

# **Proctor Creek—Headwaters to Chattahoochee River**

## **Watershed Improvement Plan**



**Prepared by:  
Atlanta Regional Commission  
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US EPA’s 9-Key Elements

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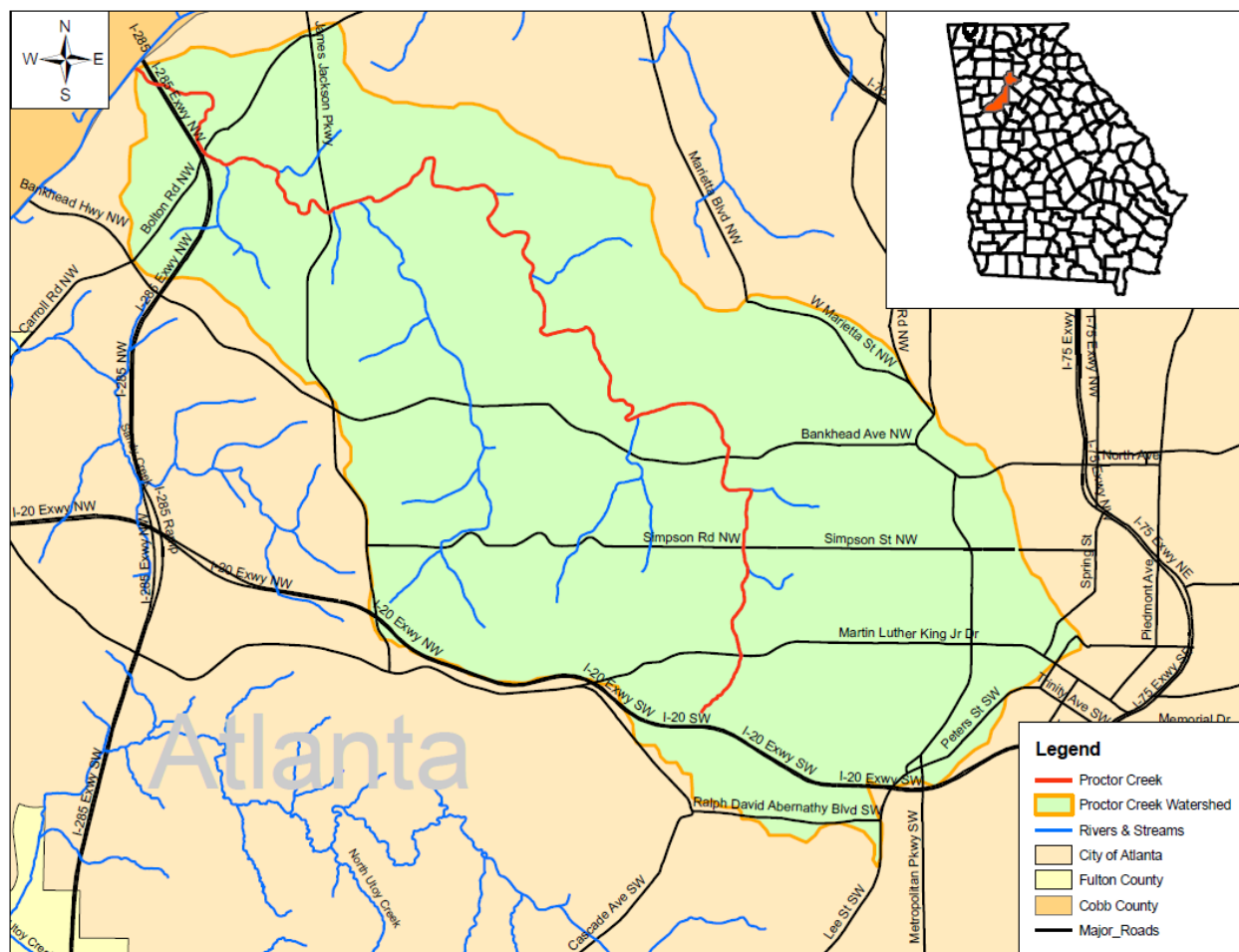
Sign-in Sheet – July 9, 2010  
Proctor Creek Meeting Summary – March 24, 2011  
Sign-in Sheet – August 23, 2011  
Proctor Creek Meeting Summary – August 24, 2011



## Watershed and Segment Description

The Proctor Creek – Headwaters to the Chattahoochee River impaired stream segment is located in the middle portion of the Atlanta Metropolitan region in Fulton County and is wholly contained within the municipal jurisdiction of the City of Atlanta. The stream segment is listed for not meeting the State water quality standards for fecal coliform. The listed portion of the stream is 9 miles long. The segment begins at its headwaters upstream of the Interstate 20 crossing and flows northwest to its confluence with the Chattahoochee River south of the Interstate 285 bridge.

**Figure 1. Location of Proctor Creek Sub-HUC12 Watershed in Fulton County, GA**



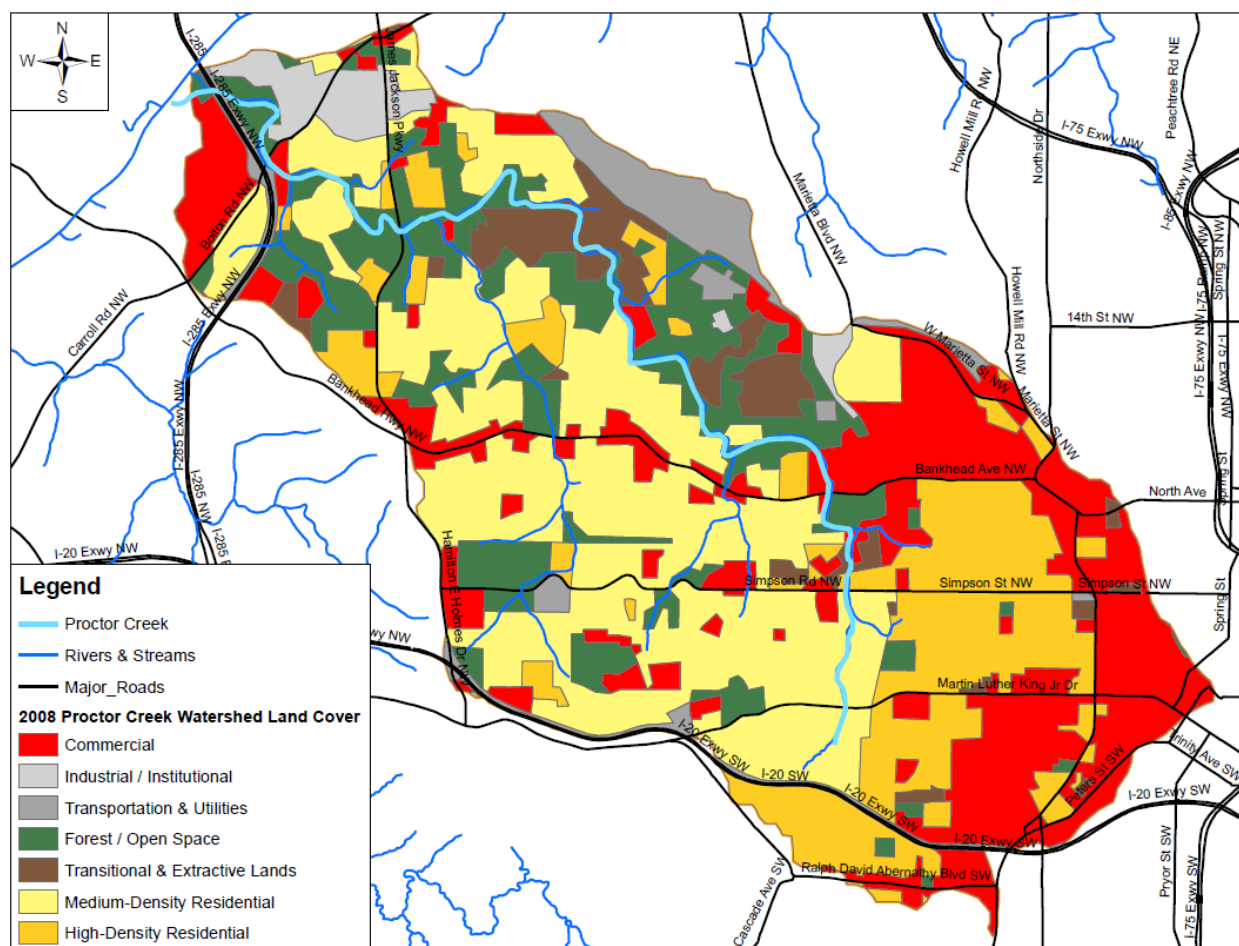
The Proctor Creek – Headwaters to the Chattahoochee River impaired stream segment sub-HUC12 watershed is comprised of approximately 10,198 acres of land. Mapping of the watershed and review of Atlanta Regional Commission's (ARC) 2008 LandPro data in Figure 2 shows that the largest, single land cover type within the watershed consists of residential, which accounts for approximately 49% of the area. The second largest single land cover type is commercial which accounts for approximately 24% of the area.

Table 1 includes acreage by major land use categories and provides a calculated change in land cover type between the 2003 data used to develop the original Total Maximum Daily Load (TMDL) Implementation Plan and the 2008 data used to develop this Watershed Improvement Plan. The land cover data used to develop this table is data developed by the Atlanta Regional Commission in 2008. The land cover has not changed significantly since the TMDL was prepared and is based on aggregated land cover codes as defined by the Atlanta Regional Commission. A table that defines the aggregated Atlanta Regional Commission land cover codes has been included in the Visual Field Survey document for the Proctor Creek impaired stream segment. This document is available at [www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams).

**Table 1. 2003 and 2008 Proctor Creek Sub-HUC12 Watershed Land Cover**

Land Cover Classification	Land Cover 2003		Land Cover 2008		Land Cover Difference	
	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area
Commercial	2418.47	23.72%	2471.44	24.23%	52.97	0.52%
Industrial	251.76	2.47%	273.04	2.68%	21.28	0.21
Forest/Open Space	1502.30	14.73%	1554.18	15.24%	51.88	0.51%
Transportation & Utilities	517.52	5.07%	498.57	4.89%	-18.95	-0.19%
Meduim Density Residential	3223.93	31.61%	3184.18	31.22%	-39.75	-0.39%
High Density Residential	1575.25	15.45%	1698.07	16.65%	122.82	1.20%
Transitional & Extractive Lands	708.62	6.95%	518.37	5.08%	-190.25	-1.87%
<b>Total Acres</b>	10197.85	100.00%	10197.85	100.00%		

**Figure 2. ARC 2008 Land Cover for Proctor Creek Sub-HUC12 Watershed**



Current significant activities related to water quality planning and management in the sub-HUC12 watershed which could influence the water quality impairment within the Proctor Creek impaired stream segment have been compiled from the Georgia Environmental Protection Division's (GA EPD) online databases, personal communication with GA EPD staff, personal communication with affected local governments and stakeholder groups and are included below. The significant activities include: NPDES permitted water pollution control facilities, active or closed landfills, NPDES-permitted municipal separate storm sewer systems, NPDES driven Watershed Assessments and Protection Plans, Sampling and Quality Assurance Plans, erosion and sediment control programs, watershed assessments and Georgia Adopt-a-Stream groups, activities undertaken by Neighborhood Planning Units (NPU) and activities undertaken by other watershed oriented non-profit entities.

### **NPDES Permitted Facilities in the Proctor Creek Sub-HUC12 Watershed**

Water pollution control facilities (wastewater treatment plants) are required to obtain and maintain a National Pollutant Discharge Elimination System (NPDES) permit. These permits are issued by the Georgia Environmental Protection Division's (GA EPD) Watershed Protection Branch and are used to manage and control the discharge of pollutants into the surface waters

of the State or onto land where a land application system is employed. The NPDES permit sets limits on the amount of pollutant that a facility may discharge. For the purposes of this project, the pollutant of concern that is limited by the permit is fecal coliform. Georgia EPD records indicate that there are two NPDES facilities located in the Proctor Creek watershed. The records only provide data through June 2009. The Greensferry CSO facility has been decommissioned and now serves as a pass through for stormwater with no discharges of wastewater occurring. The North Avenue facility has been limited to a total of four permitted discharges per year. Facilities that have obtained a NPDES permit and are located in the Proctor Creek sub-HUC12 watershed are provided in Table 2 below.

**Table 2. Permitted Water Pollution Control Facilities in Proctor Creek Sub-HUC 12 Watershed as of June 2009**

Facility Name	Permit	REC_WATER	HUC12	BASIN	COUNTY
Atlanta West Area CSO (Greens Ferry CSO)	GA0038644	Proctor Creek	031300020101	Chattahoochee	FULTON
Atlanta West Area CSO (Proctor/North Avenue CSO)	GA0038644	Proctor Creek	031300020101	Chattahoochee	FULTON

### **Permitted Solid Waste Disposal Facilities**

Municipal solid waste landfills, construction/demolition waste landfills and solid waste thermal treatment technology facilities must obtain a municipal solid waste disposal permit from the GA EPD. These permits are used to manage the siting, construction, operation and final closure of these facilities. Through this process, permit holders are required to report to the Director of GA EPD the total amount, in tons, of solid waste disposed of quarterly. The permit holder must also report the total capacity remaining in the landfill on a yearly basis as well as the filling rate and the expected date that the facility will be full. Georgia EPD records indicate that there are five permitted facilities located in the Proctor Creek watershed. The records only provide data through June 2005.

Landfills rely on bacterial action in the soil to decompose organic matter that is disposed in them. This combination of moisture, heat from the decomposition process and large supplies of organic matter for the bacteria results in ideal conditions for the production of a large source of fecal coliform bacteria. This bacteria has the potential to exit the facility and enter the stream through surface runoff, leaching into groundwater in cases of un-lined facilities or facilities whose liners have been breached or from overflow from onsite detention ponds.

Table 3 below provides the names of permitted landfills located in the Proctor Creek sub-HUC12 watershed and also provides the operational status (operating/inactive/closed) where the data was available.



**Table 3. Landfills in Proctor Creek Sub-HUC 12 Watershed as of June 2005**

Landfill Name	CntyName	City	Permit_No	Operation
Grove Park	FULTON			
Skinner - Watts Rd.	FULTON			
Atlanta - Gun Club Road	FULTON	ATLANTA	060-026D(SL)	Closed
Field Road #1	FULTON			
Fields Road No. 2 Atlanta Landfill	FULTON		060-033D(L)	Inactive

**NPDES-permitted Municipal Separate Storm Sewer Systems (MS4)**

Municipal separate storm sewer systems (MS4) that discharge to surface waters are required to have a permit under the federal 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 whereas Phase II communities are covered under a general permit. Prior to permit issuance and renewal, both Phase I and II permittees are required to submit a Stormwater Management Plan (SWMP) to GA EPD. The Proctor Creek Sub-HUC12 watershed contains one permitted MS4 system. This system is permitted as a Phase I community and is provided in Table 4.

**Table 4. NPDES-permitted Municipal Separate Storm Sewer Systems (MS4)**

Permit Number	Permit Name	Issued Date	Permit Type
GAS000100	Atlanta	June 2009	Phase I

**Watershed Assessments and Protection Plans**

In addition to the Federal NPDES wastewater permit requirement, GA EPD requires watershed monitoring plans, watershed assessments, and watershed protection plans from all publicly owned water pollution control facilities greater than 1.0 million gallons per day (MGD) or for new or expanding facilities. Recognizing that existing and additional wastewater capacity supports growth, the local wastewater providers must address the potential for water quality impacts from stormwater runoff and nonpoint source pollution that would result from that growth.

Each of the three plans must receive approval by GA EPD and the permit holder must also submit yearly progress reports detailing activities undertaken to implement elements of the Watershed Protection Plan.

**Table 5. NPDES Driven Watershed Assessment Documents**

Jurisdiction	Report	Monitoring Plan	Date	Watershed Assessment	Date	Protection Plan	Date
City of Atlanta	City of Atlanta	X	Jul. 06	X	Jun. 09		

## Erosion and Sediment Control Programs

Georgia's Erosion and Sedimentation Control Act (ESCA) was first passed in 1975 to protect Georgia's waters from soil erosion and sediment deposition. The Act requires permits for land-disturbing activities on sites one acre or larger as well as an erosion, sedimentation and pollution control (ES&PC) plan for preventing and/or minimizing erosion and sedimentation from the activity. In addition, the regulations require undisturbed buffers between the land-disturbing activity and streams to minimize adverse impacts to water quality. Development is not allowed within 25 feet of most streams in Georgia. Unlike the NPDES Construction Permit, the ESCA is administered primarily through the Local Issuing Authority (LIA). LIA's in the Proctor Creek watershed includes:

- **City of Atlanta**



Land disturbing activity greater than one acre in scope



Chattahoochee River Corridor, Fulton County

## Metropolitan River Protection Act

In 1973, the Georgia General Assembly passed the Metropolitan River Protection Act (MRPA) to provide protection to the land and water resources of the Chattahoochee River between Buford Dam and Peachtree Creek. MPRA established the 2,000-foot Chattahoochee River Corridor on both banks of the River and authorized the Atlanta Regional Commission (ARC) to adopt a plan for its protection.

Under the Chattahoochee Corridor Plan, all

development activities in the Corridor must be consistent with plan standards to be approved. These standards include limits on land disturbance and impervious surface, buffers and setbacks on the river, and floodplain requirements. The Act was amended in 1998 to extend the Corridor to the downstream limits of Fulton and Douglas Counties. The jurisdictions impacted by MRPA should ensure that all land development permittees within the Corridor have completed a MRPA review by ARC and, when necessary, adopt the review recommendations as permit conditions.

### **Watershed Associations and Other Stakeholder Activities**

Objectives of the Watershed Improvement Planning process are to develop stakeholder capacity for monitoring water quality in the selected watershed and to secure funding for implementing selected management measures. In order to ensure continuity between the conclusion of water quality monitoring and development of the Watershed Improvement Plan, which are both covered by GA EPD's 604(b) Contract, and eventual implementation of the chosen management measures, the 604(b) Contract requires the development of a Partnership Advisory Council. Not all of the watershed associations and stakeholders listed below were members of the Partnership Advisory Council. However, all of the listed organizations below are contributing to the improvement of water quality conditions in the watershed and attended stakeholder meetings.

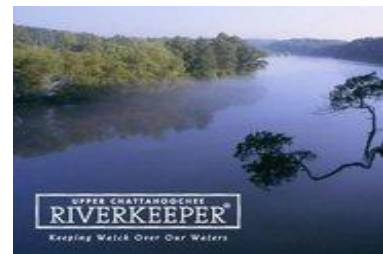
#### **1. City of Atlanta Bureau of Watershed Management**

The Bureau of Watershed Protection has responsibility for the City's grease management, green space protection, stream bank stabilization, flood prevention, erosion control, land development regulation and site development plan review programs. It is currently overseeing development of a stormwater utility.



#### **2. Upper Chattahoochee Riverkeeper**

The Upper Chattahoochee Riverkeeper's advocates and works to secure the protection and stewardship of the Chattahoochee River, its tributaries and watershed, in order to restore and preserve their ecological health for the people and wildlife that depend on the river system.



#### **3. West Atlanta Watershed Alliance (WAWA)**

WAWA is a community based non-profit organization whose mission is to improve the quality of life for the residents in West Atlanta by protecting, preserving and restoring the community's natural resources. WAWA advocates for preserving greenspace, protecting and improving water quality, and promoting good environmental health within the Proctor, Sandy, and Utoy Creek Watersheds.



**4. Community Improvement Association**

The Community Improvement Association is a non-profit organization that is located in the English Avenue community and its mission centers around improving water quality in the Proctor Creek watershed.

**5. Park Pride**

Park Pride coordinates 60 “Friends of the Park” groups, works with communities to develop conceptual plans for their parks through the Park Visioning program and engages and serves communities by focusing on advocacy efforts as well as getting people involved in the Adopt-a-Park, Fiscal Partners and Micro Grant programs. Park Pride has developed a green infrastructure vision for the Proctor Creek/North Avenue Watershed Basin.



**6. The Trust for Public Land (TPL)**

The Trust for Public Land is a national, nonprofit, land conservation organization that conserves land for people to enjoy as parks, gardens, historic sites, rural lands, and other natural places. TPL is one of the organizations available to communities who are seeking to protect special places and create close-to-home parks in and near cities.



**7. Neighborhood Planning Unit G (NPU-G)**

NPU-G is located northwest of downtown Atlanta and includes the neighborhoods of Rockdale, West Highlands, Almond Park, Carver Hills, Scotts Crossing, Carey Park, Brookview Heights, Monroe Heights, Lincoln Homes, Chattahoochee, English Park and the Atlanta Industrial Park. NPU-G joined with the Georgia Conservancy's Blueprints for Successful Communities to create a master plan emphasizing quality growth, economic development and natural resource enhancement.



**8. City of Atlanta Adopt-a-Stream Program**

The goals of the Georgia Adopt-A-Stream program are to (1) increase public awareness of the State's nonpoint source pollution and water quality issues, (2) provide citizens with the tools and training to evaluate and protect their local waterways, (3) encourage partnerships between citizens and their local government, and (4) collect baseline water quality data.



**9. Atlanta Regional Commission**

The Atlanta Regional Commission (ARC) is the regional planning and intergovernmental coordination agency for the 10-county area including Cherokee, Clayton, Cobb, DeKalb,



ATLANTA REGIONAL COMMISSION



Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale counties, as well as the City of Atlanta.

### **General Characteristics of the Individual Impaired Stream Segment**

The Proctor Creek impaired stream segment is bordered by a vegetative buffer that varies from old growth hardwoods in the uppermost headwaters of the segment, to City maintained parks, to a protected natural area in the last 2 – 3 miles of the segment. Other areas lacked a true vegetative buffer with some residential yards maintained to the stream bank and other areas consisting of stacked gabions to control erosion and sedimentation. Much of the vegetative buffer between the headwaters and Simpson road were almost completely covered by kudzu. The density of the kudzu decreases further down the stream and was almost non-existent through the protected natural area.



Kudzu covered bank upstream of I-20

The field findings discussed here are the results of the visual field survey performed adjacent to and at specific accessible points throughout the designated segment. The character of the watershed can be described as heavily urbanized with the majority of land cover consisting of residential and commercial areas. The watershed consists of many smaller arterial streets, Bankhead Hwy which bisects the watershed from east to west, and portions of two major interstates, I-20 and I-285.

