding County Community Development Department	\$0.00	County Budget	Management Practices to Protect Significant Natural Resources
Conduct a watershed management study in conjunction with GA DNR to identify needed ordinances, education efforts, enforcement improvements, and stormwater management.	2009 - 2010	Spalding County Environmental Resources Coordinator	\$100,000	County Budget	Water Demand Management Practices
Conduct a feasibility study for the creation of a stormwater utility.	2008 - 2009	County Manager's Office and Spalding County Public Works Dept.	\$50,000	County Budget	Enhanced Water Quality Standards and Monitoring Practices
Create a stormwater utility	2009 - 2010	County Manager's Office and Spalding County Public Works Dept	\$200,000	County Budget	Enhanced Water Quality Standards and Monitoring Practices
As part of the Recreation Master Plan, look at ways to permanently preserve wetlands, floodplains and groundwater recharge areas.	2010 – 2011	Spalding County Parks & Recreation Department	\$50,000	County Budget	Water Demand Management Practices
City of Griffin (Spalding County)					
Amend zoning and land development regulations to provide incentives and guidelines for conserving open space in the subdivision process and to widen minimum stream buffer widths	2005 - 2006	Planning and Development Department	N/A	City of Griffin	Management Practices to Protect Significant Natural Resources
Complete water treatment plant improvements	2002 - 2005	Water/Wastewater Department	\$43,000,000	City of Griffin/Revenue Bonds	Enhanced Water Quality Standards & Monitoring Practices

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Table A-4: Three Rivers Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
Short Term Work Program Project	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
Mapping of water system	2004	Water/Wastewater Department	\$300,000	Revenue bonds	Water Return Management Practices
Meter replacement, 2500 meters a year	2004 - 2009	Water/Wastewater Department	\$340,00 per year	User fees	Enhanced Water Quality Standards & Monitoring Practices
Water main replacement program	2004 - 2009	Water/Wastewater Department	\$150,00 per year	User fees	Enhanced Water Quality Standards & Monitoring Practices
Dewatering sludge facility	2004	Water/Wastewater Department	\$400,00 per year	Revenue bonds	Enhanced Pollution Management Practices
Ison Branch – new sewer lines	2002 - 2004	Water/Wastewater Department	\$1,700,000	Revenue bonds	Enhanced Water Quality Standards & Monitoring Practices
Sewer flow analysis study of entire system	2004	Water/Wastewater Department	\$300,000	Revenue bonds	Enhanced Pollution Management Practices
GPS Sewer System	2003 - 2004	Water/Wastewater Department	\$500,000	Revenue bonds	Enhanced Water Quality Standards & Monitoring Practices
Sewer Rehab Phase IV	2004 - 2005	Water/Wastewater Department	\$1,300,000	Revenue bonds	Water Return Management Practices
Rehab Water/Wastewater/Stormwater Lab	2004	Water/Wastewater Department	\$150,000	Revenue bonds	Enhanced Water Quality Standards & Monitoring Practices
Jet Vac Sewer Lines	2004 - 2005	Water/Wastewater Department	\$340,000 for first year (2004), \$100,000 year after (2005)	User fees	Enhanced Pollution Management Practices
Work with the County and the Water and Sewer Authority on updating the Water Supply Study and the Wastewater Management Master Plan to be consistent with the new Land Use Plan	2005 - 2007	Water and Sewer Authority, City Water and Wastewater Dept., County Manager, City Manager	\$500,000	User fees, Spalding County, City of Griffin	Enhanced Water Quality Standards & Monitoring Practices
Phase II NPDES City Implementation Program	2004 - 2009	Griffin Public Works and Utilities Department	\$375,000/year	User fees	Water Return Management Practices
USGS Monitoring - 7 stream gauges	2004 - 2009	Griffin Public Works and Utilities Dept	\$55,000/year	User fees	Enhanced Water Quality Standards & Monitoring Practices
New Stormwater Management Plan and associated projects	2009 – long term	Griffin Public Works and Utilities Dept.	N/A for study, Implementation est. cost \$8 million	User fees	Enhanced Water Quality Standards & Monitoring Practices
City of Orchard Hill (Spalding County)					
No water issues in STWP					