### **Visual Field Survey**

A visual field survey was conducted on August 31, September 4, and September 9, 2009. The purpose of the survey was to validate and assess land cover data and identify possible sources of pollution. A visual field survey consisting of a windshield survey of the area adjacent to the stream segment and a stream walk of all accessible portions of the 9 mile segment provided a general knowledge of the watershed and allowed for detection of unknown point and non-point sources of pollution contributing to the impairment. The survey revealed potential non-point sources of pollutants that may affect Proctor Creek. These included: urban runoff, aging or previously repaired sanitary sewer lines which cross the creek, signs of terrestrial and aquatic wildlife activity; domestic animals with access to, or in close proximity of, the creek; areas where erosion control could be improved; and, excessive amounts of trash and debris that had either washed into the creek or been deliberately placed there.

The Proctor Creek impaired stream segment is a perennially flowing, warmwater, clearwater stream. The substrate is dominated primarily by sand (0.06 - 2mm diameter), but the segment also has areas that are composed of a mixture of gravel (2 -64mm), cobble (64 – 256mm), boulders (>256mm), exposed bedrock and small amounts of deposited silt and clay depending on the site at which the substrate is surveyed. One section, beginning downstream of Burbank Dr. and ending downstream of Simpson Rd., consists of an entirely concrete stream channel. The riparian zone on each bank consists of a partly shaded to shaded canopy which is

dominated by trees with a thick underbrush in non-developed portions of the segment. Near residential area, utility crossings, and commercial areas, the canopy became much more open or was non-existent.

Evidence of bank slumping, incising and stream bed erosion is apparent throughout much of the 9 mile segment. Local water erosion (not including that which results from in-channel stormwater loads) is moderate in nature with stormwater ditches and sediment accumulation present within the impaired segment. There were isolated instances of wildlife damage to the stream banks where the banks had been worn down from beaver and deer accessing the creek. Rainfall has begun eroding these trails. Beaver activity was noted within the natural area and south to the confluence with the Chattahoochee River. This included signs of feeding, cut vegetation, scat, but no signs of dam building.

Areas of fallen trees and resultant sediment accumulation which constrict the stream were noted much more frequently in the headwaters than were noted further downstream. There were several instances where sanitary sewer lines crossing the segment were blocking larger debris such as tree logs and wood pallets and flow is restricted at these points with a resulting accumulation of sediment and trash debris.

There had not been any rain within 24 hours prior to the visual field survey which resulted in the water clarity being very clear for most of the stream segment. Only one portion of the stream showed signs of opaque turbidity. This section was located between Simpson Rd and North Ave. The water was an opaque brown but no obvious sources for this coloration could be determined. At North Ave, the water became very foamy and there was a slight chemical odor.

Samples of sediment removed from the stream bed did not give off any unusual smells. There were instances of chemical odors at various points along the impaired segment but no obvious sources of these odors were identified. Periphyton was noted on the stream bed substrate throughout the majority of the stream where suitable substrates such as cobble, gravel, boulders, or bedrock were present. Filamentous algae approximately 2 – 3 inches in length were also noted growing on streambed substrate, especially below the confluences of tributary inflow.

#### Potential Sources of Pollution

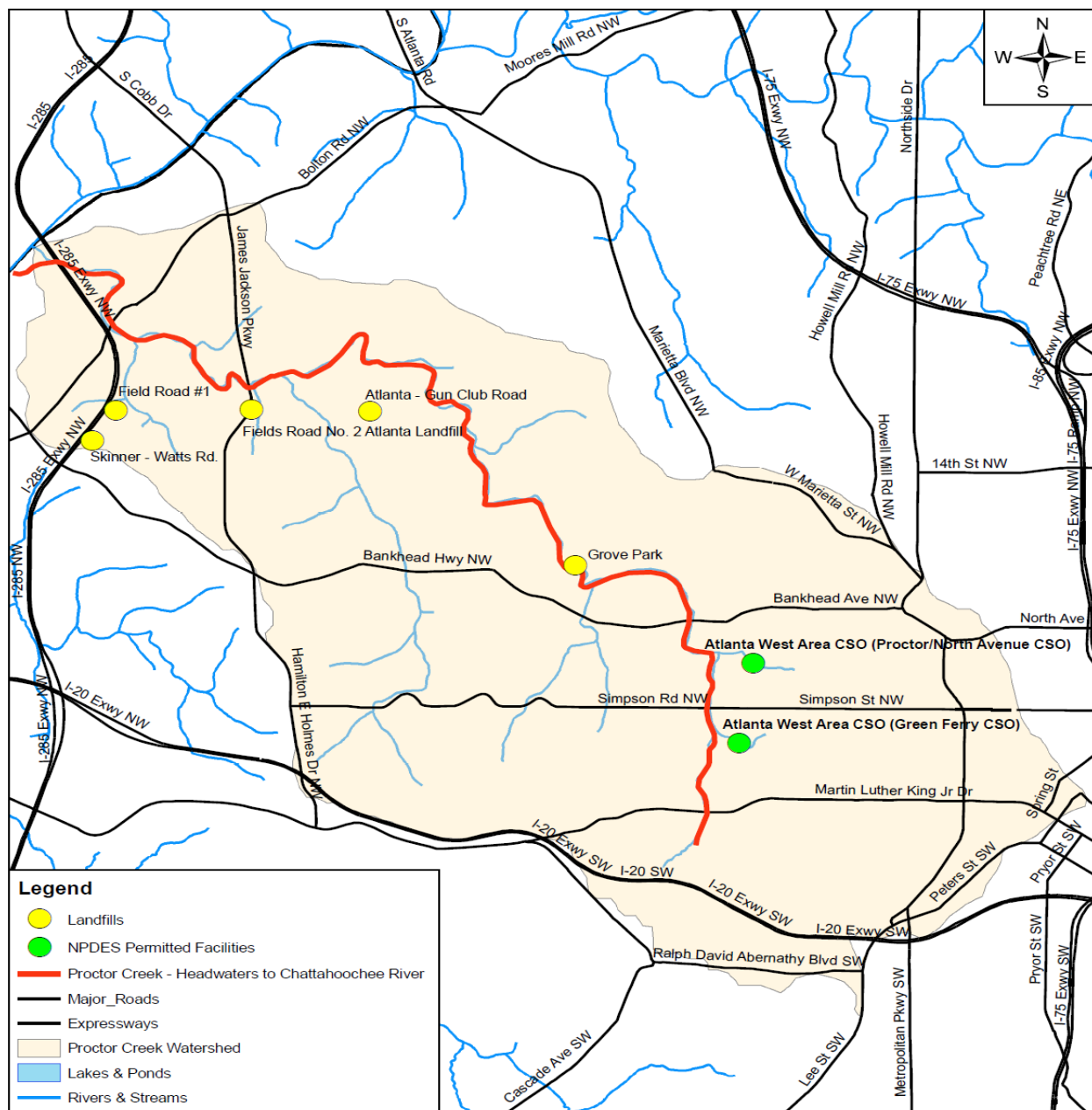
Prior to beginning the field study, NPDES permitting data obtained from Georgia EPD, and enforcement history obtained from the U.S Environmental Protection Agency (US EPA) were studied to determine the locations of any known point sources and potential individual sources of pollution in relation to the area of interest. Additionally, 2009 aerial photos were compiled and used to further evaluate land use along the stream prior to the beginning of field observations.

#### *Point Sources*

A total of 7 permitted facilities were identified within the watershed. Of the 7 facilities, 2 are permitted through the National Pollutant Discharge Elimination System (NPDES) permitting process and 5 are landfills. The two NPDES facilities are City of Atlanta combined sewer overflow (CSO) facilities which no longer discharge to Proctor Creek on a regular basis. The

Greensferry CSO facility has been decommissioned and currently serves as a flow-through facility for stormwater. The North Avenue facility is allowed a maximum of 4 discharge events per year. The location of all permitted facilities is provided in Figure 3 and specific facility information for NPDES permitted facilities and landfills is provided in Tables 2 and 3 respectively.

**Figure 3. Permitted Facilities Located in the Proctor Creek Sub-HUC12 Watershed**



## *Non-Point Sources*

The visual field survey revealed potential non-point sources of pollutants that may affect Proctor Creek. These included: urban runoff, aging or previously repaired sanitary sewer lines which cross the creek, signs of terrestrial and aquatic wildlife activity; domestic animals with access to, or in close proximity of, the creek; areas where erosion control could be improved; and, excessive amounts of trash and debris that had either washed into the creek or been deliberately placed there.

Sources of bacterial contamination are diffuse in any watershed. This fact is only further confounded when the watershed is in a highly urbanized, metropolitan area where there exists a high percentage of effective impervious cover, aging infrastructure, large-scale rehabilitation/separation projects of existing infrastructure and older housing stock.

Based on field observations and the results of E.coli data collected between August 2010 and July 2011, the list of potential sources of bacterial contamination identified during the Visual Field Survey have been refined. This refined list is not exhaustive and does not include every “potential” source but those that have the **most significant impact** on the segment. These potential sources include:

### **1. Collapsed line/cross connection upstream of the Greensferry CSO facility**

During the course of the 2011 monitoring activities, a broken sewer line was discovered to be leaking into the storm sewer system and discharging into the Greens Ferry CSO tributary which flows into Proctor Creek. Work crews were sent to the scene and repaired the breaks. However, this did not decrease the level of E.coli in samples pulled from sample location P2 - #6 which is located just upstream of the Greens Ferry CSO tributary's confluence with Proctor Creek.

Subsequent smoke testing of the entire basin upstream of the Greensferry CSO has not indicated that an issue exists with the sanitary sewer infrastructure. There were no indications that a collapsed line or cross connection was the cause of the elevated levels of E.coli.

### **2. Trash**

Trash that has either been thrown from an overpass, thrown from the back steps or windows of an apartment near a tributary or creek, washed from road medians, or deliberately dumped within the riparian zone is apparent at restricted flow points. The trash consists of items such as potato chip bags, grocery carts, sofas, plastic bags, fast food items, beer and liquor bottles and baby diapers. The vegetation, either acting as a barrier across the stream channel, or hanging low near the water and serving as a strainer, accumulates this material in restricted flow areas. Trash plays a double role as a potential pollutant source by not only contributing to the bacterial



Over-capacity dumpster near  
Greensferry Tributary



impairment through utilization as a food source by bacteria, but also in acting as an attractant for vermin such as rodents and birds which enter the riparian areas or stream banks to feed and defecate.

### **3. Wildlife/Domestic Animal Waste**

Wildlife tracks observed during the 2011 monitoring activities included those of raccoons, birds, deer, beaver and domestic cats and dogs. Animal trails were evident on the stream bank suggesting regular access of the creek by wildlife. Numerous scats from various animal sources were found on the creek bed as well as along the banks. Signs of domestic animals and wildlife were prevalent throughout the course of the sampling events. Stray or unrestrained dogs were noted at several of the sample locations as well as throughout the residential areas of the watershed. Pigeons, taking advantage of infrastructure underneath bridge crossings, are contributing to the impairment as well.

### **4. Urban Runoff**

The watershed is very urbanized and existing impervious surface contributes a large amount of runoff to the Proctor Creek impaired stream segment. Anything deposited on these impervious surfaces may enter the creek via the storm sewer system or through direct runoff to the stream. This potentially includes animal wastes, trash, leachate from trash dumpsters and biofilms from street curbing. The concrete Greens Ferry CSO channel may be contributing additional, non-anthropogenic E.coli to Proctor Creek due to the biofilm that can be seen growing there during the hot, summer months.

### **5. Sanitary Sewer Overflows**

No active sanitary sewer overflows were noted during the course of the sampling events. However, it was common to find manholes with missing manhole covers. After searching near the manholes, it was concluded that the covers were completely missing in some instances perhaps due to theft. In other instances, the manhole covers were still on the top of the manhole but perched at an angle exposing the interior of the manhole to the elements. In the final example of what was noted, the cover had been lifted completely off and was lying on the ground near the manhole. It may be assumed that in the instances where the manhole cover was still present but not in its proper place that either someone tried to remove the cover and found it to be too heavy to carry or there was a large wet weather event in the sewer line which resulted in an overflow and the shifting of the covers.

### **6. Other Potential Sources of Bacterial Pollution**

Other potential sources of bacterial contamination identified in the watershed include aging or previously repaired sanitary sewer infrastructure and local/instream erosion.

#### *Aging or Previously Repaired Sanitary Sewer Infrastructure*

There were a number of sanitary sewer lines crossing Proctor Creek. Some of the lines had previously been repaired. While no odors or signs of leaks were immediately apparent, some of the lines showed obvious signs of aging, such as flaking rust and divots in the metal, and could become a potential contributor of fecal coliform in the

future. Suspect pipes, with the potential to contribute to bacterial loading in the stream, were immediately reported to City of Atlanta Department of Watershed Management staff. This immediate reporting resulted in the replacement of one sanitary sewer crossing downstream of Johnson Rd, a sanitary sewer and storm sewer repair at Troy St near Greensferry CSO and inspection and notification to the owner of an improperly repaired, private service lateral crossing adjacent to Rockmart Dr. These accomplishments are documented in the photographs that follow.



Replaced sanitary sewer crossing downstream of Johnson Rd.



City of Atlanta Crew repairing broken sewer and storm lines



Identified private lateral crossing adjacent to Rockmart Dr.

### *Local/Instream Erosion*

Most instances of potential sediment loading immediately adjacent to the stream appear to be the result of stormwater runoff cutting gullies and ditches through the riparian zones to the stream. This has the potential to result in the accumulation of excessive sediment within channel bends and behind vegetative dams. In order to combat excessive bank failure, many sections of creek bank have been stabilized with stacks of wire-cage gabions.

## **Water Quality Impairments and Total Maximum Daily Loads (TMDLs)**

The area of study for this Watershed Improvement Plan includes one impaired stream segment located in the Chattahoochee River Basin. The stream segment is Proctor Creek – Headwaters to the Chattahoochee River and consists of 9 miles of stream and drains an area of approximately 10,198 acres. The Proctor Creek sub-HUC12 watershed is located entirely within the jurisdictional boundaries of the City of Atlanta.

The impaired stream segment is listed for violating the State water quality standards for fecal coliform. As can be seen in Table 7, the State water quality standard for fecal coliform is 1,000 colony forming units (cfu) per 100 mL (geometric mean Nov-April) and 200 cfu/100 mL (geometric mean May to Oct). Due to the violation of the fecal coliform standard, the stream fails to meet its designated use of fishing.

**Table 6. Stream – Not Supporting Designated Use**

Reach Name/ Data Source	Reach Location/ County	River Basin/Use	Criterion Violated	Potential Causes	Extent (Miles)	Category	Notes
Proctor Creek	Headwaters to Chattahoochee River	Chatt. River Basin	FC	UR, CSO	9	4a	TMDL completed FC
	Fulton County	Fishing					

**Table 7. Water Quality (WQ) Standard**

PARAMETER	STANDARD
Fecal Coliform Bacteria (FC)	1,000 per 100 mL (geometric mean Nov – April) 200 per 100 mL (geometric mean May – Oct)

The 2004 TMDL Implementation Plan for Proctor Creek lists urban runoff, animal waste, sanitary sewer overflows and combined sewer overflow facilities as the major sources of impairment. As shown in Table 8 below, the Revised Chattahoochee River Basin TMDL for Fecal Coliform (November 2008) requires a reduction of 97% in order to bring the impaired stream segment back into compliance with the State water quality standard for fecal coliform. The 2008 TMDL document does not provide percent reductions for each potential source of fecal coliform. Rather, the 97% reduction is a cumulative reduction from all identified sources.

**Table 8. Fecal Loads and Required Fecal Load Reductions**

Stream Segment	Current Load (cnts/30 days)	TMDL Components (cnts/30 days)					Percent Reduction
		WLA	WLA <sub>sw</sub>	LA	MOS	TMDL	
Proctor Creek	2.55E+13	Q*200 <sup>a</sup>	4.55E+11	2.84E+11	8.22E+10	8.22E+11	97%

### **Targeted Watershed Monitoring Data**

The Atlanta Regional Commission (ARC), in cooperation with the Georgia Environmental Protection Division (GA EPD), the City of Atlanta's Department of Watershed Management, and other interested stakeholders developed a monitoring plan for the impaired stream segment Proctor Creek – headwaters to the Chattahoochee River in 2009. The plan was developed in accordance with GA EPD "Monitoring Guidelines" and the Georgia Adopt-A-Stream Bacterial Monitoring Manual. Funding for the development of this Monitoring Report was provided in part

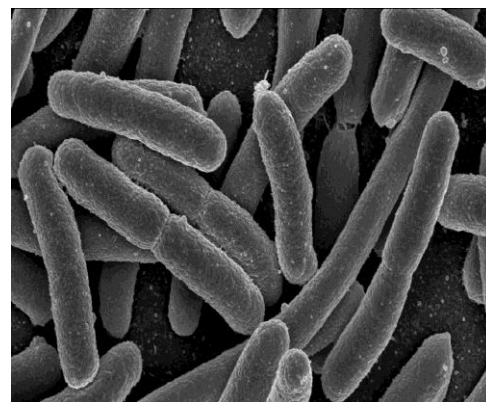
by the Georgia Environmental Protection Division of the Department of Natural Resources, through a grant from the U.S. Environmental Protection Agency under the Provisions of Section 604(b) of the Federal Water Pollution Control Act, as amended.

The primary objective of this targeted monitoring was to complete the collection of samples for E.coli enumeration and analysis by fluorometry and identify the primary sources of bacterial pollution. A secondary objective was to continue building capacity among interested stakeholders and conduct outreach to the community where the samples were collected. A watershed improvement approach was adopted by the stakeholder groups in order to locate the most obvious potential sources of bacterial contamination. A watershed approach relies on monitoring locations placed throughout the watershed in order to determine the contributions to the impaired stream from the different areas of the watershed.

#### 2010 – 2011 Targeted E.coli Monitoring Data

The parameters of concern for this project were *Escherichia coli* bacteria (E.coli) and optical brighteners. E. coli was chosen as the parameter of concern rather than the State's fecal coliform standard because studies have shown E.coli to be a better indicator of potential harmful pathogens in a waterbody, is only found in the intestinal tract of warm blooded animals and can be analyzed at a very low cost by volunteer groups.

Samples were collected for E.coli between August 12 and September 9, 2010 and April 9 and July 19, 2011. Samples for the detection of optical brighteners by fluorometric analysis were collected between August 12 and September 2, 2010 and April 9 and May 17, 2011. The presence of optical brighteners in conjunction with a high E.coli count could potentially mean that a human source of bacterial impairment is present.



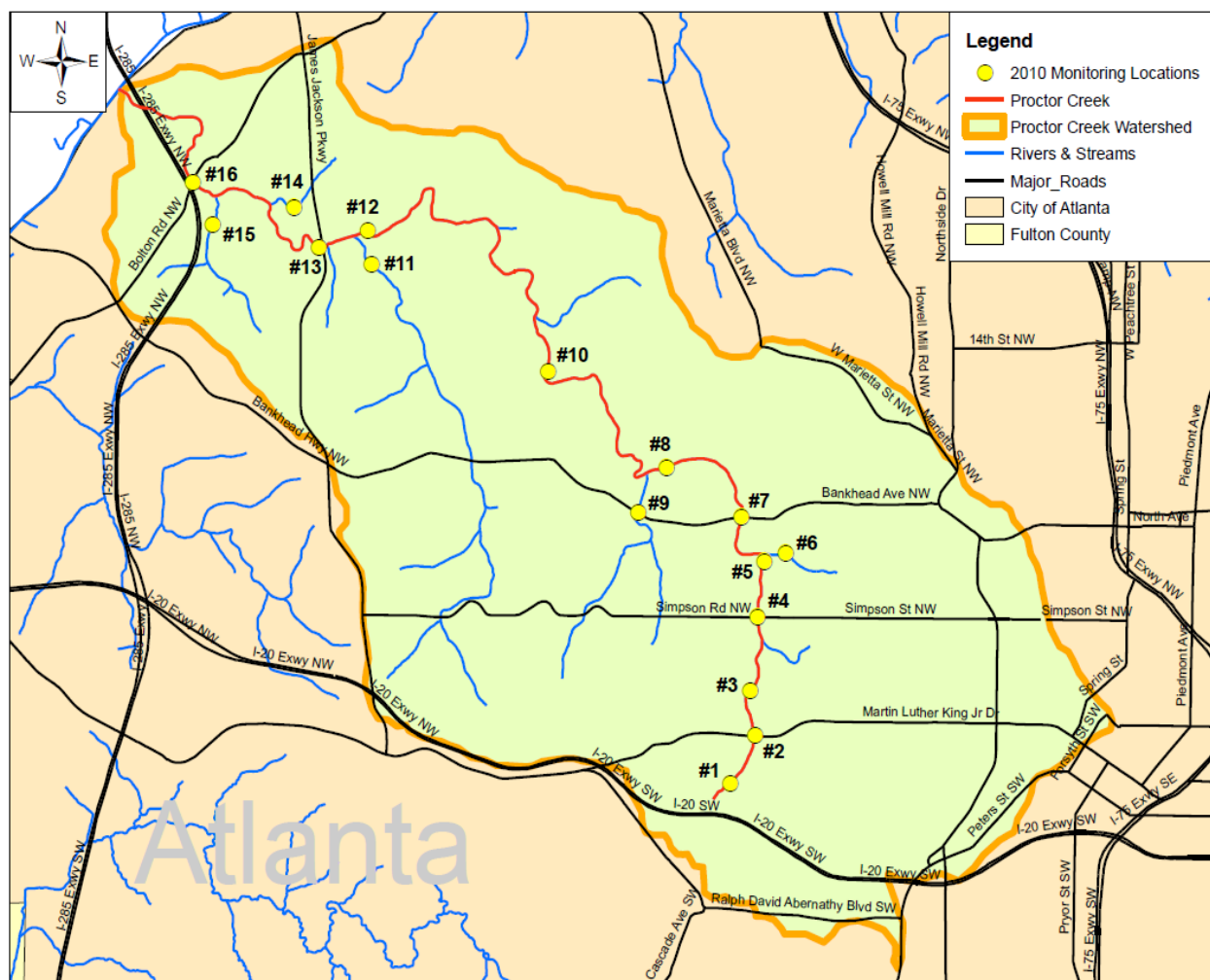
E.coli bacteria

Georgia Adopt-a-Stream suggests using 1000 cfu/ 100 mL of water as an E. coli standard. They suggest taking further action, such as bacteria source tracking and contacting local officials once levels reach this point. The US Environmental Protection Agency (EPA) recommends an E. coli standard of 576 cfu/ 100 mL of water for streams designated for "infrequent swimming."

E.coli samples were collected from each targeted monitoring location. One sample was collected at each targeted monitoring location for a total of 16 samples per sampling event for the period of August 12 – September 9, 2010. A map of the 2010 targeted monitoring locations is provided as Figure 4.



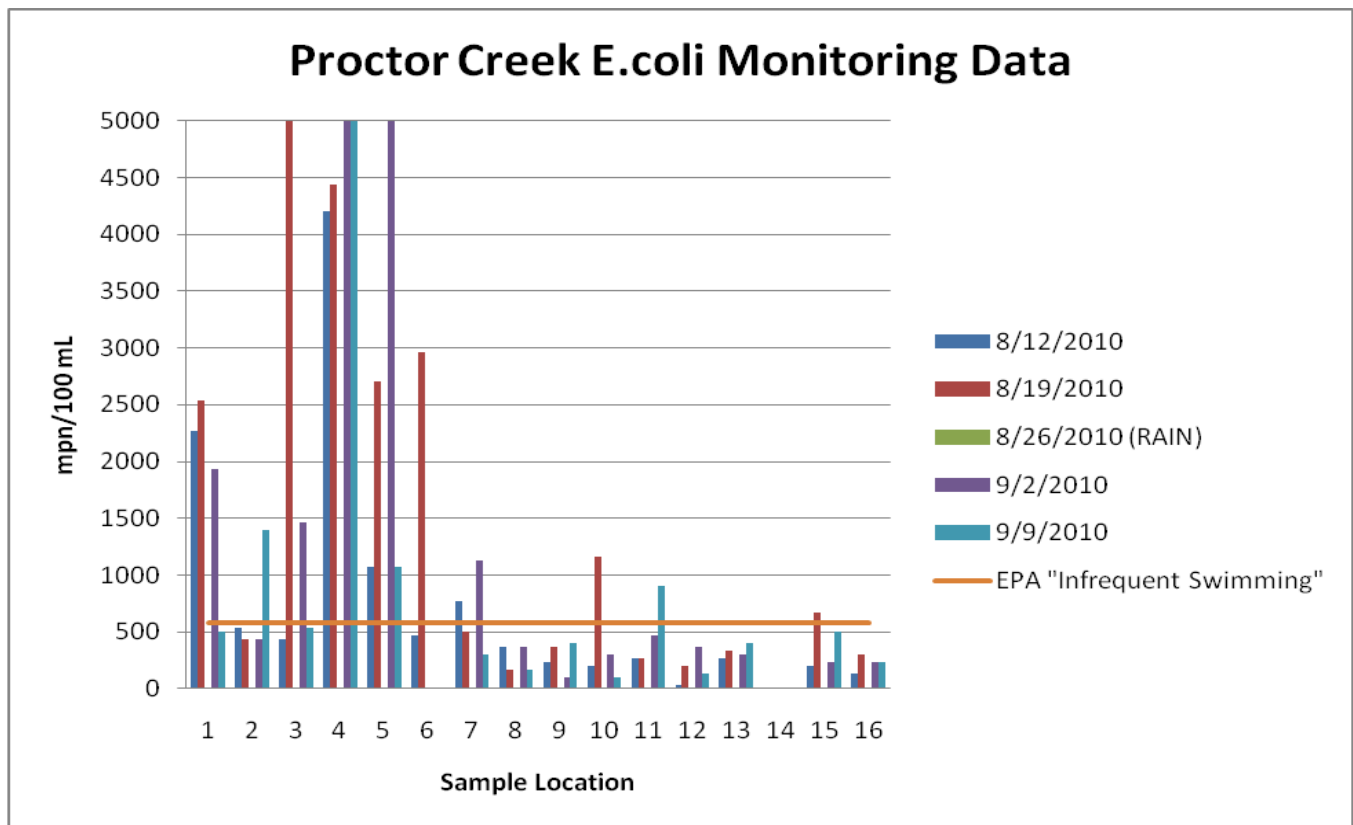
**Figure 4. 2010 Proctor Creek Targeted Monitoring Locations Map**



A review of the data given in Figure 5 shows that the suggested 576 mpn/100 mL criteria was surpassed on 20 occasions over the course of the sampling events. The 20 overages primarily occurred at Sample Locations 1 - 5. A few of the samples were too numerous to count (TNTC). A reading of TNTC in the absence of recent rainfall is an indicator of extreme levels of E.coli in the sample. Additional monitoring and a visual survey of the area should occur if a TNTC reading occurs. The location from which TNTC samples were collected should also be reported to the appropriate local authorities. TNTC results were obtained at sample location #3 on August 19, 2010 and at sample location #4 on September 2 and September 9, 2010.

Although sampling occurred on August 26, 2010, the data are not included due to the occurrence of a rainstorm prior to the sampling event. This is based on GA Adopt-a-Streams guidelines for sampling after rain events. Instead, the 26<sup>th</sup> has been marked as "RAIN".

**Figure 5. 2010 Proctor Creek E.coli Monitoring Data**



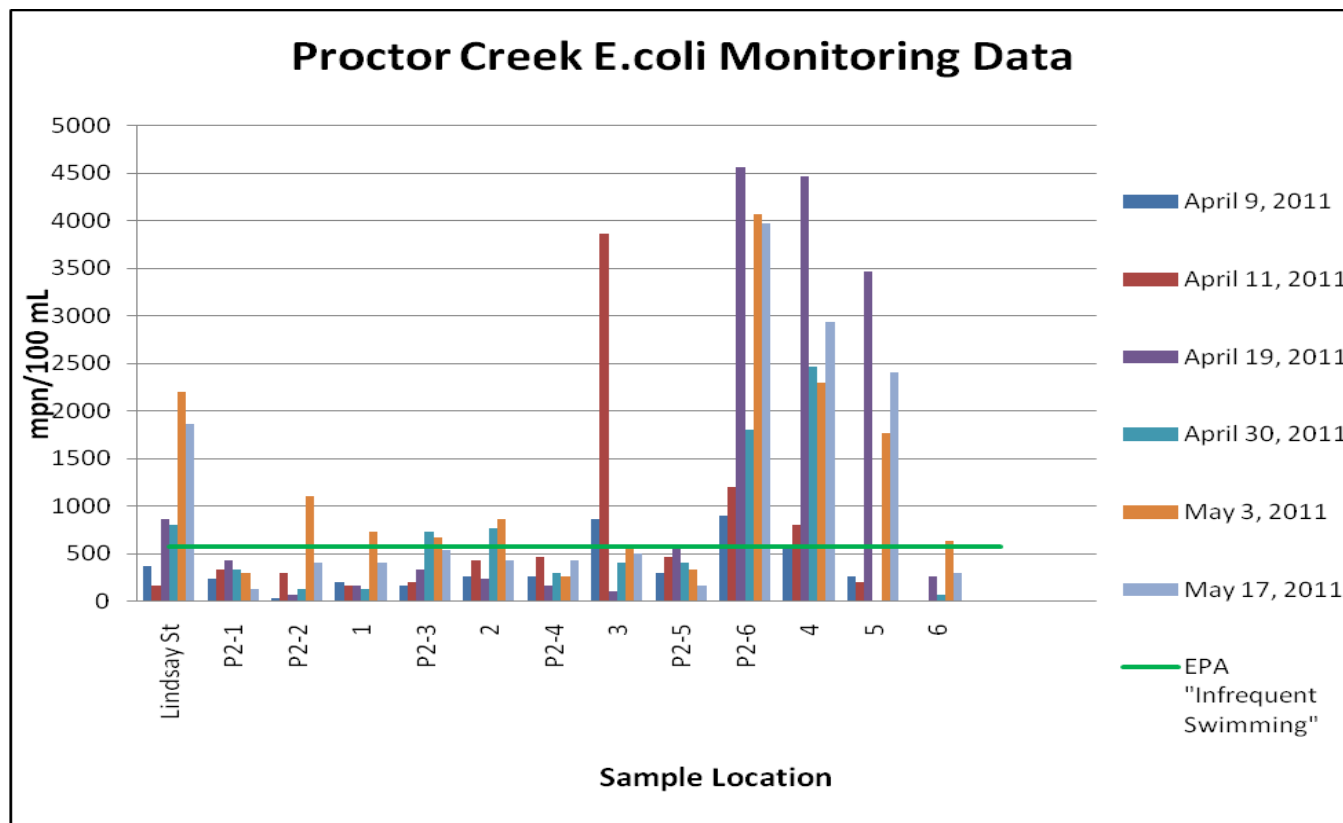
Based on the data collected between August 12 and September 9, 2010, the list of sample locations was refined to target those areas which consistently exceeded the 576 cfu/ 100 mL US EPA recommended criteria. This refinement resulted in a list of twelve sample locations plus an additional sample location at Lindsay Street which was requested by the Community Improvement Association. These locations were sampled between April 9 and May 17, 2011. A map of the refined 2011 targeted monitoring locations is provided as Figure 6.

This map illustrates the Proctor Creek watershed, highlighting the locations of Combined Sewer Overflows (CSOs) and planned P2 (Pollution Prevention) projects. The watershed is bounded by I-20 to the south and the city limits to the north and east. Key features include:

- CSOs:** Two major CSOs are identified: the **Proctor/North Ave CSO** (marked with a red dot) and the **Green Ferry CSO** (marked with a red dot).
- P2 Projects:** Six P2 projects are marked with yellow dots and labeled: **P2 - #1**, **P2 - #2**, **P2 - #3**, **P2 - #4**, **P2 - #5**, and **P2 - #6**.
- Streets:** The map shows a grid of streets, including major thoroughfares like I-20, I-26, and various local streets such as North Ave NW, Simpson Rd NW, and Martin Luther King Jr Dr SW.
- Geographic Features:** The Proctor Creek is shown flowing through the watershed, and the city limits are indicated by a dashed line.

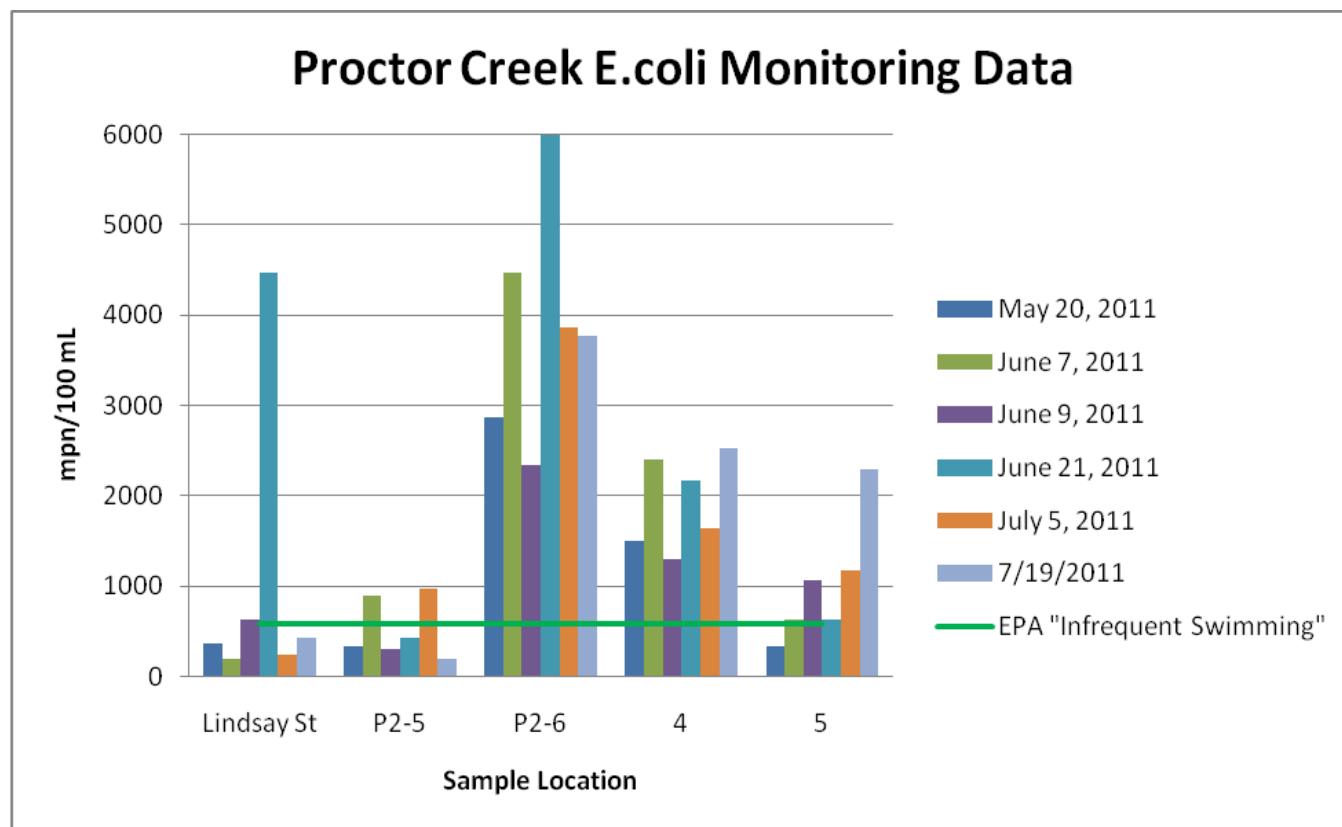
The results of E.coli monitoring of the refined sample location list are provided in Figure 7. A review of the data collected between April 9 and May 17, 2011 shows that the suggested 576 cfu/100 mL criteria was consistently surpassed at sample location P2 - #6 and at the sample locations downstream of this point (sample location numbers 4 and 5) over the course of the sampling events.

**Figure 7. 2011 Proctor Creek E.coli Monitoring Data**



Based on the data collected between April 9 and May 17, 2011, the list of sample locations was further refined to target those areas which consistently exceeded the 576 cfu/ 100 mL US EPA recommended criteria. This refinement resulted in a list of four sample locations plus an additional sample location at Lindsay Street which was requested by the Community Improvement Association. These locations were sampled between May 20 and July 19, 2011. The results of this E.coli monitoring are provided in Figure 8.

**Figure 8. 2011 Proctor Creek E.coli Monitoring Data for Refined Sample Location List**



Additional samples were collected near the continuous sample location sites as deemed necessary. These areas included collections from the tributary and stormwater outfalls upstream of sample location P2 - #6 near the Greens Ferry CSO facility, samples collected from tributaries which empty into Proctor Creek between established sample locations such as exists between sample locations P2 - #4 and sample location #3 and samples collected from storm sewer manholes suspected of being influenced by a sewer leak or cross connection.

#### 2010 – 2011 Targeted Fluorometry Monitoring Data

Samples for detection of optical brighteners by fluorometric analysis were collected between August 12 and September 2, 2010 as well as between April 9 and May 17, 2011. Data obtained from samples collected during 2010 has not been included in this report. These samples were collected and analyzed in the field and the results were not found to be reproducible or stable.

The data provided on the following page is the result of data collected during the 2011 sampling season. These samples were collected in the field with subsequent fluorometric analysis conducted in a stable, indoor environment. The fluorometry readings were used to create a “profile” for the refined segment of Proctor Creek and are provided as Figure 9. Samples collected from tributaries to Proctor Creek are not included in the profile but have been included

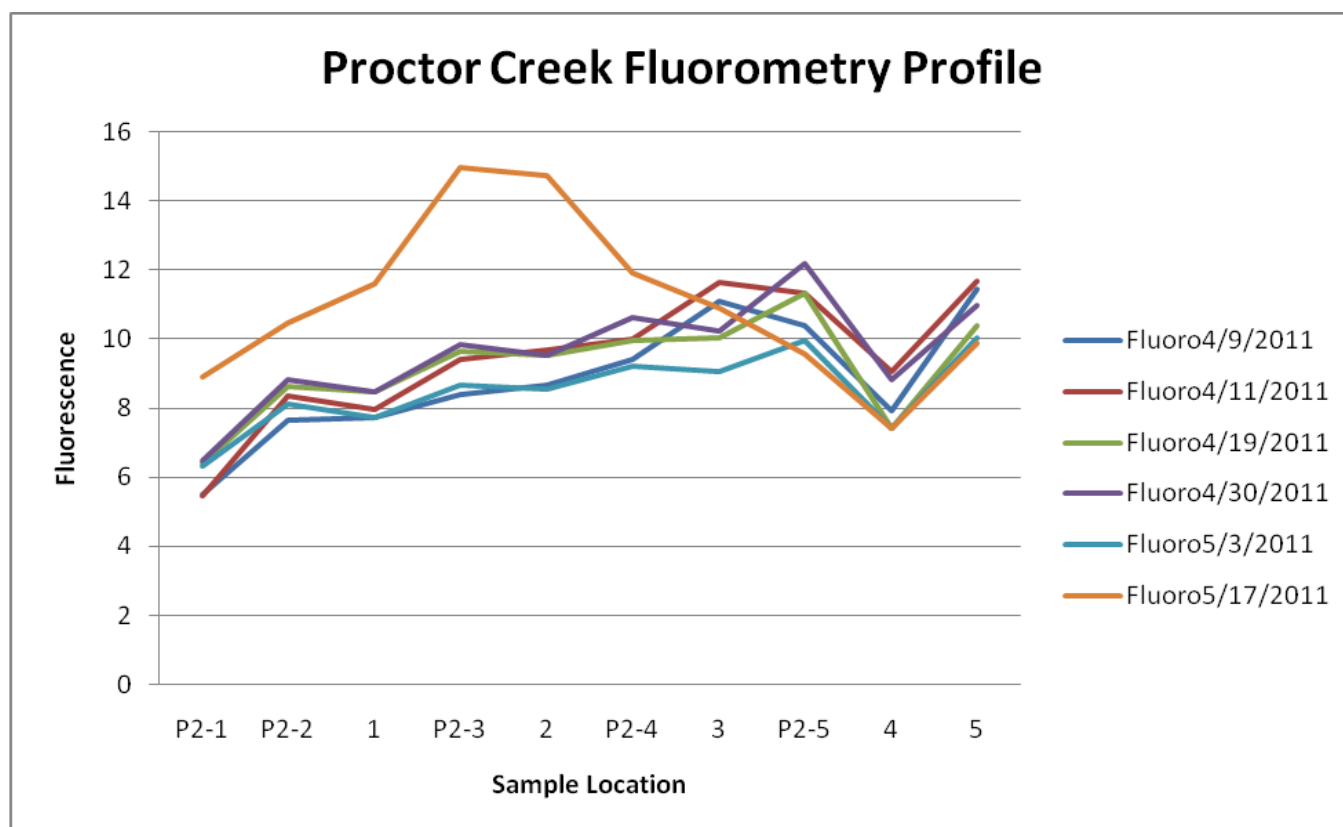


with the raw data in Appendix D of the 2011 monitoring report which is available at [www.atlantaregional.com/cleanerstreams](http://www.atlantaregional.com/cleanerstreams).

As can be seen in Figure 9, the results of each individual sampling location are relatively consistent across the sampling timeline. The final samples collected on May 17, 2011 were skewed higher than they would otherwise be. The abnormal results seen in the May 17 samples appear to be caused by a very small rainfall that occurred on the day prior to collection (0.03 inches recorded at the James Jackson Parkway stream gage). The results were more affected by this small amount of rain at the upper headwater locations P2 - #1 through #2 and seem to be less affected below the confluence with the Greens Ferry tributary where there exists a higher, natural flow.

Based on the results provided in Figure 9, no conclusions can be drawn as to whether high E.coli numbers are the result of anthropogenic sources.

**Figure 9. 2011 Proctor Creek Fluorometry Monitoring Data**



#### Data Assessed for Placing Proctor Creek on the 2008 303(d) List

Data considered for listing purposes for the 2008 303(d) list have been included below. The data was collected by two agencies. The United States Geological Survey collected data at the Georgia Environmental Protection Division's water quality station #12105701 located at Northwest Drive between January and December 2001.

Data collected by the City of Atlanta at a sampling station located at 227 West Lake Drive between October 2000 and February 2001 was also considered during the listing process. Four samples were collected over each 30 day period for the purposes of calculating a geometric mean. The data is included for comparative purposes.

**Table 9. GA EPD Station # 12105701 Data Assessed for Placing Proctor Creek on the 303(d) List (January to December 2000)**

DATE	CFU/ 100 mL	DATE	CFU/ 100 mL	DATE	CFU/ 100 mL	DATE	CFU/ 100 mL
Jan 26	110	Mar 20	790	Mar 22	1300	Mar 30	490
Apr 12	790	May 9	790	May 17	1300	May 22	700
Jun 1	9200	Jul 6	1100	Jul 18	16000	Jul 25	>24000
Aug 1	3500	Sep 19	790	Sep 21	160000	Sep 26	9200
Oct 16	330						

**Table 10. City of Atlanta Data Assessed for Placing Proctor Creek on the 303(d) List (October 2000 to February 2001)**

DATE	CFU/ 100 mL	DATE	CFU/ 100 mL	DATE	CFU/ 100 mL	DATE	CFU/ 100 mL	Geo. Mean
Oct 4	550	Oct 11	480	Oct 18	81	Oct 25	20	<b>144</b>
Dec 7	1712	Dec 14	3100	Dec 21	20	Dec 28	450	<b>467</b>
Feb 7	280	Feb 14	149	Feb 21	330	Feb 28	580	<b>299</b>

#### Ranking and Prioritization of Significant Sources of Impairments

Stakeholder input was solicited to rank the extent and magnitude of contribution from each identified potential source of bacterial contamination. These identified sources consist of only those which represent human activity and can feasibly be controlled through either structural best management practices or through education and outreach to the citizens living and working in the affected watershed.

Extent and magnitude of contribution rankings are based on the Georgia Environmental Protection Division's (GA EPD) 2008 Section 106 Contracts for Status Reports of Previously

Prepared TMDL Implementation Plan. The Extent category is ranked as High, Medium or Low. The Magnitude category is ranked as Large, Moderate or Small. The Estimated Contribution and Stakeholder Priority columns are ranked on a scale of 1 – 5 with a ranking of 1 indicating a minimal contribution or low priority and a ranking of 5 indicating a high contribution or high stakeholder priority. The ranking and prioritization of each source is provided in Table 11.

**Table 11. Stakeholder Ranking and Prioritization of Potential Sources**

Source		Extent	Magnitude	Estimated Contribution (Rank 1 – 5)	Stakeholder Priority (Rank 1 – 5)	Comments
Collapsed Line/Cross Connection Upstream of Greensferry CSO		Medium	High	4	1	Issue is currently being addressed (8/24/2011)
Trash	Litter	Large	Medium	2	2	
	Dumpsites	Medium	Medium	2	2	
Wildlife/Domestic Animal Waste		Medium	Large	3	2	
Urban Runoff		High	High	4	3	
Sanitary Sewer Overflows		Localized	High	1	1	

### **Identification of Applicable Existing Management Measures**

Existing management measures were taken from the 2009 TMDL Implementation Plan Status Report and Update for Proctor Creek prepared by the City of Atlanta and the Atlanta Regional Commission.