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Table A-4: Three Rivers Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
Short Term Work Program Project	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
<i>City of Sunny Side (Spalding County)</i>					
No water issues in STWP					
<i>Pike County</i>					
Identify land for possible future green space and/or recreational uses	2010- 2014	Board of Commissioners and Cities	Unknown	Pike County	Water Demand Management Practices
Study sewerage treatment alternatives	2010 – 2011	Board of Commissioners and Pike County Water and Sewer Authority	Unknown	Pike County and Pike County Water and Sewer Authority	Enhanced Pollution Management Practices
<i>City of Concord (Pike County)</i>					
Water Improvement – repair wall on spring and clear well	2010	City of Concord	\$30,000	City of Concord	Enhanced Water Quality Standards & Monitoring Practices
Sewerage repair: Hilltop community	2010	City of Concord	\$500,000	Community Development Block Grant (CDBG)	Enhanced Pollution Management Practices
<i>City of Meansville (Pike County)</i>					
Upgrade the city’s water system	2010 - 2014	City of Meansville	\$185,000	City of Meansville/SPLOST	Enhanced Water Quality Standards & Monitoring Practices
<i>City of Molena (Pike County)</i>					
Improvements to water quality – The City has applied for a \$500,000 grant to correct a uranium problem. If the grant is not approved by August 2009, the city will need to obtain a loan to correct the problem. The city will contribute \$48,000 to the cost of the project.	2010	City of Molena	\$500,000	Grant or loan	Enhanced Water Quality Standards & Monitoring Practices
<i>City of Williamson (Pike County)</i>					
No water issues in STWP					
<i>City of Zebulon (Pike County)</i>					
Provide incentives (by Resolution) for new businesses including taxes, and water/sewer connections	2012	City of Zebulon, Pike County, Chamber of Commerce	N/A	N/A	Water Demand Management Practices
<i>Upson County</i>					
No water issues in STWP					
<i>City of Thomaston (Upson County)</i>					
No water issues in STWP					
<i>Town of Yatesville (Upson County)</i>					
No water issues in STWP					
<i>Meriwether County</i>					
Meriwether County Water Study	2008-2009	Meriwether County	\$15,000	General Fund	Water Demand Management Practices
Meriwether County Water and Sewer	2008-2011	Meriwether County	\$120,000	Land Sale	Water Demand Management Practices
Create Intergovernmental Water/Sewer Infrastructure Committee	1999-2008	Meriwether County	No cost	Municipalities, Development Authorities, Meriwether County	Enhanced Water Quality Standards & Monitoring Practices
Update Meriwether County Water Study in accordance with	2000-2008	Meriwether County	\$20,000	Local and State	Enhanced Water Quality Standards &