While the existing management measures represent a great deal of effort by the City of Atlanta toward addressing the non-point pollution issue in the Proctor Creek watershed, many of the management measures are non-structural in nature

Existing management measures and the pollutant source(s) that they address are provided in Table 12. Applicable Existing Management Measures.

**Table 12. Applicable Existing Management Measures**

<b>BMP</b>	<b>Pollutant Source</b>	<b>Estimated Effectiveness</b>	<b>Estimated Load Reduction (%)</b>
Consent Decree (Greensferry CSO)	Collapsed Line/ Cross Connection	Separation of the combined system upstream of the Greensferry CSO resulted in dramatic improvements in water quality in Proctor Creek.	Not Available
NPDES Phase I Permit (GAS000100)	Urban Runoff	Effective – included plan review and field inspections of all construction activity	Not Available
Erosion and Sedimentation Control Ordinance	Urban Runoff	Effective – very little erosion was noted in the watershed during the visual field survey.	Not Available
Riparian Buffer Protection Ordinance	Urban Runoff	Has been effective in localized areas of the watershed.	Not Available
Floodplain Protection Ordinance	Urban Runoff	Has been effective in localized areas of the watershed.	Not Available
Sanitary Sewer Evaluation System	Collapsed Line/ Cross Connection	Effective at identifying sewer lines requiring repairs or increased capacity.	Not Available
Elimination of Greensferry CSO	SSO, Collapsed Line/Cross Connection	The elimination of the Greensferry CSO was very effective in improving water quality.	Not Available
CMOM Program	SSO, Collapsed Line/Cross Connection	Somewhat effective in lessening SSO's. The City is currently updating their CMOM plans.	Not Available
Conservation Subdivision Ordinance	Urban Runoff	Not effective – the watershed has seen very little development in recent years.	Not Available
Source Water Protection Ordinance	Urban Runoff	Effective – inspections/investigations of all activities with potential to impact source waters.	Not Available

**Table 12. Applicable Existing Management Measures Continued**

<b>BMP</b>	<b>Pollutant Source</b>	<b>Estimated Effectiveness</b>	<b>Estimated Load Reduction (%)</b>
Post Development Stormwater Management Ordinance	Urban Runoff	Not effective – the watershed has seen very little development in recent years.	Not Available
Greenway Acquisition Program	Urban Runoff	Effective - acquired and managed greenway along creek leading to less urban runoff.	Not Available
Greenway Management Program	Urban Runoff	Effective - acquired and managed greenway along creek leading to less urban runoff.	Not Available
Stormwater Permits for Municipal Industrial Facilities	Urban Runoff	Effective	Not Available
Watershed Improvement Plan – Proctor Creek	SSO, Urban Runoff, Trash, Wildlife/Domestic Animal Waste, Collapsed Line/Cross Connection	Effectiveness of this Plan will be determined through pre and post implementation monitoring.	Not Available
NPDES MS4 Stormwater Management Plan Update	Urban Runoff	Effective	Not Available
Stenciling Program	Trash, Urban Runoff	Effective for Public Education/Outreach	Not Available
Utility Bill Inserts	Trash, Urban Runoff	Effective for Public Education/Outreach	Not Available
Clean Water Campaign	Trash, Urban Runoff, Domestic Animals	Effective for Public Education/Outreach	Not Available
Stream clean ups	Trash	Effective for removing litter/trash from streams. Cannot measure effects on water quality.	Not Available
Adopt-A-Stream	Trash, Urban Runoff	Effective for Public Education/Outreach	Not Available



**Table 12. Applicable Existing Management Measures Continued**

<b>BMP</b>	<b>Pollutant Source</b>	<b>Estimated Effectiveness</b>	<b>Estimated Load Reduction (%)</b>
Citizens participation program	Urban Runoff, Trash, Wildlife/Domestic Animal Waste	Effective for Public Education/Outreach	Not Available
Project WET	Trash, Urban Runoff	Effective for Public Education/Outreach	Not Available
Clean Water Atlanta website	Trash, Urban Runoff, Wildlife/Domestic Animal Waste, SSO	Effective for Public Education/Outreach	Not Available
Programming on City Channel 26	Urban Runoff, Trash, Wildlife/Domestic Animal Waste, SSO	Effective for Public Education/Outreach	Not Available
Neighborhood Planning Unit presentations	Urban Runoff, Trash, Wildlife/Domestic Animal Waste	Effective for Public Education/Outreach	Not Available
Sanitary Sewer Evaluation System Public Outreach	Urban Runoff, Trash, Wildlife/Domestic Animal Waste	Effective for Public Education/Outreach	Not Available
Website: <a href="http://www.atlantawatershed.org">www.atlantawatershed.org</a>	Urban Runoff, Trash, Wildlife/Domestic Animal Waste, SSO	Effective for Public Education/Outreach	Not Available
Community watershed workshops	Wildlife/Domestic Animal Waste, SSO	Effective for Public Education/Outreach	Not Available
Stormwater Management Ordinance	Urban Runoff	Effective	Not Available

## **Recommendations for Additional Management Measures**

The management measures outlined in this section and considered for potential implementation in the Proctor Creek watershed were developed from stakeholder input. These management measures are initial recommendations only. Further consideration and research must be conducted in order to determine which of these suggested measures, if any, are appropriate for implementation in the watershed. These considerations should include capital costs, feasibility, operation and maintenance, potential locations for installation and long term monitoring to track improvements in water quality post installation.

The suggested measures include non-structural education/outreach and coordination measures and “green” structural stormwater controls. The education/outreach measures were chosen based on their relative ability to reach large sections of the population and maintenance considerations. The “green” structural stormwater controls were chosen based on their ability to be incorporated into a highly urbanized setting and operation and maintenance considerations.

The management measures outlined below are

### **Recommended Education/Outreach Measures**

#### **Installation of Litter Trap and Education Station**



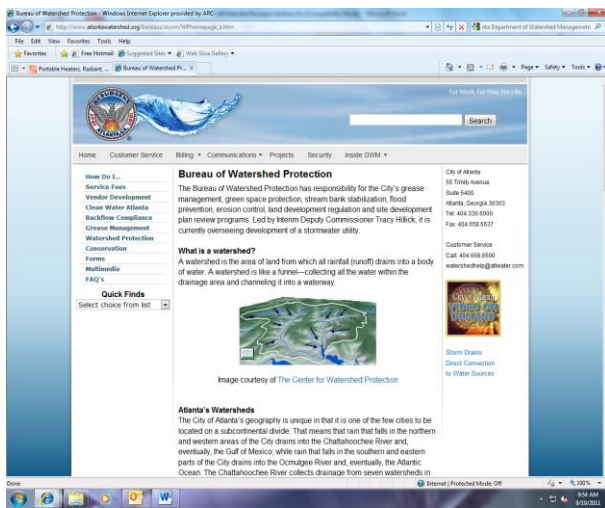
**Description:** Educational billboard attached to litter trap in stream if in areas where it is readable from stream bank. Or, installation of educational signage along path/roadway next to litter trap installation site where readers can learn about watersheds, water quality and litter removal amounts.

#### **Installation of Green Infrastructure Demonstration Project and Education Station**



**Description:** Education signage installed at “green structural stormwater control” demonstration project installation site. The signage should include basic information about watersheds, water quality, stormwater management and how the installed control helps to improve the environment.

## Website Focused on Watershed Issues



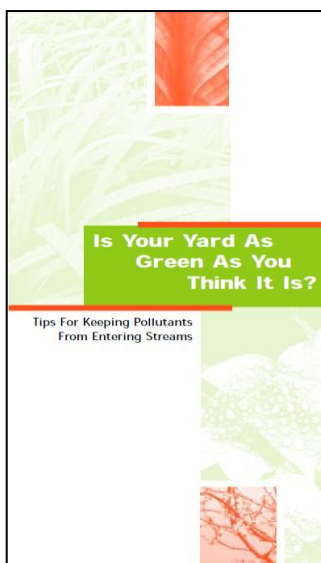
**Description:** Website developed by the City of Atlanta to provide educational information about watersheds, how the City is protecting its watersheds and what the individual citizen can do to help protect the environment.

## Prepared Workshop Materials for Presentation by Watershed Stakeholders



**Description:** Adoption of existing workshops such as the Georgia Adopt-A-Stream program or Clean Water Campaign materials or development of new workshops for presentation to community groups by watershed stakeholder groups or City of Atlanta staff.

## Homeowner Outreach/Assistance Program



**Description:** Development of a residential outreach program to assist citizens with implementing stormwater management practices on their property. This could include educational materials outlining the benefits of each practice as well as “how to” guides for actual implementation of various measures. A staff person could also provide a point of contact for answering water quality improvement and stormwater control questions that residents may have.

## Recommended Coordination Measures

### Coordinate with City of Atlanta Code Compliance Officer

The upper end of the Proctor Creek watershed, Sample Locations 1 – 6 may be considered a high trash generation area. Coordination with the City of Atlanta's Code Compliance office is imperative in determining who is responsible for the violation, if a responsible party can be identified, and arranging for pick-up and disposal.

### Coordinate with Fulton County Animal Control

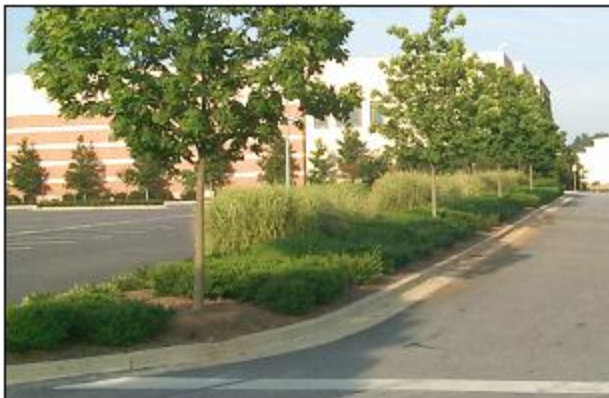
A number of stray or free-roaming cats and dogs were noted during the course of the 2009 Visual Field Survey as well as during the 2010 Sampling Events. Increased patrol of the Proctor Creek watershed as well as providing the community with the proper contact information for control personnel could help reduce the number of stray or unrestrained cats and dogs which may be contributing to the impairment of the stream. Coordination with Animal Control may also include distribution of the Clean Water Campaign informational brochure, "Here's the Scoop on Poop" to provide information to residents concerning the impact pets can have on water quality.

### Coordinate with Fulton County Health Department

Many of the floatable items removed during past stream and community clean-up days are considered biohazards. Coordination with the Fulton County Health Department could serve to educate the public on the proper disposal of items such as hypodermic needles, sanitary napkins, disposable diapers and other items which are known to carry human pathogens. Coordination with the Health Department would also serve as a point of contact for arranging pick-up of such items as well as eventual disposal.

## Recommended "Green" Structural Stormwater Controls

### Bioretention Areas



**Description:** Shallow stormwater basin or landscaped area that utilizes engineered soils and vegetation to capture and treat runoff.

This measure is dependent upon identification of an appropriate location and funding source.



### Infiltration Trench

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**Description:** Excavated trench filled with stone aggregate used to capture and allow infiltration of stormwater runoff into the surrounding soils from the bottom and sides of the trench.

This measure is dependent upon identification of an appropriate location and funding source.

### Enhanced Swales

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**Description:** Vegetated open channels that are explicitly designed and constructed to capture and treat stormwater runoff within dry or wet cells formed by check dams or other means.

This measure is dependent upon identification of an appropriate location and funding source.

### Filter Strip

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**Description:** Filter strips are uniformly graded and densely vegetated sections of land, engineered and designed to treat runoff from and remove pollutants through vegetative filtering and infiltration.

This measure is dependent upon identification of an appropriate location and funding source.



## Grass Channel



**Description:** Vegetated open channels designed to filter stormwater runoff and meet velocity targets for the water quality design storm and the 2-year storm event.

This measure is dependent upon identification of an appropriate location and funding source.

Estimates of pollutant removal resulting from the implementation of educational/outreach programs are not available for fecal coliform. Pollutant removals are available for the potential structural stormwater infrastructure options. The structural options and their removal efficiencies are provided below. Removal efficiencies related to the removal of pathogens have been highlighted in blue.

### Education/Outreach Measure Pollutant Removal Efficiencies

Pollutant removal efficiencies are not available. Cost of development will be based upon scope of education/outreach campaign and the amount of in-kind services provided by the contributing watershed partners.

**Table 13. “Green” Structural Stormwater Control Pollutant Removal Efficiencies**

Structural Control	TSS	Total Phosphorus	Total Nitrogen	Metals	Pathogens	Capital Cost	Maintenance Burden
Bioretention areas	80%	60%	50%	Moderate	No data	Medium	Low
Infiltration Trench	80%	60%	60%	90%	90%	High	High
Enhanced Swales	80%	50%	50%	40%	No data	Medium	Low
Filter Strip	50%	20%	20%	40%	Insufficient data	No Data	No Data
Grass Channel	50%	25%	20%	30%	Insufficient data	No Data	No Data

The primary source of funding required to implement these recommended non-structural and structural controls is the Georgia Nonpoint Source Management Program’s Section 319(h) grant program. Additional funding will be provided through in-kind services by the City of Atlanta Department of Watershed Management staff. These services will include development of the educational website, educational outreach materials, staff presentations to local neighborhood associations and watershed groups and sample collection and analysis for tracking improvements in water quality.

Additional in-kind services will be provided by the project partners including the Community Improvement Association, West Atlanta Watershed Alliance and the Upper Chattahoochee

Riverkeeper. In-kind services provided by these project partners may include donation of facility meeting space, staff and volunteer hours for collection of water quality samples, coordination of and participation in stream clean-ups or presentations to neighborhood associations and development of outreach materials designed to educate stakeholders in the watershed about what they can do to help improve water quality.

## **Partnership Advisory Council and Partner Organizations**

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The names and responsibilities of organizations that will be providing technical expertise, performing in-the-field functions, researching and recruiting on-the-ground assistance and resources, securing funding, and coordinating outreach activities to implement management practices or control actions recommended in this watershed improvement plan are provided below. Names of specific individuals have not been included to allow for potential changes in staff positions and staff responsibilities.

### **City of Atlanta**

- Provide staff to smoke test basin upstream of the Greensferry CSO. If issues are identified, they will be promptly mitigated
- Provide staff to coordinate pre and post monitoring efforts
- Provide laboratory analysis of collected water samples for fecal coliform on an as needed basis
- Develop watershed website
- Prepare educational presentations for neighborhood associations and watershed groups
- Serve as lead agency on 319(h) grant application and administer grant
- Work with watershed partners to identify appropriate locations for installation of “green” stormwater control demonstration project(s)
- Work with watershed partners to develop educational signage to be posted at “green” stormwater control installation site(s)
- Provide review and oversight of all products developed through the implementation of this project to ensure consistency with the goals and mission of the City of Atlanta Department of Watershed Management

### **Upper Chattahoochee Riverkeeper**

- Provide staff, interns or coordinate volunteer efforts in support of pre and post monitoring efforts
- Provide laboratory analysis of samples (IDEXX or GA Adopt-A-Stream methods) on an as needed basis
- Coordinate with City of Atlanta staff and watershed partners to identify appropriate locations for the installation of “green” stormwater controls
- Provide outreach/assistance to watershed residents/property owners on how to implement good housekeeping measures on their property

- Coordinate with City of Atlanta staff and watershed partners to develop educational outreach materials, presentations and signage to be posted at “green” stormwater control installation site(s)
- Coordinate with watershed partners to advertise, provide materials for and staff stream clean-up events
- Provide meeting space as an in-kind service for meetings of watershed partners on an as needed basis

### **West Atlanta Watershed Alliance**

- Provide meeting space as an in-kind service for meetings of watershed partners on an as needed basis
- Provide staff, interns or coordinate volunteer efforts to distribute education/outreach materials to watershed residents
- Coordinate with City of Atlanta staff and watershed partners to provide staff, interns or volunteers in support of pre and post monitoring efforts
- Coordinate with City of Atlanta staff and watershed partners to review and comment on products developed in fulfillment of this watershed improvement plan
- Coordinate with City of Atlanta staff and watershed partners to identify appropriate locations for the installation of “green” stormwater controls

### **Community Improvement Association**

- Provide meeting space as an in-kind service for meetings of watershed partners on an as needed basis
- Provide staff, interns or coordinate volunteer efforts to distribute education/outreach materials to watershed residents
- Coordinate with City of Atlanta staff and watershed partners to provide staff, interns or volunteers in support of pre and post monitoring efforts
- Coordinate with City of Atlanta staff and watershed partners to review and comment on products developed in fulfillment of this watershed improvement plan
- Coordinate with City of Atlanta staff and watershed partners to identify appropriate locations for the installation of “green” stormwater controls

### **Schedule of Sequential Milestones**

Due to the overlap that exists between the FY10 Section 106/604(b) funding cycle that is utilized for developing watershed improvement plans and the 2011 Section 319(h) grant application process, an application for 319(h) funding will not be submitted until October 2013. The activities that will be accomplished prior to submission of the 319(h) grant application include:

- **August – October 2011** – City of Atlanta staff will smoke test the basin upstream of the Greensferry CSO to determine if any issues exist. If issues are identified, they will be promptly mitigated.
- **September 2011 – May 31<sup>st</sup>, 2012** - Identification of potential sites for installation of “green” stormwater controls
- **July – October 15, 2012** – Georgia EPD staff meets with applicants to discuss 319(h) grant proposals
- **September 30, 2011** – Final submission date for DRAFT 319(h) grant application
- **October 31, 2012** – Final 319(h) grant application deadline
- **Spring 2013** – Receive notification of whether the Proctor Creek project has been recommended for funding
- **Summer 2013** – Georgia EPD staff and watershed partners with City of Atlanta acting as lead agency, finalize project work plans
- **Fall 2013 (October)** – A contract is executed between Georgia EPD and the City of Atlanta, and project activities begin

The project activities that begin in Fall 2013 have been given in Table 14 on the following page. Table 14 provides the activity and the quarter that the activity should occur in. This table is for planning purposes only as situations may arise that require altering the schedule. The milestones provided are intended to be generic. Specific products have not been identified in the table and will not be identified until a known source and amount of funding have been secured.

**Table 14. Schedule of Sequential Milestones**

Milestones/Tasks	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			5th Quarter			6th Quarter		
	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015
Execute Contract																		
Conduct Public Meeting																		
Develop Education Component																		
Identify BMP Participants																		
Develop BMP Implementation Plan																		
BMP Implementation																		
Develop Outreach Strategy																		
Implement Outreach Strategy																		
Public Outreach Day																		
BMP Monitoring																		
Submit Monitoring Report																		
Quarterly Invoices & Status Reports																		
Submit Final Close-Out Report																		



**Table 14. Schedule of Sequential Milestones Continued**

Milestones/Tasks	7th Quarter			8th Quarter			9th Quarter			10th Quarter			11th Quarter			12th Quarter		
	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016
Execute Contract																		
Conduct Public Meeting																		
Develop Education Component																		
Identify BMP Participants																		
Develop BMP Implementation Plan																		
BMP Implementation																		
Develop Outreach Strategy																		
Implement Outreach Strategy																		
Public Outreach Day																		
BMP Monitoring																		
Submit Monitoring Report																		
Quarterly Invoices & Status Reports																		
Submit Final Close-Out Report																		

## Public Involvement

---

The goals of public involvement in the development and implementation of this watershed improvement plan are: build capacity for watershed monitoring and other watershed improvement activities such as stream clean-up days, achieve awareness of water quality issues existing in the watershed in order to build public support for plan implementation, produce a change in behaviors that can lead to long-term benefits in water quality and provide for support of long-term plan implementation efforts.

Watershed stakeholders were provided opportunity to comment on the various products and processes that were a result of this watershed improvement planning process. The products included: a report detailing results and finding of a visual field survey and stream walk conducted in the watershed and along the 9 mile impaired stream segment, an initial monitoring plan for monitoring activities that were undertaken in 2010, a revised monitoring plan which focused on the headwaters area and was undertaken in 2011, a quick facts booklet developed for distribution to watershed residents, a tri-fold brochure developed for distribution to watershed residents, the Cleaner Streams Website which served as the main repository for all products and a final monitoring report detailing all results from both the 2010 and 2011 sampling efforts.

Opportunities for comment were provided through public meetings where stakeholders were provided with stakeholder comment forms, public comment periods at public meetings, through email communication, through the Cleaner Streams website where all products were posted for viewing as well as telephone communication with planning staff.

The public will continue to be vigorously involved throughout the plan implementation process. Methods of outreach/communication will include, but are not limited to:

- Posting of public meetings in local newspaper
- Posting on City website and any other watershed partner websites including those of the West Atlanta Watershed Alliance, the Upper Chattahoochee Riverkeeper and the Atlanta Regional Commission's Cleaner Streams website
- Stream Clean-ups hosted and coordinated by the Community Improvement Association
- Bacterial monitoring training hosted by the City of Atlanta's Adopt-A-Stream program
- Presentations to Neighborhood associations and other stakeholder groups
- Signage located at the installation site(s) of "green" stormwater controls

Stakeholders will also have an opportunity to review a DRAFT Watershed Improvement Plan for Proctor Creek prior to final submission to Georgia EPD. Stakeholder input will be solicited as to the logistics of actual watershed improvement plan implementation once the plan has been approved by Georgia EPD and funding has been secured.

## **Recommendations for Monitoring and Criteria for Measuring Success**

Monitoring will be conducted during installation of the chosen best management practices, after installation and for a period thereafter that is sufficient to ascertain any improvement in water quality that may be a direct result of the management practice. The purpose of this monitoring is to serve as a check to ensure that the installation procedure does not adversely impact water quality, provide the immediate status of water quality prior to the management practice having any influence on the quality of urban runoff and provide trend data to determine if the practice has any significant impact on water quality in terms of E. coli levels.

It is currently not necessary to conduct any monitoring prior to the installation of the chosen management practices. This data was collected during the 2010 and 2011 monitoring events and is sufficient to serve as baseline data. However, given the current source tracking and potential for repairs in the basin upstream of the Greensferry CSO, monitoring may be required prior to installation of the chosen management practices. Monitoring will be required if the source tracking identifies an issue and mitigation efforts are accomplished prior to installation of management practices. Then, new baseline data will be necessary to determine if the mitigation practices resulted in an improvement in water quality.

Monitoring will consist of water sample collections for E.coli following the Georgia Adopt-A-Stream methodology for bacterial monitoring as well as sample collection and handling protocols outlined in the Proctor Creek Monitoring Plan. Monitoring is tentatively scheduled to begin in July 2014 and will conclude in January 2016.

### **Measuring Success**

In addition to conducting water quality monitoring, data will be collected for identified measures of success in order to track progress toward implementation of the watershed improvement plan and the chosen management practices. The proposed measures of success include, but are not limited to:

#### *Water Quality Monitoring*

- Number of monitoring sites
- Inclusion of monitoring sites upstream and downstream of installed management measure in existing Proctor Creek Monitoring Plan
- Collection of data in accordance with Monitoring Plan
- Summarization of monitoring results

#### *Education and Outreach*

- Number and description of educational materials produced and distributed
- Attendance at workshops/meetings/classes by target audience
- Improvement in water quality knowledge
- Number of field days/workshops/etc and number of attendees

### *Technical Assistance*

- Number of homeowners assisted with implementation of good housekeeping measures
- Number of homeowners contacted regarding water quality issues/property management

### *BMP Demonstration*

- Participation of appropriate parties/property owners
- Number of installed BMPs
- Monitoring results
- Achievement towards specific demonstration goals/purpose
- Effectiveness of BMP(s) in reducing pollutants
- Number of field days/workshops/etc and number of attendees

# **Appendix A**

## **US EPA's 9-Key Elements**

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## US EPA's 9-Key Elements

### 1. Identification of Potential Sources

Based on field observations and the results of E.coli data collected between August 2010 and July 2011, potential sources of bacterial contamination were identified and included: Collapsed line/cross connection upstream of the Greensferry CSO facility, trash, wildlife/domestic animal waste, urban runoff and sanitary sewer overflows.

The potential issue upstream of the Greensferry CSO facility impacts the area from the facility downstream to the North Avenue area below the tributary's confluence with Proctor Creek. While the area of impact is limited, the magnitude of this issue has been ranked as high. Subsequent smoke testing of the entire basin upstream of the Greensferry CSO has not indicated that an issue exists with the sanitary sewer infrastructure. There were no indications that a collapsed line or cross connection was the cause of the elevated levels of E.coli. Trash is an issue throughout the watershed and appears as both litter along rights-of-ways and as localized, illegal dumpsites. Although the issue of trash is spread across the watershed, its magnitude has been ranked as medium because it is not a large contributor to the impairment. Wildlife/Domestic animal waste is primarily located within the remaining greenways and near residential areas. Due to the limited amount of domestic animals seen during the survey and field collections, the magnitude of this source has been ranked as low. Urban runoff is found throughout the entire watershed and is a major contributor of fecal coliform. For this reason, both the extent and magnitude of urban runoff have been ranked as high. Sanitary sewer overflows are localized in nature. For this reason, the extent of the source was labeled "localized" and the magnitude was assigned a rank of high.

### 2. Estimate of Load Reductions

Estimates of pollutant removal resulting from the implementation of educational/outreach programs are not available for fecal coliform. Pollutant removals are available for the potential structural stormwater infrastructure options. The structural options and their removal efficiencies are provided below. Removal efficiencies related to the removal of pathogens have been highlighted in blue.

#### ***Education/Outreach Measures***

Pollutant removal efficiencies are not available.

#### ***Structural Stormwater Control Pollutant Removal Efficiencies***

<b>Structural Control</b>	<b>TSS</b>	<b>Total Phosphorus</b>	<b>Total Nitrogen</b>	<b>Metals</b>	<b>Pathogens</b>
<b>Bioretention areas</b>	80%	60%	50%	Moderate	No data
<b>Infiltration Trench</b>	80%	60%	60%	90%	90%
<b>Enhanced Swales</b>	80%	50%	50%	40%	No data
<b>Filter Strip</b>	50%	20%	20%	40%	Insufficient data
<b>Grass Channel</b>	50%	25%	20%	30%	Insufficient data

### **3. Description of NPS Management Measures**

The management measures chosen for potential implementation in the Proctor Creek watershed include non-structural education/outreach and coordination measures and “green” structural stormwater controls. The education/outreach measures were chosen based on their relative ability to reach large sections of the population and cost and maintenance considerations. The “green” structural stormwater controls were chosen based on their ability to be incorporated into a highly urbanized setting, operation and maintenance considerations and their relative pollutant removal efficiency.

### **4. Estimate of Sources of Funding Needed to Implement the Plan**

The primary source of funding required to implement this plan is the Georgia Nonpoint Source Management Program’s Section 319(h) grant. Additional funding will be provided through in-kind services by the City of Atlanta Department of Watershed Management staff. These services will include development of the educational website, educational outreach materials, staff presentations to local neighborhood associations and watershed groups and sample collection and analysis for tracking improvements in water quality. Additional in-kind services will be provided by the project partners including the Community Improvement Association, West Atlanta Watershed Alliance and the Upper Chattahoochee Riverkeeper. In-kind services provided by these project partners may include donation of facility meeting space, staff and volunteer hours for collection of water quality samples or presentations to neighborhood associations and development of outreach materials designed to educate stakeholders in the watershed about what they can do to help improve water quality.

### **5. Information/Education Component**

Educational outreach materials were developed during the course of this project. These materials consisted of a quick facts booklet giving pertinent information about the Proctor Creek watershed as well as a more thorough tri-fold brochure which introduces the reader to the watershed concept and more specifically, the Proctor Creek watershed. Copies of these materials have been provided in Appendix E. The Atlanta Regional Commission also hosts a website at [www.CleanerStreams.com](http://www.CleanerStreams.com) which contains all materials developed in fulfillment of this Section 106/604(b) project. Additional educational materials will be developed as part of the plan implementation process.

### **6. Implementation Schedule**

The implementation schedule for this plan is based on the Section 319(h) grant application schedule. An application for Section 319(h) funding will be submitted to Georgia EPD in October 2012. If the project is chosen for funding, the contract will be executed in Fall 2013 with the first best management practices (education component) being developed by March 2014. BMP installation will occur between July 2014 and July 2015 with water quality monitoring occurring between July 2014 and January 2016. The final project completion report will be submitted by September 30, 2016.

### **7. Interim Measurable Milestones**

A set of interim measurable milestones have been included in the watershed improvement plan in Table 14. The completion of each of these milestones will signal progress toward implementation of the plan. The milestones include public involvement, development and implementation of a public education/outreach component, BMP implementation and water

quality monitoring and preparation and submission of invoices and progress reports to Georgia EPD.

#### **8. Criteria for Determining Substantial Progress**

Measures of success have been chosen and included in the plan. The measures were adopted from Georgia EPD's "General Guidelines – Section 319(h) FY2012 Grant Nonpoint Source Implementation Grant". Measures were included for project activities that were of most relevance to this plan including: monitoring, education and outreach, technical assistance and BMP demonstration.

#### **9. Monitoring Component**

Monitoring will be conducted during installation of the chosen best management practices, after installation and for a period thereafter that is sufficient to ascertain any improvement in water quality that may be a direct result of the management practice. The purpose of this monitoring is to serve as a check to ensure that the installation procedure does not adversely impact water quality, provide the immediate status of water quality prior to the management practice having any influence on the quality of urban runoff and provide trend data to determine if the practice has any significant impact on water quality in terms of E. coli levels. It is currently not necessary to conduct any monitoring prior to the installation of the chosen management practices. This data was collected during the 2010 and 2011 monitoring events and is sufficient to serve as baseline data.

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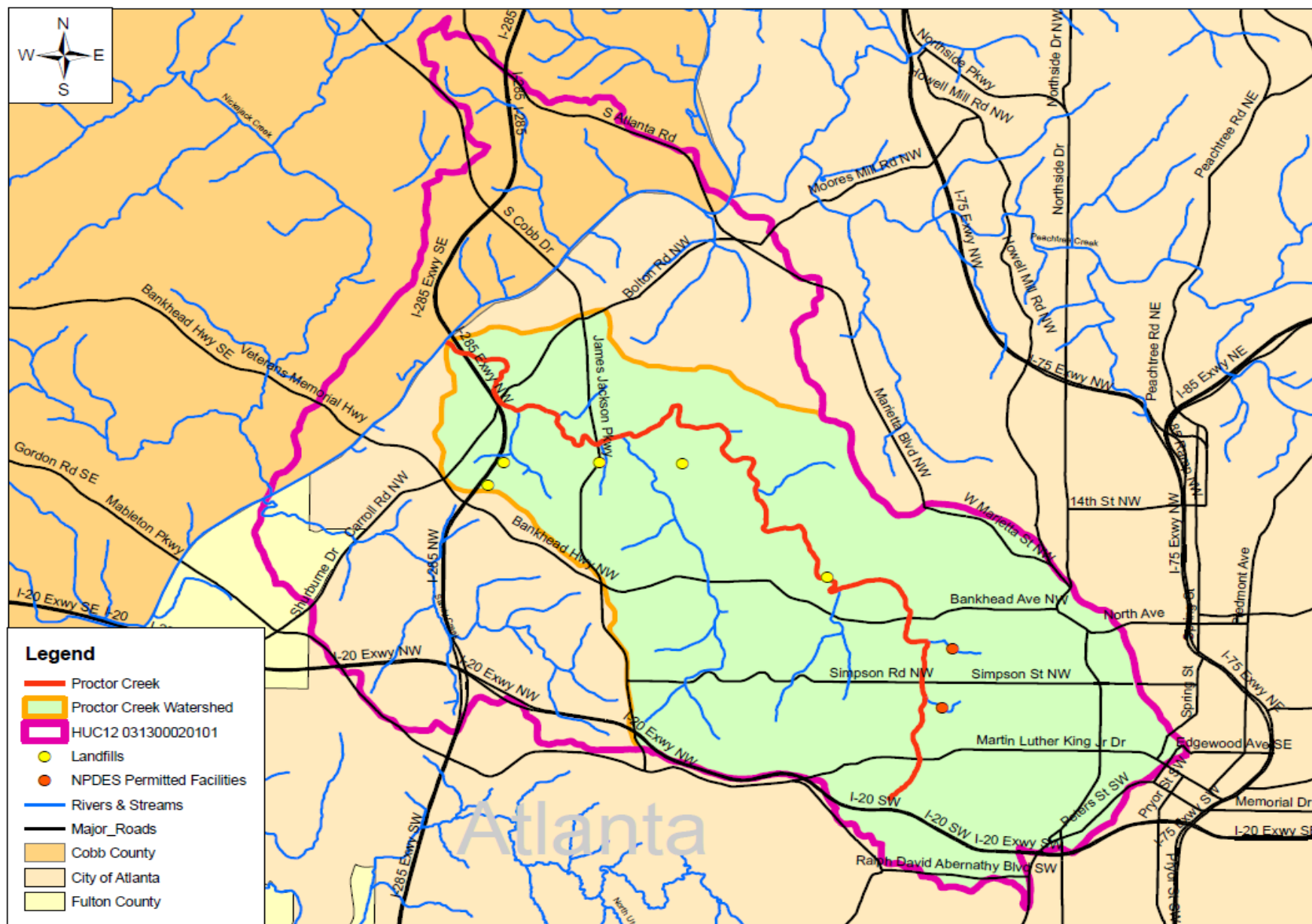
# **Appendix B**

## **Watershed Maps (HUC 12 or smaller)**

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## Location of Proctor Creek Impaired Stream Segment



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# **Appendix C**

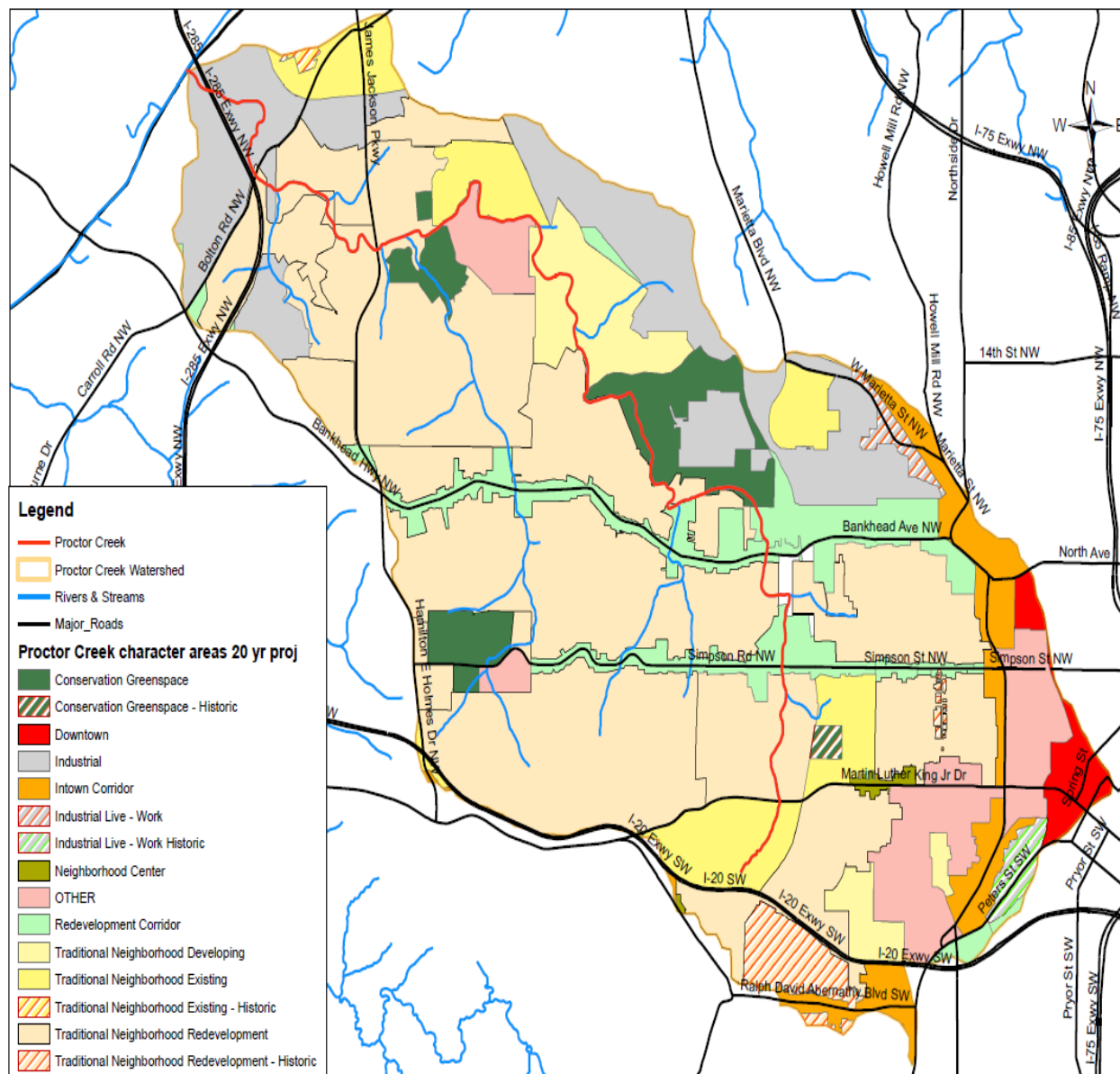
## **Watershed Land Use Maps**

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## Proctor Creek Watershed Character Areas

The City of Atlanta's 2011 Comprehensive Development Plan identifies character areas within the city as they are projected to exist within the next 20 years. From this information, character areas for the Proctor Creek sub-HUC 12 watershed were identified and are presented in the map given above.

These character areas cannot be compared to the 2008 Atlanta Regional Commission's LandPro data provided in this planning document as the criteria used for defining each land cover/character area category are different and multiple subcategories of land coverage have been aggregated into larger overarching categories according to each agency's internal specifications. The character areas provided here are simply meant to be used as a reference when determining if a best management practice that is appropriate for an area today will still be appropriate 20 years from now.



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# **Appendix D**

## **Visual Field Survey**

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**Visual Field Survey**  
**For**  
**Proctor Creek Impaired Stream Segment**  
**In the**  
**Chattahoochee River Basin**

**September 22, 2009**

Prepared by the Atlanta Regional Commission with the support of the Environmental Protection Division of the Georgia Department of Natural Resources

The preparation of this report was financed in part through a grant from the United States Environmental Protection Agency under the provisions of Section 106 of the Federal Water Pollution Control Act, as amended.

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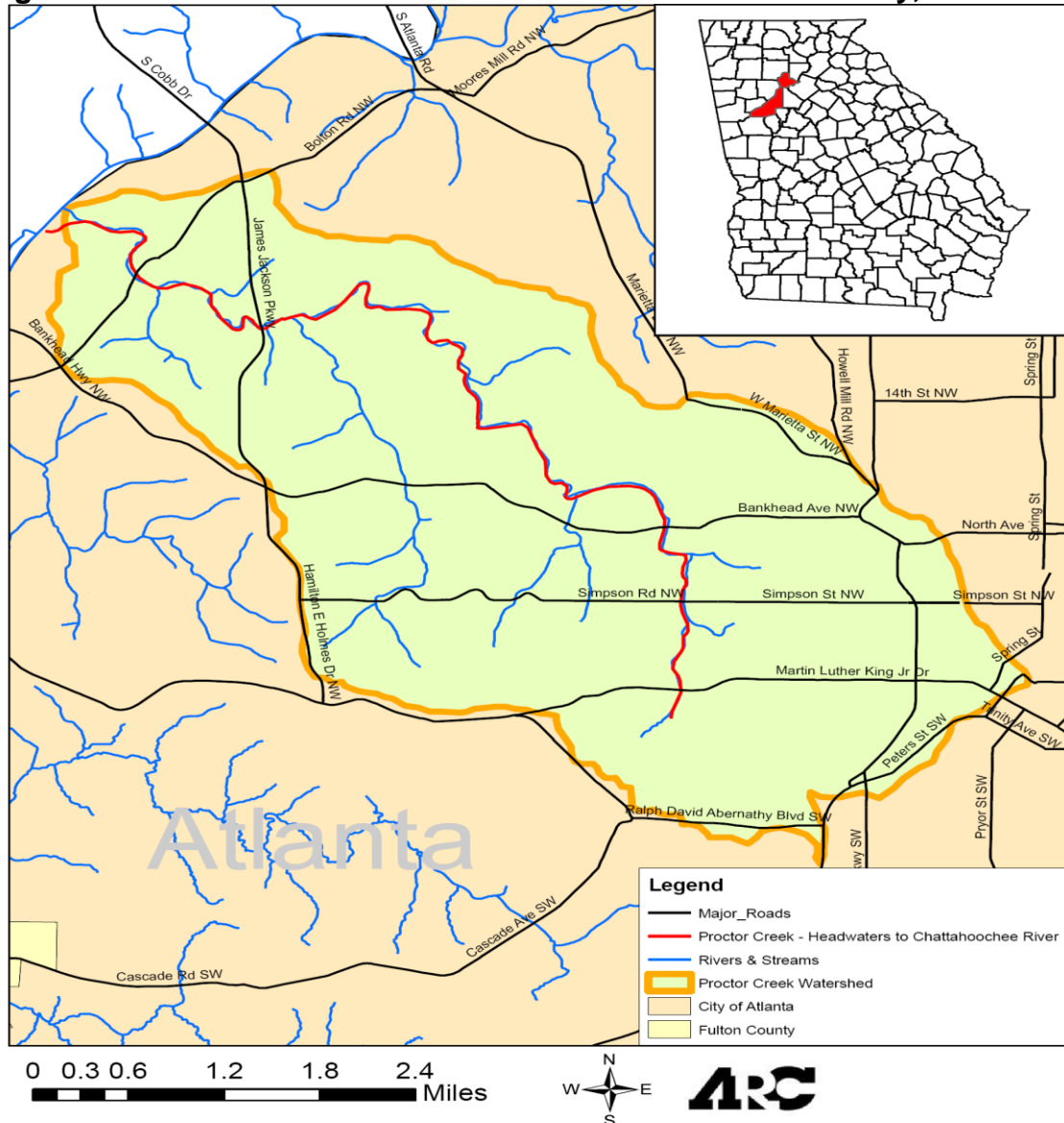
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## 1.0 INTRODUCTION

### 1.1 Location

The Proctor Creek impaired stream segment is located in the middle portion of the Atlanta Metropolitan region in Fulton County and is wholly contained within the municipal jurisdiction of the City of Atlanta (Figure 1). The stream segment is listed for not meeting the State water quality standards for fecal coliform. The listed portion of the stream is 9 miles long and is located in HUC 10 – 0313000201. As shown in Figure 1, the segment begins in the headwaters of Proctor Creek and flows northwest in the Chattahoochee River Basin to its confluence with the Chattahoochee River near Interstate 285.