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Table A-4: Three Rivers Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
Short Term Work Program Project	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
Comprehensive Plan					Monitoring Practices
Acquire open space for parks, conservation, recreation	1999-2008	Conservation Commission/ Meriwether County	To Be Determined	Private Donations/ State Allocations	Management Practices to Protect Significant Natural Resources
<i>Town of Gay (Meriwether County)</i>					
Collaborate with Meriwether County to form Conservation Commission	2009-2010	Town of Gay	\$5,000	Meriwether County/ Town of Gay	Water Demand Management Practices
Acquire open space for parks, conservation, recreation	2009-2012	Town of Gay	Unknown	Town of Gay/ Donations	Management Practices to Protect Significant Natural Resources
Prepare a stormwater drainage management plan	2009-2011	Town of Gay and GDOT	\$30,000	Federal Transportation	Enhanced Water Quality Standards & Monitoring Practices
Prepare a stormwater drainage management plan	1999-2008	Town of Gay	\$5,000	Town of Gay/State	Enhanced Water Quality Standards & Monitoring Practices
<i>City of Greenville (Meriwether County)</i>					
No water projects in STWP					
<i>Town of Lone Oak (Meriwether County)</i>					
Primrose Project for waterlines	2008-2009	Town of Lone Oak	\$12 million	SPLOST	Enhanced Water Quality Standards & Monitoring Practices
Installation of new well and tank for water project	2009-2011	Town of Lone Oak	Unknown	GEFA	Enhanced Water Quality Standards & Monitoring Practices
<i>City of Luthersville (Meriwether Co)</i>					
No water projects in STWP					
<i>City of Manchester (Meriwether Co)</i>					
Wastewater Plant Rehabilitation	2008-2011	City of Manchester	\$2 million	City of Manchester and GEFA	Enhanced Water Quality Standards & Monitoring Practices
City/County Water System	2008-2020	Meriwether County and Cities	Unknown	Meriwether County and Cities	Enhanced Water Quality Standards & Monitoring Practices
Collaborate with Meriwether County to form a County-Wide Water Authority	2008-2010	Meriwether County and Cities	Unknown	Meriwether County and Cities	Enhanced Water Quality Standards & Monitoring Practices
<i>City of Warm Springs (Meriwether Co)</i>					
Emergency Two-Way Tap at Institute Water Supply	2008	City of Warm Springs and Institute	Unknown	City and Institution Funds	Water Demand Management Practices
Add Emergency Generators at Spring House	2008	City of Warm Springs	\$163,000	SPLOST/City Funds	Enhanced Water Quality Standards & Monitoring Practices
Install Additional Water Lines to Hospitals and Relocate Existing Line	2008	City of Warm Springs	Unknown	City Funds	Enhanced Water Quality Standards & Monitoring Practices
Run sewer lines to Arrowhead Estates	2008-To be Deter-mined	City of Warm Springs	To be determined	City of Warm Springs	Water Return Management Practices
Replace majority of old water service lines	2008-2012	City of Warm Springs	Uncertain, since it is a continuous	City of Warm Springs	Enhanced Water Quality Standards & Monitoring Practices

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Table A-4: Three Rivers Regional Commission – Review of Local Comprehensive Plans, Water Resource BMPs					
Short Term Work Program Project	Fiscal Year	Responsible Party	Cost Estimate	Funding Source	Type Water Management
			process		
Prepare Stormwater Drainage Plan	2010	City of Warm Springs	\$100,000	City funds	Enhanced Water Quality Standards & Monitoring Practices
<i>City of Woodbury (Meriwether County)</i>					
Repair and Replace Waterlines	2009-2011	City of Woodbury	\$75,000	SPLOST	Enhanced Water Quality Standards & Monitoring Practices
Sewer Line Upgrade	2009-2011	City of Woodbury	\$75,000	SPLOST	Enhanced Water Quality Standards & Monitoring Practices
Upgrade Water Treatment Plant	2009-2012	City of Woodbury	\$3 million	Low interest loan/ grant	Enhanced Water Quality Standards & Monitoring Practices