**Figure1: Location of Proctor Creek Watershed in Fulton County, GA**





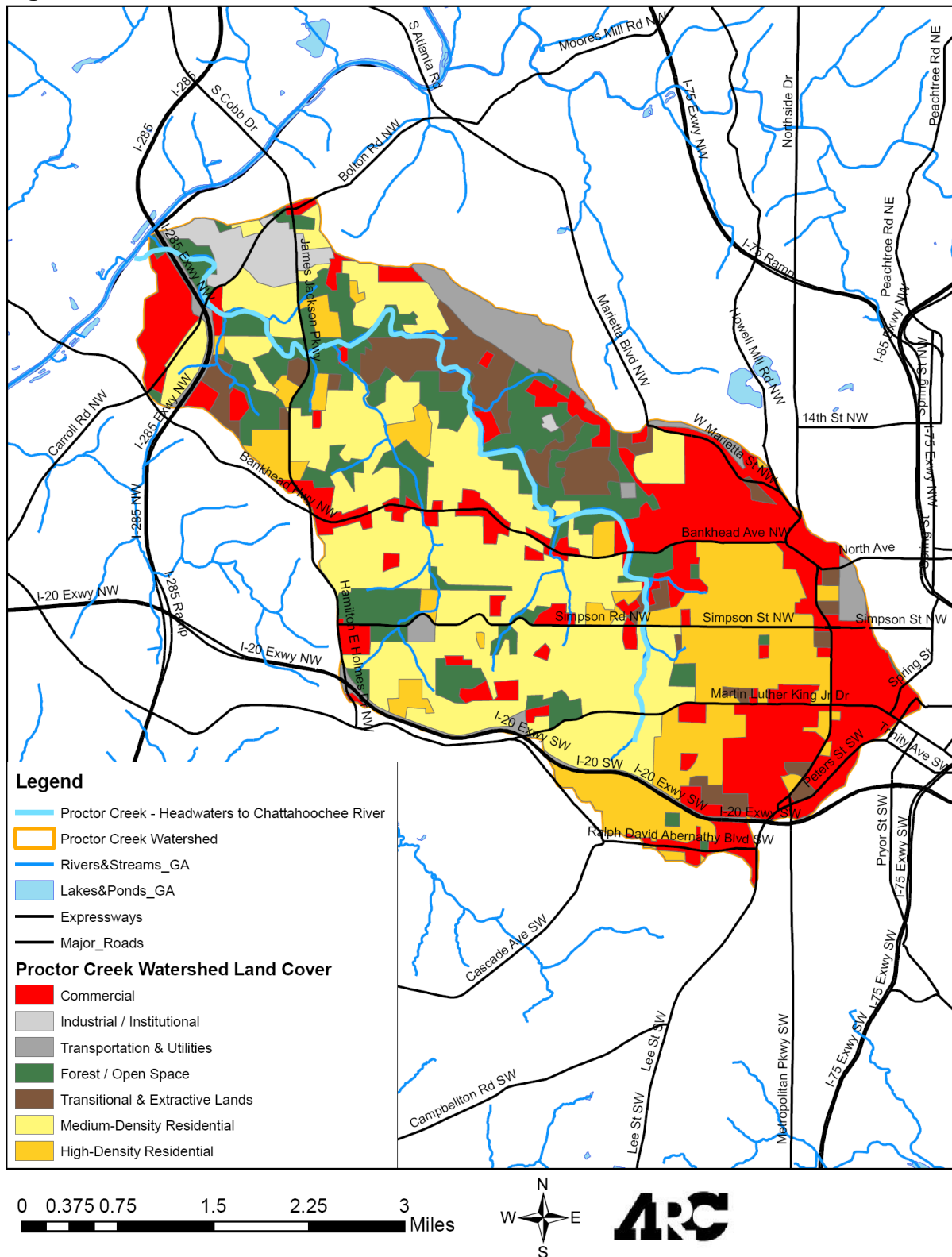
## 1.2 Watershed Description

The Proctor Creek Watershed is comprised of 10,197.85 acres of land and is located in the southeast corner of the middle portion of the Chattahoochee River Basin. The impaired segment of the creek is located in HUC 10 – 0313000201. Mapping of the watershed and review of the 2008 Atlanta Regional Commission (ARC) LandPro land cover data indicates land cover within the watershed to comprise primarily of residential and commercial coverage, which account for over 47% and 24% of the area respectively. The percentages of land cover are presented below in Table 1. Table 2 outlines the ARC's land cover codes that have been aggregated into the categories used for this project. Maps showing the 2003 and 2008 land cover in the watershed are included as Figures 2A and 2B respectively.

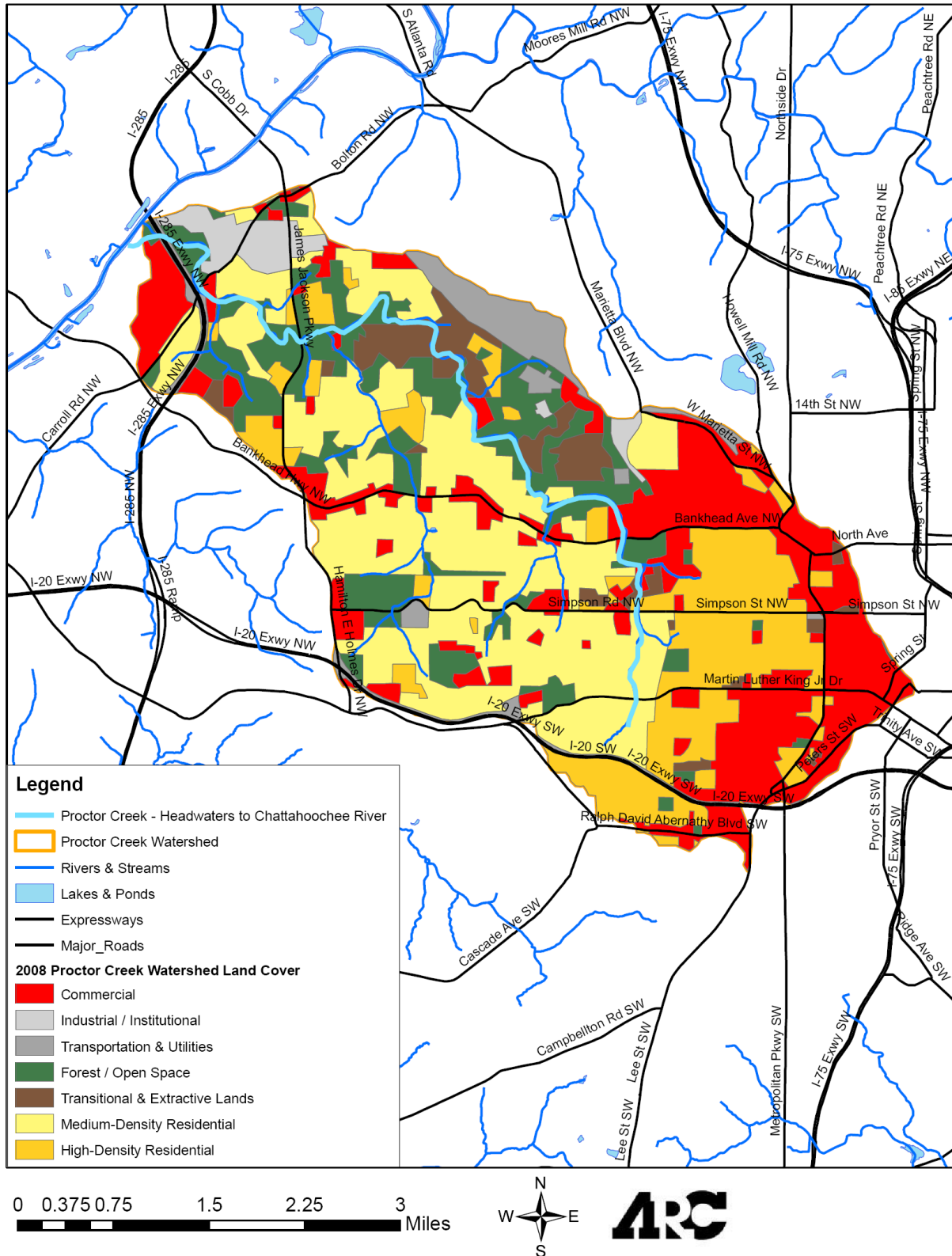
**Table 1. Watershed Land Cover (Source: 2003 and 2008 ARC LandPro data)**

Land Cover Classification	Land Cover 2003		Land Cover 2008		Land Cover Difference	
	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area	Area (Acres)	% of Total Area
Commercial	2418.47	23.72%	2471.44	24.23%	52.97	0.52%
Industrial	251.76	2.47%	273.04	2.68%	21.28	0.21
Forest/Open Space	1502.30	14.73%	1554.18	15.24%	51.88	0.51%
Transportation & Utilities	517.52	5.07%	498.57	4.89%	-18.95	-0.19%
Meduim Density Residential	3223.93	31.61%	3184.18	31.22%	-39.75	-0.39%
High Density Residential	1575.25	15.45%	1698.07	16.65%	122.82	1.20%
Transitional & Extractive Lands	708.62	6.95%	518.37	5.08%	-190.25	-1.87%
<b>Total Acres</b>	10197.85	100.00%	10197.85	100.00%		

**Figure 2A: ARC 2003 Land Cover for Proctor Creek Watershed**



**Figure 2B: ARC 2008 Land Cover for Proctor Creek Watershed**



**Table 2. Watershed Land Cover Matrix (Aggregated ARC Land Cover Categories)**

<b>Aggregated Category</b>	<b>Description of Original ARC Categories</b>	<b>ARC Land Cover Code</b>
<b><i>Commercial</i></b>	Commercial and Services	12
	Industrial and Commercial Complexes	15
	Intensive Institutional	121
<b><i>Industrial/Institutional</i></b>	Industrial	13
<b><i>Transportation &amp; Utilities</i></b>	Transportation, Communication & Utilities	14
	Limited Access Highways	145
<b><i>Agricultural Lands</i></b>	Agriculture-Cropland and Pasture	21
	Agriculture-Orchards, Vineyards and Nurseries	22
	Agriculture-Confined Feeding Operations	23
	Agriculture-Other	24
<b><i>Forest / Open Space</i></b>	Forest	40
	Golf Courses	171
	Cemeteries	172
	Parks	173
<b><i>Water / Wetlands</i></b>	Rivers	51
	Reservoirs, Lakes, and Ponds	53
	Wetlands	60
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<b><i>High-Density Residential</i></b>	High Density Residential	113
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## **2.0 METHODOLOGY**

Prior to beginning the field study, NPDES permitting data obtained from Georgia EPD, and enforcement history obtained from the U.S Environmental Protection Agency (US EPA) were studied to determine the locations of any known point sources and potential individual sources of pollution in relation to the area of interest. Additionally, 2009 aerial photos were compiled and used to further evaluate land use along the stream prior to the beginning of field observations.

Using guidance documents provided by the state, a field assessment of the watershed was conducted on August 31, September 4, and September 9, 2009. This consisted of a windshield survey of the area adjacent to the stream segment and a stream walk of all accessible portions of the 9 mile segment. The purpose of the survey was to validate and assess land cover data and identify possible sources of pollution.

The stream walk began upstream of the identified impaired segment as denoted by Georgia EPD's GIS shapefile of the 2008 303(d) list. The assessable portions of the stream were walked, land cover verified, and potential sources of fecal coliform pollution documented. Due to the heavy tree canopy which covers large portions of the stream, it was not possible to geolocate the locations of the included figures using our GPS unit. Figures are included and follow the segment from its headwaters to its confluence with the Chattahoochee River.

## **3.0 FIELD FINDINGS**

### **3.1 General Characteristics of Watershed**

The field findings discussed here are the results of the visual field survey performed adjacent to and at specific accessible points throughout the designated segment. The character of the watershed can be described as heavily urbanized with the majority of land cover consisting of commercial and residential areas. The watershed consists of many smaller arterial streets, Bankhead Hwy which bisects the watershed from east to west, and portions of two major interstates, I-20 and I-285.

The Proctor Creek impaired stream segment is bordered by a vegetative buffer that varies from old growth hardwoods in the uppermost headwaters of the segment, to City maintained parks, to a protected natural area in the last 2 – 3 miles of the segment. Other areas lacked a true vegetative buffer with some residential yards maintained to the stream bank and other areas consisting of stacked rip rap to control erosion and sedimentation. Much of the vegetative buffer between the headwaters and Simpson road were almost completely covered by kudzu. The density of the kudzu became less further down the stream and was almost non-existent through the protected natural area.

Photographs of the existing land use adjacent to the stream and characteristics of the accessible portions of the stream which were walked are provided as Figures X-XX.

### 3.2 Physical Characterization

The Proctor Creek impaired stream segment is a perennially flowing, warm, clearwater stream. The substrate is dominated primarily by sand (0.06 - 2mm diameter), but the segment also has areas that are composed of a mixture of gravel (2 -64mm), cobble (64 – 256mm), boulders (>256mm), exposed bedrock and small amounts of deposited silt and clay depending on the site at which the substrate is surveyed. One section, beginning downstream of Burbank Dr. and ending downstream of Simpson Rd., consists of an entirely concrete stream channel. The riparian zone on each bank consists of a partly shaded to shaded canopy which is dominated by trees with a thick underbrush in non-developed portions of the segment. Near residential area, utility crossings, and commercial areas, the canopy became much more open or was non-existent.

Evidence of both partial and full stream bed channelization is apparent throughout much of the 9 mile segment. Local water erosion (not including that which results from in-channel stormwater loads) is moderate in nature with stormwater ditches and sediment accumulation present within the impaired segment. There were isolated instances of wildlife damage to the stream banks where the banks had been worn down from beaver and deer accessing the creek. Rainfall has begun eroding these trails. Beaver activity was noted within the natural area and south to the confluence with the Chattahoochee River. This included signs of feeding, cut vegetation, scat, but no signs of dam building.

Natural restrictions were noted much more frequently in the headwaters than were noted further downstream where the creek was wider. There were several instances where sanitary sewer lines crossing the segment were blocking larger debris such as tree logs and wood pallets and flow is restricted at these points with a resulting accumulation of sediment and trash debris.

There had not been any rain within 24 hours prior to the visual field survey which resulted in the water clarity being very clear for most of the stream segment. Only one portion of the stream showed signs of opaque turbidity. This section was located between Simpson Rd and North Ave. The water was an opaque brown but no obvious sources for this coloration could be determined. At North Ave, the water became very foamy and there was a slight chemical odor.

Samples of sediment removed from the stream bed did not give off any unusual smells. There were instances of chemical odors at various points along the impaired segment but no obvious sources of these odors were identified. Periphyton was noted on the stream bed substrate throughout the majority of the stream where suitable substrates such as cobble, gravel, boulders, or bedrock were present. Filamentous algae approximately 2 – 3 inches in length were also noted growing on streambed substrate, especially below the confluences of tributary inflow. Photographs identifying the typical characteristics of the impaired stream segment are provided as Figures 3 – 48.





**Figure 3. Upstream view of headwaters from Interstate 20**



**Figure 4. Downstream view below Interstate 20**



**Figure 5. Downstream view of gabions from Chickamauga Rd.**



**Figure 6. Chickamauga Rd. culvert**





**Figure 7. Downstream view of kudzu and residence on right bank**



**Figure 8. Downstream view of gabion wall on right bank**



**Figure 9. View of bedrock channel below MLK**



**Figure 10. Upstream view of Proctor Creek**





**Figure 11. Bank failure**



**Figure 12. Confluence of Proctor and tributary from Green's Ferry combined sewer facility (concrete channel)**



**Figure 13. Downstream view from confluence**



**Figure 14. Downstream view from Simpson Rd.**





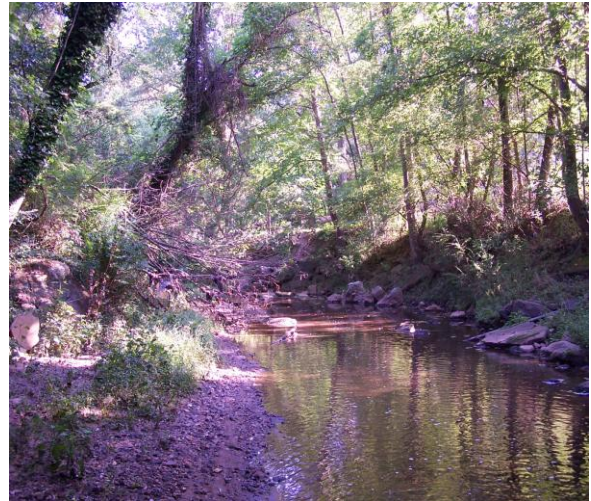
**Figure 15. Upstream view of bedrock channel wall**



**Figure 16. Upstream view of bedrock shelf**



**Figure 17. Downstream view of Proctor Creek from North Ave. (Note foamy water)**



**Figure 18. Downstream view from Hortense Rd.**





**Figure 19. Downstream view of former low - head dam and pipe crossing creek**



**Figure 20. Utility lines and rights-of-way crossing creek**



**Figure 21. Upstream view of Proctor Creek**



**Figure 22. Upstream view of Proctor Creek**





**Figure 23. Bank failure**



**Figure 24. High tension utility line crossing**



**Figure 25. Upstream view of Proctor Creek**



**Figure 26. Downstream view of Proctor Creek**

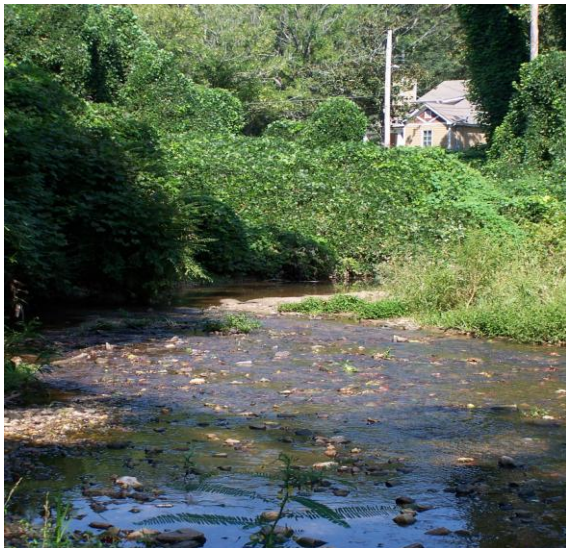




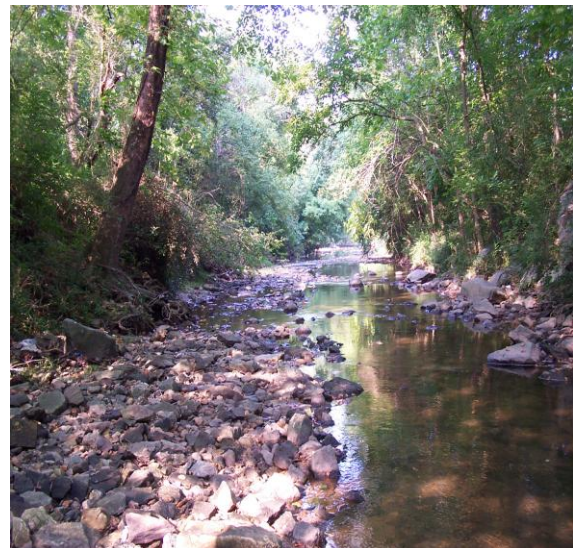
**Figure 27. Downstream view from Johnson Rd.**



**Figure 28. Bank failure**



**Figure 29. Downstream view of residential area**



**Figure 30. Downstream view from Hollywood Rd.**





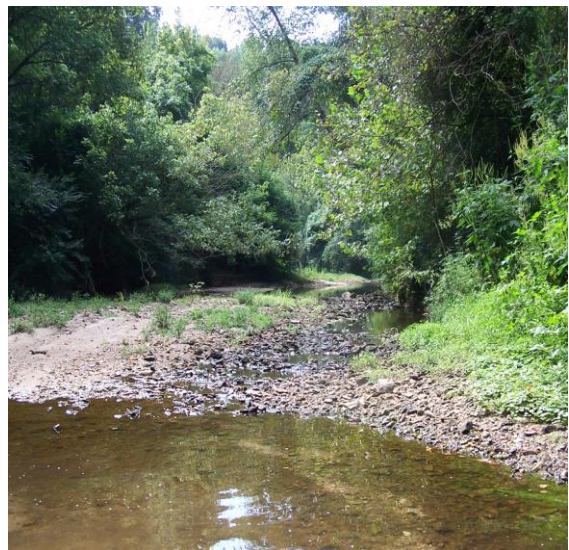
**Figure 31. Downstream view of James Jackson Pkwy**



**Figure 32. Tributary entering left bank at James Jackson Pkwy**



**Figure 33. View of rip-rap and access road next to Proctor Creek**



**Figure 34. Upstream view of Proctor Creek**





**Figure 35. Downstream view of Proctor Creek – Bedrock channel**



**Figure 36. Tributary on right bank**



**Figure 37. Tributary on left bank upstream of Northwest Dr.**



**Figure 38. Downstream view of Northwest Dr.**





**Figure 39. Downstream view from Northwest Dr. – Bolton Rd. and Interstate 285 in the distance**



**Figure 40. Downstream view from beside Interstate 285**



**Figure 41. Tributary on left bank (not marked on stream map)**



**Figure 42. Bank failure**





**Figure 43. Downstream view adjacent to Interstate 285**



**Figure 44. Downstream view of Interstate 285 crossing**



**Figure 45. Upstream view of shoals prior to confluence with Chattahoochee River**



**Figure 46. Downstream view of confluence with Chattahoochee River**



**Figure 47. Upstream view of confluence of Proctor Creek (right) with Chattahoochee River**



**Figure 48. Upstream view of Chattahoochee River and Interstate 285 from Proctor Creek**

### 3.3 Point Sources

The Georgia EPD online databases were reviewed in order to identify any point sources within the Proctor Creek – Headwaters to Chattahoochee River watershed. A total of 7 permitted facilities were identified within the watershed. Of the 7 facilities, 2 are permitted through the National Pollutant Discharge Elimination System (NPDES) permitting process and 5 are landfills. The two NPDES facilities are combined sewer overflow (CSO) facilities which no longer discharge to Proctor Creek on a regular basis. The facilities are allowed a maximum of 4 discharge events per year. The locations of all permitted facilities are provided in Figure 49 and specific facility information is given in Tables 3 and 4.