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Table A-5. State and Federally Protected Aquatic Species Specific to the Upper Flint Water Planning Region				
Scientific Name	Common Name	Federal Status	State Status	Group
Acipenser oxyrinchus desotoi	Gulf Sturgeon	Threatened		Fishes
Ameiurus serracanthus	Spotted Bullhead		Rare	Fishes
Cyprinella callitaenia	Bluestripe Shiner		Rare	Fishes
Cyprinella xaenura	Altamaha Shiner		Threatened	Fishes
Etheostoma parvipinne	Goldstripe Darter		Rare	Fishes
Notropis hypsilepis	Highscale Shiner		Rare	Fishes
Percina crypta	Halloween Darter		Threatened	Fishes
Pteronotropis euryzonus	Broadstripe Shiner		Rare	Fishes
Pteronotropis welaka	Bluenose Shiner		Threatened	Fishes
Alasmidonta triangulata	Southern Elktoe		Endangered	Invertebrates
Amblema neislerii	Fat Threeridge	Endangered	Endangered	Invertebrates
Anodonta heardi	Apalachicola Floater		Rare	Invertebrates
Anodontoides radiatus	Rayed Creekshell		Threatened	Invertebrates
Cambarus harti	Piedmont Blue Burrower		Endangered	Invertebrates
Elliptio arctata	Delicate Spike		Endangered	Invertebrates
Elliptio purpurella	Inflated Spike		Threatened	Invertebrates
Elliptoideus sloatianus	Purple Bankclimber	Threatened	Threatened	Invertebrates
Hamiota subangulata	Shinyrayed Pocketbook	Endangered	Endangered	Invertebrates
Lampsilis binominata	Lined Pocketbook	Extinct		Invertebrates
Medionidus penicillatus	Gulf Moccasinshell	Endangered	Endangered	Invertebrates
Pleurobema pyriforme	Oval Pigtoe	Endangered	Endangered	Invertebrates
Procambarus gibbus	Muckalee Crayfish		Threatened	Invertebrates
Procambarus versutus	Sly Crayfish		Rare	Invertebrates
Graptemys barbouri	Barbour's Map Turtle		Threatened	Reptiles
Macrochelys temminckii	Alligator Snapping Turtle		Threatened	Reptiles
Hymenocallis coronaria	Shoals Spiderlily		Threatened	Vascular Plants

Notes: Data provided by the Department of Natural Resources – Wildlife Resources Division. Detailed species accounts are available at the following website: <<http://www.georgiawildlife.com/node/1379>>

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Table A-6, High Priority Waters for Protecting Aquatic Biodiversity in the Upper Flint Water Planning Region	
Classification	Waters
High Priority Aquatic Community Stream	South Prong Creek, Pigeon Creek, Patsiliga Creek, Beaver Creek
High Priority Species Stream	Swift Creek, Little Pennahatchee Creek, Turkey Creek, Limestone Creek, Muckalee Creek, Cold Spring, Potato Creek
High Priority Species and Aquatic Community Streams	Brittens Creek, Buck Creek, Auchumpkee Creek
Source: Georgia Rare Species and Natural Community Information: High Priority Waters. Georgia Department of Natural Resources – Wildlife Resources Division, < http://www.georgiawildlife.com/node/1377 >	



Upper Flint Water Council

April 14, 2011

Tim Cash
Georgia Environmental Protection Division
4220 International Parkway, Suite 101
Atlanta, GA 30354

Dear Tim:

As you know, at its last meeting, the Upper Flint Council approved, [by full consensus of the council], support for a Section 319(h) grant proposal from the Two Rivers Resource Conservation and Development (RC&D) Council.

Last fall, the council was informed by EPD of an opportunity created by the Section 319(h) grant program for funding for nonpoint source control projects identified by the regional water councils. The Two Rivers RC&D project will promote improved nonpoint source control on dirt roads near impaired waters throughout the Upper Flint Region. The Council recognizes the importance of improving nonpoint source pollutant control practices in the region and endorses this project as an important step in attaining this objective.

The project is consistent with the council's vision and goals, and it meets the eligibility criteria for the 319(h) grant program. The council will include this letter of support in the supplemental materials to the Upper Flint regional water plan to document the Council's support for the proposal.

The Upper Flint Council is pleased to have the opportunity to support this project.

Sincerely,

Donald Chase, Chairman
Upper Flint Council

cc:
Chris Faulkner, EPD

EXECUTIVE SUMMARY

PROJECT TITLE: Georgia Better Back Roads Sediment Reduction Project

INTRODUCTION

Many watersheds in Georgia are impaired due to sediments leaving dirt and gravel roads. In Georgia, there are more than 30,000 miles of county maintained unpaved roads. Many of these roads lose in excess of eighteen (18) tons of soil each year. Many are impassible after heavy rains and adversely impact area streams and lakes. The purpose of this \$100,000 funding request is to reduce sediment loading from dirt and gravel roads primarily in TMDL listed streams and to train county officials responsible for maintaining these roads.