**Table 3: NPDES Permitted Facilities in Watershed**

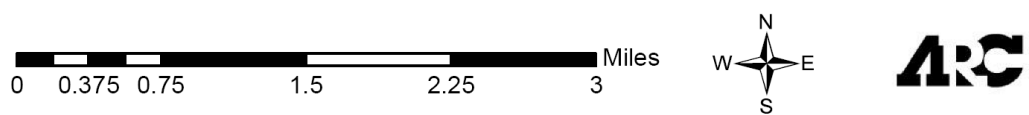
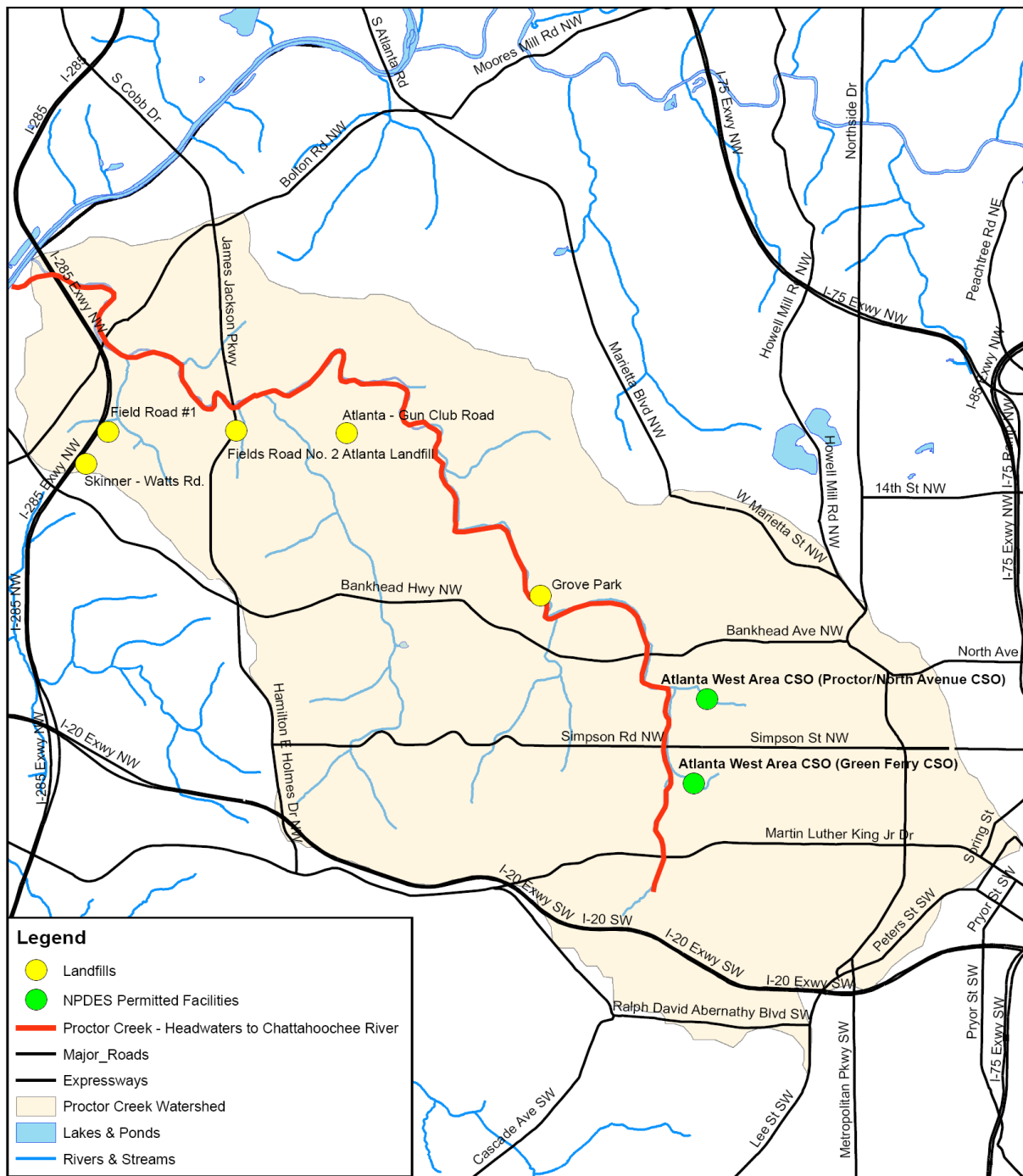
Facility Name	Permit Number	Receiving Water	County	Longitude	Latitude	Date Collected
Atlanta West Area CSO (Green Ferry CSO)	GA0038644	Proctor Creek	FULTON	-84.43	33.76	6/20/2005
Atlanta West Area CSO (Proctor/North Avenue CSO)	GA0038644	Proctor Creek	FULTON	-84.42	33.77	6/20/2005

**Table 4: Landfills within the Watershed**

Facility Name	County	Longitude	Latitude	Permit Number	Private Site	Operation
Grove Park	Fulton	0	0		No	
Skinner - Watts Rd	Fulton	0	0		No	
Atlanta - Gun Club Road	Fulton	-84.46223	33.79201	060-026D(SL)	No	Closed
Fields Road #1	Fulton	0	0		No	
Fields Road #2 Atlanta Landfill	Fulton	-84.474	33.79216	060-033D(L)	No	Inactive



**Figure 49: Point Sources within the Proctor Creek Watershed**



### **3.4 Non-Point Sources**

The visual field survey revealed potential non-point sources of pollutants that may affect Proctor Creek. These included: urban runoff, aging or previously repaired sanitary sewer lines which cross the creek, signs of terrestrial and aquatic wildlife activity; domestic animals with access to, or in close proximity of, the creek; areas where erosion control could be improved; and, excessive amounts of trash and debris that had either washed into the creek or been deliberately placed there. Examples of potential sources of non-point source pollution are given in Figures 50-58.

The watershed is very urbanized. The large amount of impervious parking and rooftops in the commercial areas combined with the amount of paved roads and driveways in the residential areas contributes a large amount of runoff to the Proctor Creek impaired stream segment. Anything deposited on these impervious surfaces may enter the creek via the stormwater system or through direct runoff to the stream.

There were a number of sanitary sewer lines crossing Proctor Creek. Some of the lines had previously been repaired. While no odors or signs of leaks were immediately apparent, some of the lines showed obvious signs of aging, such as flaking rust and divots in the metal, and could become a potential contributor of fecal coliform in the future.

Wildlife tracks observed during the visual field survey included those of raccoons, birds, deer, and beaver. Animal trails were evident on the stream bank suggesting regular access of the creek by wildlife. Dog tracks were prevalent in areas close to residential neighborhoods. Numerous scats from various animal sources was found on the creek bed as well as along the banks

Most instances of potential sediment loading immediately adjacent to the stream appear to be the result of unmanaged stormwater runoff cutting gullies and ditches through the riparian zones to the stream. This has the potential to result in the accumulation of excessive sediment within channel bends and behind vegetative dams. In order to combat excessive bank failure, many sections of creek bank have been stabilized with stacks of wire-cage rip-rap.

Trash that had either been thrown from an overpass, washed from road medians, or deliberately dumped within the riparian zone was apparent at restricted flow points. The trash consisted of items such as potato chip bags, grocery carts, sofas, plastic bags, fast food items, beer and liquor. The vegetation, either acting as a barrier across the stream channel, or hanging low near the water and serving as a strainer, accumulates this material in restricted flow areas.



**Figure 50. Flowing pipe with soapy smell below Simpson Rd.**



**Figure 51. Ductile iron pipe with rubber plug crossing Proctor Creek in headwaters above Interstate 20**





**Figure 52. Repaired and braced sanitary sewer line crossing Proctor Creek**



**Figure 53. Tree growing immediately next to sanitary sewer manhole and rights-of-way**





**Figure 54. Deer track in soft bank sediment**



**Figure 55. Animal trail leading to water (Deer, beaver, and raccoon tracks noted)**





**Figure 56. Bank failure contributing to in-stream sediment load**



**Figure 57. Typical trash deposit in stream**





**Figure 58. Illegal dumpsite at top of bank**

#### **4.0 RANKS ASSIGNED TO NON-POINT POLLUTION SOURCES**

Based on field observations, urban runoff and wildlife are probably contributing the most to the fecal coliform levels in this impaired segment. The magnitude of this source is ranked as moderate and the entire segment is affected. This assessment is based on the number and frequency of stormwater outfalls, stream channelization and the number of wildlife tracks sighted within the stream channel and along the banks.. Based on other findings throughout the impaired segment, a combination of previously repaired and aging sanitary sewer lines, sediment loading as a result of local erosion, trash accumulation, and illegal dumping can also be considered a moderate source affecting portions of the stream segment.

#### **5.0 SUMMARY OF FINDINGS**

The field survey identified potential nonpoint sources of fecal coliform such as urban runoff, sanitary sewer lines crossing the stream, animal wastes, sediment loading as a result of local erosion, and trash accumulation. Proposed management practices to address fecal coliform will be provided by local governments and implemented through a watershed improvement plan.

#### **6.0 STAKEHOLDER INVOLVEMENT**

Results have been made available to stakeholders and local government representatives via mass email.

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## **Appendix E**

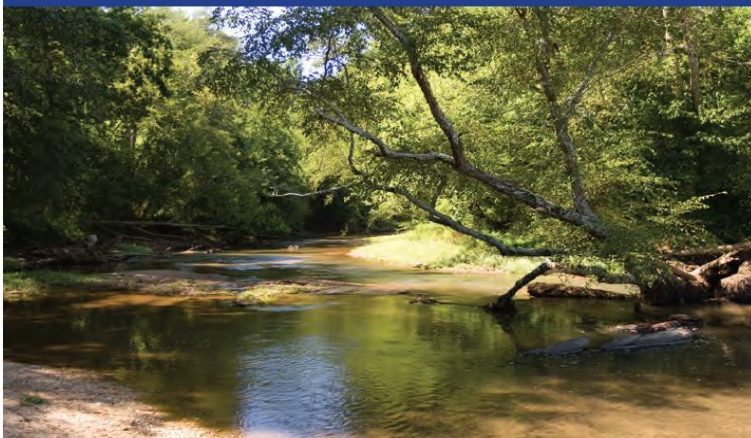
### **Copies of Public Notices and Other Literature**

**[This page intentionally left blank]**

## Initial Proctor Creek Watershed Meeting Announcement (page 1)



### Revision to TMDL Implementation Plan Meeting



You have an  
opportunity to  
get involved.

**August 17, 2009**

**6 – 8 PM**

**Atlanta-Fulton Public Library**

**Dogwood Branch**

1838 Donald Lee Hollowell Pkwy, NW

Atlanta, GA 30318



## Initial Proctor Creek Watershed Meeting Announcement (page 2)



The Atlanta Regional Commission (ARC) will host a public meeting on August 17, 2009 to introduce the process of revising an existing plan for improving water quality in the Chattahoochee River Basin. This revision is intended to facilitate the selection and implementation of a watershed improvement project in the Proctor Creek drainage basin. The watershed improvement project is intended to address pollution from fecal coliform bacteria in the stream in order to achieve water quality standards.

Meeting attendees will hear a presentation about the revision process, be introduced to E. coli bacteria as an indicator species for pathogens in surface waters, and be introduced to the drainage basin and impaired stream of concern. Please consider attending the introductory meeting listed below.

### Revision to TMDL Implementation Plan Meeting

**August 17, 2009 | 6 – 8 PM**

Atlanta-Fulton Public Library | Dogwood Branch  
1838 Donald Lee Hollowell Pkwy, NW | Atlanta, GA 30318

Affected jurisdictions include: City of Atlanta

A copy of the 2004 TMDL Implementation Plan document may be viewed at:

[http://www.gaepd.org/Files\\_PDF/techguide/wpb/TMDL/TMDL\\_Implementation\\_Plans/Chattahoochee/0313000201/TMDLIP\\_ChattahoocheeRiver\\_0313000201\\_Y2004.pdf](http://www.gaepd.org/Files_PDF/techguide/wpb/TMDL/TMDL_Implementation_Plans/Chattahoochee/0313000201/TMDLIP_ChattahoocheeRiver_0313000201_Y2004.pdf)

#### Direct Questions or Comments to:

Atlanta Regional Commission  
Attn: Corey Babb, Senior Environmental Planner  
40 Courtland St. NE | Atlanta, GA 30303  
[CleanerStreams@atlantaregional.com](mailto:CleanerStreams@atlantaregional.com)

The preparation of this mailing was financed in part by the Georgia Environmental Protection Division of the Department of Natural Resources, through a grant from the U.S. Environmental Protection Agency under the Provisions of Section 106 of the Federal Water Pollution Control Act, as amended.



## Screenshot of Meeting Advertisement Posted On Cleaner Streams Website

Cleaner Streams Initiative - Windows Internet Explorer provided by ARC

http://www.atlantaregional.com/environment/water/cleaner-streams

File Edit View Favorites Tools Help

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Cleaner Streams Initiative

ARC  
ATLANTA REGIONAL COMMISSION

ABOUT US INFO CENTER LAND USE ENVIRONMENT TRANSPORTATION LOCAL GOVERNMENT WORKFORCE SOLUTIONS AGING RESOURCES Search ARC GO

Environment

Overview

Tri-State Water Wars

Water

Water Conservation

MRPA Chattahoochee Corridor Protection

Cleaner Streams

Ocmulgee River Basin

Chattahoochee and Flint River Basins

Coosa River Basin

Cleaner Streams Interactive Maps

Stormwater Management

Source Water Assessment Project

Watershed Protection

Clean Water Campaign

Water District

Air

Protection of Greenspace and Cultural Resources

Green Communities

Home | Environment | Water | Cleaner Streams


### Cleaner Streams

#### Leading the Way to Cleaner Streams

Many streams in Georgia are not meeting state water quality standards. To help local governments clean up these streams, [Georgia's Environmental Protection Division](#) (GA EPD) has studied the maximum amount of pollution a stream can receive and still meet water quality standards. These limits are called Total Maximum Daily Loads (TMDLs).

The Atlanta Regional Commission (ARC) helps local governments to develop plans to meet these water quality standards. For more information on the TMDL process please visit the [U.S. Environmental Protection Agency](#) Web site.

- [Altamaha, Ocmulgee and Oconee River Basins](#)
- [Chattahoochee & Flint River Basins](#)
- [Coosa River Basin](#)




Proctor Creek Stakeholders' Meeting

Friday, July 9, 2010  
10:30am - 1:00pm

Community Improvement Assn.  
Environmental Resource Center

435 J.E. Lowery Blvd. NW, Atlanta, GA  
([map](#))

If you have questions regarding the Georgia Adopt-a-Stream program or wish to register for a certification course, please click on the icon below.



#### Final Georgia 2008 305(b)/303(d) List Documents

The Georgia 2008 305(b)/303(d) list of waters was prepared by GA EPD as a part of the 2006 – 2007 assessment of water quality in Georgia prepared in accordance with Sections 305(b) and 303(d) of the [Federal Clean Water Act](#) and guidance from the U.S. Environmental Protection Agency. Assessed waterbodies are classified as supporting or not supporting designated water uses according to a comparison of water quality monitoring results to water quality standards and other pertinent information. This list is updated every two years. The 2008 list is the most current available.

#### June 2008: Final Georgia 2008 305(b)/303(d) List Documents

- [Summary of Formatting Changes made to the 2008 List](#) (PDF)
- [USEPA Approval Letter – June 6, 2008](#) (PDF)

Start | Internet | 100%

Inbox - Microsoft O... 2010-08-18 WW TCC TMDL 2010 WIPs Initial Phase II Meet... Cleaner Streams In... 3:30 PM

## Example Mass Email – Developing Sampling Schedule

**From:** [Corey Babb](#)  
**Subject:** "Potential Saturdays for Proctor Creek Sampling Events"  
**Date:** Monday, March 07, 2011 9:30:59 AM

---

Good Morning Proctor Creek Stakeholders:

I have developed a list of potential Saturdays for conducting E.coli Sampling in the headwaters of Proctor Creek. Please fill out your availability and I will schedule the sampling events. In order to further isolate the problem areas and potentially identify sources of E.coli pollution, it will be necessary to collect some of the samples within the stream and away from our normal bridge sampling locations. Waders or rubber knee boots will be necessary in some cases. However, please feel free to attend even if you are not collecting samples but wish to watch the process.

You must be a Georgia Adopt-a-Stream QA/QC certified volunteer in order to collect E.coli samples for this project. If you are not currently certified, or your certification has expired, please send me an email of interest, and I will look into coordinating a training event for the stakeholder group.

Please click on the link below, enter your name and check all the dates for which you will be available to assist in the sampling effort.

<http://doodle.com/2t37nixit4mrykr7>

I will post maps of the proposed new sampling locations to the Cleaner Streams website and will send a follow-up email with a link once this has been accomplished.

Thank you for your continued support and I look forward to completing this project this year.

Corey D. Babb  
Senior Environmental Planner

Atlanta Regional Commission  
40 Courtland St, NE  
Atlanta, GA 30303  
Ph: 404-463-3323  
fax: 404-463-3254  
[www.atlantaregional.com](http://www.atlantaregional.com)

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## Example Mass Email – Confirming Sampling Dates

**From:** Corey Babb  
**Bcc:** ["Andrew Walter "](#); ["Darryl Haddock "](#); ["Debra Edelson "](#); ["Fawn "](#); ["freetheland"](#); ["jason ulseth "](#); ["jennifer carlile "](#); ["Jo Hall "](#); ["Julie Todd "](#); ["jupali"](#); ["K Scott Robertson "](#); ["Kris Garcia "](#); ["laura hartt"](#); ["lbwalton"](#); ["lisa"](#); ["Marci Healy "](#); ["Mary Gazaway "](#); ["Na"taki O. Jelks"](#); ["NPU-L@live.com"](#); ["osborne"](#); ["Paul Shortell "](#); ["sabdulahad"](#); ["Sally Bethea"](#); ["Susan Rutherford "](#); ["Walt Ray "](#); ["connie.gilliam@dnr.state.ga.us"](#); [Corey Babb](#)  
**Subject:** Saturday Sampling Dates for Proctor Creek  
**Date:** Friday, March 18, 2011 9:56:00 AM  
**Attachments:** [DRAFT ProctorCreek Brochure.pdf](#)

---

Good morning,

Thanks to everyone who responded to the doodle request for Proctor Creek sampling. The dates which seem to work for the most people are as follows.

April 9, 2011  
April 30, 2011  
May 7, 2011  
June 11, 2011  
July 23, 2011

Please add these dates to your calendars. I will post these dates to the Cleaner Streams website and send out reminders each week leading up to a Saturday sampling.

I have also attached a draft tri-fold brochure for your review and comments. The brochure is entitled "Get to Know YOUR Proctor Creek Watershed." It gives a brief overview of what a watershed is, where Proctor Creek's watershed is located, the impairment in Proctor Creek, things you can do to improve the watershed and most importantly, a list of contact numbers of responsible agencies. Please provide your comments and suggestions to me by close of business **Friday, March 25, 2011**. I have limited funding for printing, but will print 50 copies in-house for distribution. I will also provide the printable artwork to anyone in cd format. The brochure has been designed to be printer friendly for your home printer, so it is not necessary to send these to a professional printing company.

Thanks, and I look forward to seeing everyone in the field for sampling.

Corey D. Babb  
Senior Environmental Planner

Atlanta Regional Commission  
40 Courtland St, NE  
Atlanta, GA 30303  
Ph: 404-463-3323  
fax: 404-463-3254  
[www.atlantaregional.com](http://www.atlantaregional.com)

## Example Mass Email – Meeting Scheduling

**From:** [Environmental](#)  
**To:** ["awalter@atlantaga.gov"; "jcarlile@atlantaga.gov"; "jtodd@atlantaga.gov"; "sabdulahad@atlantaga.gov"; "kgarcia@atlantaga.gov"; "debra.edelson@tpl.org"; "osborne@nwf.org"; "john\\_oliver@urscorp.com"; "bill.braswell@century21.com"; "ctbuld@mindspring.com"; "srutherford@atlantaga.gov"; "freetheland@live.com"; "dhaddock@wawaonline.org"; "allen.johnson@parsons.com"; "gill.glascock@comcast.net"; "8256Fost@bellsouth.net"; "lhartt@ucriverkeeper.org"; "julseth@ucriverkeeper.org"; "Sally Bethea"; "sudvardy@gaconservancy.org"; "BKMorton@atlantaga.gov"; "NPU-L@live.com"; "mkw@maltalandscape.com"; "kwood@pecatl.com"; "alwilsonIII@gmail.com"; "bruce@brucewidener.com"; "bwatson@croengineering.com"; "wayne\\_waldrip@bellsouth.net"; "corval@eminc.biz"; "btolar@ga-agribusiness.org"; "george.taylor@opc.com"; "rsu194@comcast.net"; "martin\\_smith@numail.org"; "martin@guca.com"; "yomisholarin@yahoo.com"; "k\\_scott\\_robertson@yahoo.com"; "dreeves@hunterindustries.com"; "cpruitt@speng.com"; "marjepoole@yahoo.com"; "Lphillipssr@aol.com"; "jo@councilforqualitygrowth.org"; "olsonew52@bellsouth.net"; "knorton@paulsonmitchell.com"; "mmorton6@gmail.com"; "bmillkey@adamsre.biz"; "bmillkey@bishdevco.com"; "dougmiell@gmail.com"; "mcmullen.chuck@gmail.com"; "taviamccuean@forestargroup.com"; "gamartin@southernco.com"; "james.martell@att.net"; "6782223000@itelconnect.com"; "staceylovet@att.net"; "crfjtl@bellsouth.net"; "klaquait@volkert.com"; "jim.kurtz@coldwellbankeratatlanta.com"; "ed@southernsprinklers.com"; "gene.kelly@therainbarrelcompany.com"; "whowe@wheeinc.com"; "henryrip@bellsouth.net"; "pheardt@mindspring.com"; "msg@gea-llc.com"; "doug.fulle@opc.com"; "mlfloyd390@gmail.com"; "kfeeman@comcast.net"; "leecduncan@yahoo.com"; "jdterrapin@yahoo.com"; "steven.culp@veoliawatema.com"; "sp\\_culp@yahoo.com"; "dcook@wbengr.com"; "ehc@mindspring.com"; "bbunker@brookwoodpm.com"; "abowling@gscsurvey.com"; "haboone@bellsouth.net"; "rick\\_blackwell2007@yahoo.com"; "dahushpup@aol.com"; "ginger.blackstone@dol.state.ga.us"; "kbentley8068@charter.net"; "Femi.Adesanya@hatchmott.com"; "Mary Gazaway"](#)  
**Subject:** Meeting Availability to Discuss DRAFT Monitoring Plan for Proctor Creek  
**Date:** Tuesday, January 05, 2010 1:20:45 PM

---

Good Afternoon,

I hope everyone had a wonderful holiday season and is excited to return to work on Proctor Creek. I would like to check your availability during the week of Jan. 25 – 29, 2010 to meet and discuss the DRAFT Monitoring Plan for Proctor Creek.

Please respond to this email at your earliest convenience with available dates and a morning or afternoon designation for each date.

Once a meeting date has been scheduled, I will forward a copy of the DRAFT plan to everyone for review prior to the meeting.

Thanks.

Corey D. Babb  
Senior Environmental Planner  
Atlanta Regional Commission  
40 Courtland St., NE  
Atlanta, GA 30303  
Phone: 404-463-3323  
Fax: 404-463-3254  
[www.atlantaregional.com](http://www.atlantaregional.com)

## Example Mass Email – Updating Stakeholders on Progress

**From:** Corey Babb  
**Bcc:** ["Andrew Smith "](#); ["Andrew Walter "](#); ["Connie Gilliam "](#); ["Darryl Haddock "](#); ["Debra Edelson "](#); ["Fawn "](#); ["freetheland"](#); ["jason ulseth "](#); ["jennifer carlile "](#); ["Jo Hall "](#); ["Julie Todd "](#); ["jupali"](#); ["K Scott Robertson "](#); ["Kris Garcia "](#); ["laura hartt"](#); ["lbwalton"](#); ["lisa"](#); ["Marci Healy "](#); ["Na"taki O. Jelks"](#); ["NPU-L@live.com"](#); ["osborne"](#); ["Paul Shortell "](#); ["sabdulahad"](#); ["Sally Bethea"](#); ["Susan Rutherford "](#); ["Walt Ray "](#)  
**Subject:** New Proctor Creek Finding  
**Date:** Monday, May 09, 2011 9:19:00 AM  
**Attachments:** [Proposed Proctor Creek Monitoring Locations 066.jpg](#)

---

Good Morning,

Based on the data collected on April 19<sup>th</sup>, 2011 at site P2-#6, staff from the City of Atlanta, Atlanta Regional Commission and a water quality monitoring volunteer walked the concrete channel to the site of the former Greens Ferry CSO. During the course of this walk, a strong odor was detected. This odor was determined to be coming from a stormwater outfall in the right bank (facing downstream) of the channel. A sample was collected and resulted in a Too Numerous to Count (TNTC) result.