Project activities can be categorized into two groups: 1) BMP treatments of impaired watersheds and 2) statewide educational outreach efforts for county officials charged with maintaining dirt and gravel roads. Multiple sub-watersheds within the Upper Flint River Watershed will be identified by committee members and ranked according to treatment needs and costs. Site selection criteria will also include unpaved roads with stream crossings, unpaved roads in close proximity to state waters and other eroding roads directly upstream. Implementation includes both structural and non-structural BMPs. The USDA Natural Resources Conservation Service (NRCS) will serve as the primary technical resource. The final activity will consist of two (2) statewide Dirt and Gravel Roads Workshops for county officials and their staff.

Targeted accomplishments will include ten (10) Cooperative Working Agreements with participating county governments, ten (10) site visits with county officials interested in adopting BMPs, ten (10) sediment load reduction calculations, forty-five (45) BMPs installed, forty (40) digital photos of treatment sites and two (2) statewide Georgia Better Back Roads Sediment Reduction Workshops.

This proposal will be completed in partnership with a committee comprised of representatives from the Association of County Commissioners of Georgia, the Georgia American Public Works Association, the Georgia Chapter of the American Public Works Association, the Georgia Department of Transportation, the Georgia Environmental Protection Division, the Georgia Forestry Commission, the Georgia Soil and Water Conservation Commission, the US Fish and Wildlife Service and the USDA Natural Resources Conservation Service.

PROJECT OBJECTIVES, GOALS AND ACTIVITIES

Specific Project Objectives

- Restore impaired waters to meet designated use standards by implementing best management practices that reduce road sediments.

Specific Project Activities

- Draft Cooperative Working Agreements for participating county governments
- Rank site selection treatments
- Implement structural and non-structural BMPs
- Conduct Road Sediment Reduction Workshops

Specific Outputs

- Ten (10) Cooperative Working Agreements with participating county governments
- Ten (10) site visits with county officials interested in project participation
- Ten (10) sediment load reduction calculations (Attachment 1)
- Forty-five (45) BMPs installed
- Forty (40) digital project photos of treatments and BMPs
- Two (2) statewide Georgia Better Back Roads Sediment Reduction Workshops
- Ten (10) TMDL implementation site tours with county officials
- Four (4) Semi-annual progress reports for the USEPA Grants Reporting Tracking System (GRTS)
- Two (2) hard copies and an electronic copy of a Final Project Close-Out Report to the GAEPD and USEPA for review and approval

SUPPLEMENTAL INFORMATION

- BMP installations included structural and non-structural practices. Structural practices include grading, shaping and crowning of road surfaces along with modifying drainage ditch contours and outlets. Additionally, other permanent structures such as drop inlets, rock-lined drainage outlets, culverts, sediment retention basins, check dams, stone aggregate and the use of geotextiles were used to achieve adequate sediment reduction. Non-structural best management practices include filter strips, vegetative plantings, hydro-seeding and mulching to trap, filter and hold sediments leaving road shoulders, banks and ditches.
- Before/After Site Photo
- Sediment Load Reduction Calculations

PUBLIC INVOLVEMENT AND COORDINATION

STATE AGENCIES

- The Georgia Department of Transportation
- The Georgia Environmental Protection Division
- The Georgia Soil and Water Conservation Commission

FEDERAL AGENCIES

- The US Army Corps of Engineers
- The USDA Natural Resources Conservation Service
- The US Fish and Wildlife Service

LOCAL GOVERNMENTS, INDUSTRY ENVIRONMENTAL AND OTHER GROUPS, PUBLIC AT LARGE

- The Upper Flint Water Council
- Georgia Chapter of the American Public Works Association
- The Georgia Resource Conservation and Development Council, Inc.
- The Association of County Commissions of Georgia

OTHER SOURCES OF FUNDING

- Ten (10) county governments that will provide cash and in-kind contributions.