On May 3, 2011, Staff from the City of Atlanta and the Atlanta Regional Commission returned to the site to collect a confirmation sample. Staff also met with repair crews from the City's Sewer Department. The sewer staff flushed the line, conducted a dye test and confirmed that the sanitary sewer system was leaking into the storm system. The damaged sanitary sewer line was inspected via cctv to determine the exact location of the damage and a repair crew was dispatched to the scene.

I have attached a photograph of the repair crew on the scene.

Thanks to everyone involved who helped to identify this source and conduct repairs.

Corey D. Babb  
Senior Environmental Planner

Atlanta Regional Commission  
40 Courtland St, NE  
Atlanta, GA 30303  
Ph: 404-463-3323  
fax: 404-463-3254  
[www.atlantaregional.com](http://www.atlantaregional.com)

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## Example Mass Email – Final Project Meeting Announcement

**From:** Corey Babb  
**Bcc:** "Andrew Smith "; "Andrew Walter "; "Connie Gilliam "; "Darryl Haddock "; "Debra Edelson "; "Fawn "; "freetheland"; "jason ulseth "; "jennifer carlile "; "Jo Hall "; "Julie Todd "; "jupali"; "K Scott Robertson "; "Kris Garcia "; "laura hartt"; "lbwalton"; "lisa"; "Marci Healy "; "Na"taki O. Jelks"; "NPU-L@live.com"; "osborne"; "Paul Shortell "; "sabdulahad"; "Sally Bethea"; "Susan Rutherford "; "Walt Ray "  
**Subject:** Final Proctor Creek Stakeholders Meeting  
**Date:** Thursday, August 11, 2011 3:32:00 PM  
**Attachments:** [Final Proctor Creek Meeting Flyer.pdf](#)

---

Good Afternoon,

The Atlanta Regional Commission (ARC) and the City of Atlanta will host a public meeting on **August 24, 2011 from 2 – 4 PM**. The purpose of the meeting is to discuss the results of activities undertaken in 2011 to identify sources of E.coli bacteria in the Proctor Creek watershed, Atlanta, GA. Meeting attendees will hear a presentation about the results of the field collection and analysis of E.coli samples and take part in a discussion of what the next steps should be to continue improving water quality in the watershed.

The meeting will take place at:

**City of Atlanta**  
**Department of Watershed Management**  
**72 Marietta St, 6th Floor**  
**Atlanta, GA 30303**

For a map of the location, click [here](#).

Please feel free to contact me if you have any questions.

Corey D. Babb  
Senior Environmental Planner

Atlanta Regional Commission  
40 Courtland St, NE  
Atlanta, GA 30303  
Ph: 404-463-3323  
fax: 404-463-3254  
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## Final Meeting Announcement



# Proctor Creek Watershed Improvement Meeting

**August 24, 2011**

**2-4 PM**

**Location:**

City of Atlanta  
Department of Watershed Management  
72 Marietta St, 6th Floor  
Atlanta, GA 30303

The Atlanta Regional Commission (ARC) and the City of Atlanta will host a public meeting to discuss the results of activities undertaken in 2011 to identify sources of E.coli bacteria in the Proctor Creek watershed, Atlanta, GA. Meeting attendees will hear a presentation about the results of the field collection and analysis of E.coli samples and take part in a discussion of what the next steps should be to continue improving water quality in the water-

**Direct questions or comments to:** *Corey Babb, Senior Environmental Planner*  
Atlanta Regional Commission  
40 Courtland St. NE Atlanta, GA 30303  
[CleanerStreams@atlantaregional.com](mailto:CleanerStreams@atlantaregional.com)

The preparation of this flyer was financed in part through a grant from the United States Environmental Protection Agency under the provisions of Section 604(b) of the Federal Water Pollution Control Act, as amended.



## Outside and Inside Views of Quick Facts Booklet Developed for Proctor Creek

For more information visit  
[www.atlantaregional.com/CleanerStreams](http://www.atlantaregional.com/CleanerStreams)

or contact  
Corey Babb | (404) 463-3323  
CleanerStreams@atlantaregional.com



### Quick Facts: Proctor Creek Watershed, Atlanta, GA

The **Atlanta Regional Commission** is working with interested parties to improve water quality in **Proctor Creek**. This work will result in the development of a Watershed Improvement Plan.

Purpose of the Watershed Improvement Plan

1. Develop **local capacity** to monitor stream segments
2. Identify potential **sources of pollution** in the watershed
3. Identify appropriate **measures** for restoring water quality
4. **Provide a strategy** for securing funding

### Proctor Creek Impaired Stream Segment

**Location** – Headwaters to Chattahoochee River

**County** – Fulton County

**River Basin** – Chattahoochee

**Designated Use** – Fishing

**Current 305(b)/303(d) Listing Status** – Not Supporting

**Criterion Violated** – Fecal Coliform

**Potential Causes** – Urban Runoff, Combined Sewer Overflows

**Extent of Impairment** – 9 Miles

**Date of TMDL Development** – 2003



## Proctor Creek Watershed Tri-fold Brochure (page 1)



### What are potential sources of fecal coliform?

- » Leaking sewer pipes
- » Wildlife waste
- » Sewer overflows
- » Soil erosion
- » Stormwater runoff
- » Trash and litter
- » Pet waste

### How can you improve the Proctor Creek Watershed?

- » Place litter in trash receptacles.
- » Report illegal dumping.
- » Keep trash dumpsters closed at all times.
- » Pick up after your pet.
- » Do not feed stray animals.
- » Do not dump anything down a storm drain.
- » Do not pour or dump anything into the creek.
- » Place cooking oil and grease in a sealable container, seal and dispose in a trash can.
- » Report odors that smell like sewage.
- » Have your home's sewer connection inspected.
- » Get involved with Adopt-a-Stream.

## Who to contact

### To report sewer backups, spills or missing manhole covers:

*City of Atlanta, Bureau of Wastewater Treatment and Collections*  
**404-658-6500**

### To report stormwater issues:

*City of Atlanta, Bureau of Watershed Protection*  
**404-330-6000**

### To report unmaintained property:

*City of Atlanta, Office of Code Compliance*  
**404-330-6190**

### To report stray or free-roaming animals:

*Fulton County Animal Services*  
**404-613-0358**

### To report health-related nuisances:

(including rat infestations, mosquito infestations, overflowing trash dumpsters)

*Fulton County Environmental Health Services*  
**404-730-1301**

### To report litter or illegal dumping:

*City of Atlanta, Office of Solid Waste Services*  
**404-330-6240**

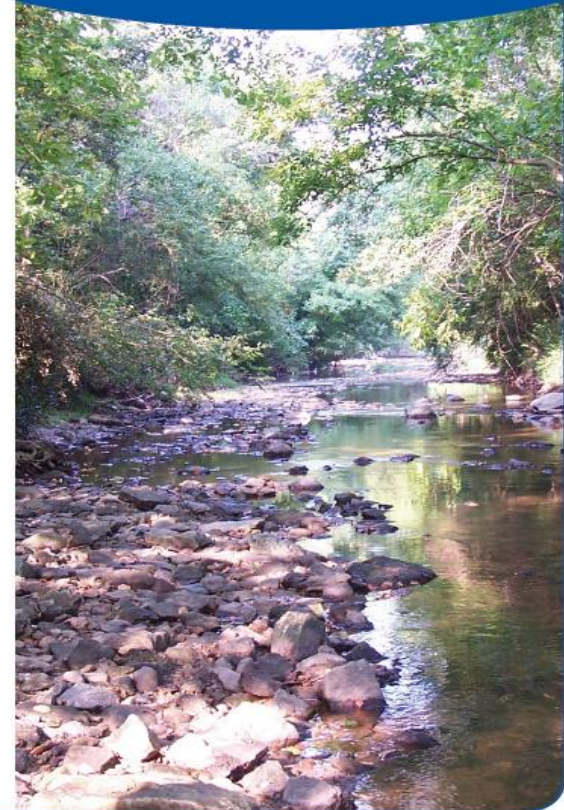
### To report litter at bus stops:

*Metropolitan Atlanta Rapid Transit Authority (MARTA)*  
**404-848-5000**

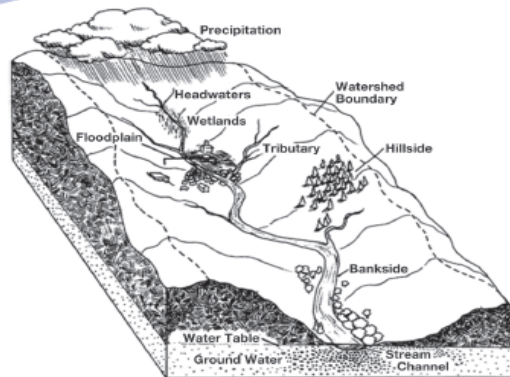
**ARC** Atlanta Regional Commission  
40 Courtland Street, NE | Atlanta, Georgia 30303  
404.463.3256 | FAX 404.463.3254

The preparation of this brochure was financed in part through a grant from the United States Environmental Protection Agency under the provisions of Section 604(b) of the Federal Water Pollution Control Act, as amended.

## Get to Know YOUR Proctor Creek Watershed



## Proctor Creek Watershed Tri-fold Brochure (page 2)



### What is a Watershed?

A watershed is the area of land from which all the water, soil, dissolved materials, trash and pollutants contained under or on that land drain to a common waterbody. The boundaries of a watershed are marked by the highest points of land around the waterbody.

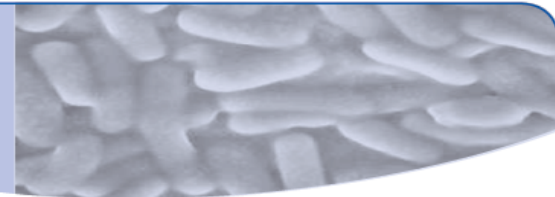
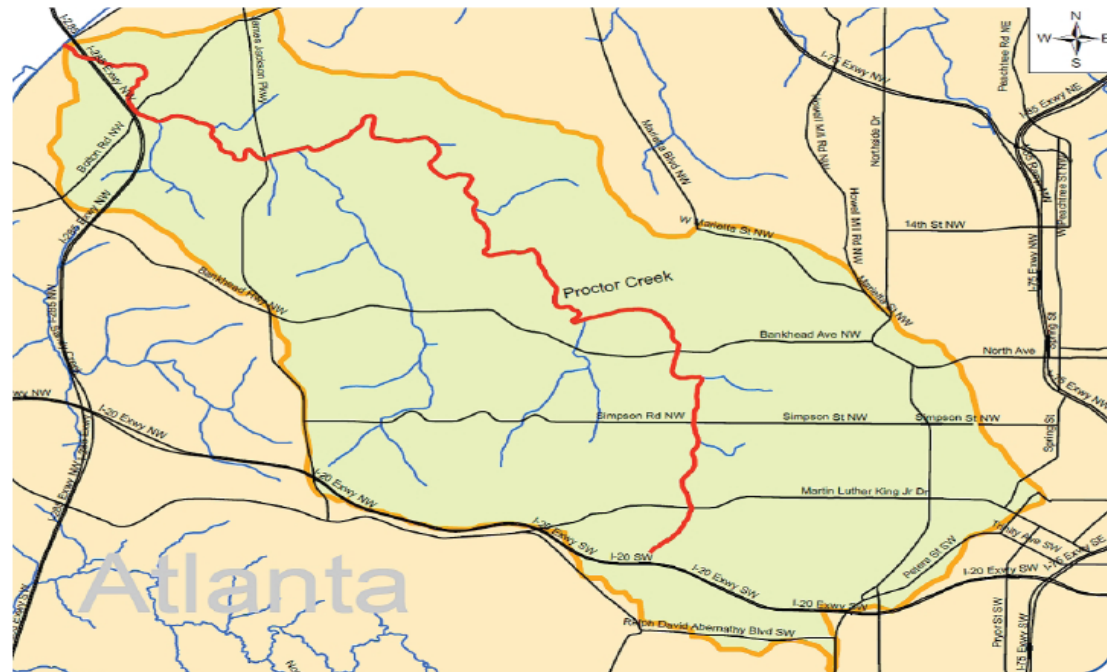
### Where is the Proctor Creek Watershed?

The Proctor Creek watershed is one of many watersheds that make up the Chattahoochee River Basin. The watershed is located in Fulton County and is wholly contained within the City of Atlanta. It is bound by Ralph David Abernathy Blvd. to the south, Marietta St. to the northeast and I-285 to the west. Points of interest include the Georgia World Congress Center, the Georgia Dome, Vine City and Maddox Park. The watershed drains approximately 10,198 acres of heavily urbanized land to Proctor Creek. Proctor Creek is a major tributary of the Chattahoochee River.

### Did You Know that Proctor Creek is Impaired?

The State has placed Proctor Creek on its list of waters not meeting State-mandated water quality requirements. It is not meeting water quality requirements due to the presence of high numbers of fecal coliform bacteria. The impaired segment is 9 miles long. As shown in the map below, the segment (in red) begins near I-20 and flows northwest to its confluence with the Chattahoochee River near I-285.

### Proctor Creek Watershed



### What is Fecal Coliform?

Fecal coliform is a type of bacteria that indicates potential harmful pathogens may be present in the waterbody. Fecal coliform is measured in colony forming units per 100 milliliters of water (cfu/100mL).

#### State Fecal Coliform Standard

200 cfu/100mL - May to October

1000 cfu/100mL - November to April

# **Appendix F**

## **Meeting Minutes**

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**SIGN-IN SHEET**  
 Proctor Creek Stakeholders Meeting  
 435 Joseph E. Lowery Blvd. NW  
 July 9, 2010

NAME	ORGANIZATION OR MAIL ADDRESS	PHONE	EMAIL
Cory Babb	ARC		
Walt Ray	Park Pride	404-432-9320	walt@parkpride.org
Ilana Babb	West Atlanta Watershed Alliance		
Tony Lamm	GA	(678) 603-1858	tonylamm@ga.gov
Lee Watson	MATREC/KBI	4/817-0245	lwatson@matrec.com
Mari Healy	NCR	(800) 272-9010	marihealy@gmail.com
JASON WISETH	NCR	404-352-9828	julseth@ucriverkeeper.org
Paul Shorten	NCR		pshorten@ucriverkeeper.org
Julie Todd	COA	4-546-1254	JTodd@AtlantaGA.gov
Andrew Wajda	COA	4-546-1253	awajda@atlantaga.gov

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Proctor Creek Stakeholders Meeting  
July 9, 2010



NAME	ORGANIZATION OR MAIL ADDRESS	PHONE	EMAIL
Susan Rutherford	City of Atlanta - watershed mgmt	404-546-1251	Srutherford@atlantaga.gov
Mary Gazaway	Georgia EPD	404-675-1745	Mary.Gazaway@dnr.state.ga.us
NATIKI O. JELKS	WAWA	404-375-8484	njelks@gmail.com

**Proctor Creek Meeting Summary**  
**March 24, 2011**

Representatives from the Atlanta Regional Commission, City of Atlanta and the Upper Chattahoochee Riverkeepers met on Thursday, March 24, 2011, at 11:00 a.m. at the Upper Chattahoochee Riverkeeper's office located at 916 Joseph E. Lowery Blvd. NW Atlanta, GA 30318.

**Attendance**

Corey Babb, Atlanta Regional Commission  
Julie Todd, City of Atlanta Watershed Management  
Kris Garcia, City of Atlanta Watershed Management  
Jason Ulseth, Upper Chattahoochee Riverkeeper  
Michael Meyer, Upper Chattahoochee Riverkeeper  
Caitlin Cleveland, Upper Chattahoochee Riverkeeper

Jason Ulseth of the Upper Chattahoochee Riverkeepers (UCRK) staff welcomed everyone and opened the meeting. The purpose of the meeting was to coordinate sampling efforts between the cooperating stakeholder groups.

**Sampling Effort Coordination**

Jason Ulseth provided the meeting attendees with sampling results collected between February 2010 and March 2011. An overview of the trends in fecal coliform levels was also provided in the chart "Proctor Site Comparison of E.coli (MPN) Over Time". Mr. Ulseth indicated that no sources had been discovered based on the sampling effort.

The UCRK provided an overview of their scouting of sample sites proposed by the Atlanta Regional Commission (ARC). They indicated that sites P2 - #7 and P2 - #8 were dry ditches and not appropriate for sampling. They also indicated that access to P2 - #5 and P2 - #6 would be difficult once the kudzu and bramble begin to grow. ARC staff will confirm these findings and alter sampling locations as necessary to ensure ease of accessibility and safety of volunteers.

A discussion was held concerning the best approach to coordinating sampling efforts between the stakeholders. It was agreed that the Upper Chattahoochee Riverkeepers would continue sampling the four locations outlined in the provided materials in collaboration with the West Atlanta Watershed Alliance (WAWA). These sampling events will occur on each Thursday. The ARC and the City of Atlanta (COA) will focus on the headwaters of Proctor Creek from North Avenue upstream to north of the I-20 crossing. These sampling events will occur on selected Saturdays between April 9 and July 23, 2011. The COA will conduct additional sampling of the headwater sites on selected Tuesdays between April 9 and July 23. It was agreed that both the UCRK and the ARC/COA would collect samples from the Simpson Road site in order to compare results and analysis methods.

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8/23/11 Sign-in sheet

<u>NAME</u>	<u>Affiliation</u>	<u>Email</u>
Cory Bell	ARC	
Julie Todd	COA	JTodd@AtlantaGA.gov
JASON UCSEY	UCR	julseth@ucriverkeeper.org
Katie Powell	COA	Kepowell@atlantaga.gov
LEE WALTON	AMEC	lee.walton@amec.com
Dan Rice	Ecological Solutions	dan.rice@ecologicalsolutions.net
Kris Garcia	COA	kgarcia@atlantaga.gov
Susan Rutherford	COA	srutherford@atlantaga.gov
Debra Edelson	TPL	
Tony TORRENCE	CIA	FREEtheLand@LIVE.COM
Darryl Haddock	WANA	darryl.haddock@yahoo.com
Christine Stauber	GSU	cstauber@gsu.edu
Juliet Cohen	UCR	jcohen@ucriverkeeper.org



## **Proctor Creek Meeting Summary**

### **August 24, 2011**

Proctor Creek Stakeholders met on Wednesday, August 24, 2011, at 2:00 p.m. at the City of Atlanta's Department of Watershed Management office located at 72 Marietta St, Atlanta, GA 30303.

#### **Attendance**

Corey Babb, Atlanta Regional Commission  
Julie Todd, City of Atlanta Watershed Management  
Kris Garcia, City of Atlanta Watershed Management  
Jason Ulseth, Upper Chattahoochee Riverkeeper  
Katie Powell, City of Atlanta Watershed Management  
Lee Walton, AMEC  
Dan Rice, Ecological Solutions  
Susan Rutherford, City of Atlanta Watershed Management  
Debra Edelson, Trust for Public Land  
Tony Torrence, Community Improvement Association  
Darryl Haddock, West Atlanta Watershed Alliance  
Christine Stauber, Georgia State University  
Juliet Cohen, Upper Chattahoochee Riverkeeper

Corey Babb of the Atlanta Regional Commission staff welcomed everyone and opened the meeting. The purpose of the meeting was to provide an overview of E.coli data collected during the 2010 and 2011 sampling seasons, rank and prioritize identified sources and discuss how to address these identified sources in the watershed improvement plan.

#### **Overview of 2010 and 2011 E.coli Targeted Monitoring Data**

Corey Babb presented an overview of the results of data collected during the 2010 and 2011 monitoring seasons. This included a discussion of the results, how the results were used to refine the targeted monitoring locations and how the results led to the identification of sources. Activities taken to address and resolve identified sources were also reviewed.

For 2010, this included identification and replacement of an aged sanitary sewer crossing downstream of Johnson Rd. and source tracking of an illegal discharge of motor oil and subsequent installation of good housekeeping measures.

For 2011, accomplishments included cleanup and removal of trash from an illegal dumpsite near Cairo St., cleanup and removal of an "urban campsite", identification and repair of a broken sewer line at Troy St., identification of an improperly repaired private service lateral crossing Proctor Creek adjacent to Rockmart Dr. and the source tracking of elevated levels of E.coli to an area upstream of the Greensferry CSO. The basin upstream of the Greensferry CSO is being smoke tested to determine if there are any cross connections or line breaks.

#### **Ranking and Prioritization of Identified Sources of E.coli**

Stakeholders attending the meeting were asked to provide any additional potential sources of E.coli pollution. One additional source was identified by the stakeholders and will be included in the watershed improvement plan. This source was sanitary sewer overflows (SSO).

Stakeholders were then asked to rank the identified sources according to the extent of the impairment, the magnitude of the impairment, the estimated contribution of E.coli from the identified source and assign the source a priority ranking on a scale of 1 to 5 with 1 being of highest importance and 5 being the lowest importance.

Stakeholders agreed that it is difficult to provide quantitative measures for extent and magnitude of the sources. Rather than providing guesses of acreage affected or feet of stream affected, the stakeholders used qualitative scales of high, medium or low. In one instance, in order to identify the extent of sanitary sewer overflows, the term localized was used as a descriptor.

Stakeholders chose to allow Corey Babb to assign estimates of contribution from each source. The stakeholders will provide comments as to the appropriateness of each estimate of contribution during the public comment period.

### **Overview of Existing Management Measures**

Stakeholders were presented with existing management measures in the watershed and asked to discuss their effectiveness. Existing management measures were taken from the 2009 TMDL Implementation Plan Status Report and Update for Proctor Creek prepared by the City of Atlanta and the Atlanta Regional Commission.

It was agreed that while much had been accomplished, many of the management measures provided were non-structural in nature and did not directly impact the levels of fecal coliform in the creek. It was determined that additional management measures that were structural in nature (green infrastructure, bank restoration) were necessary in order to potentially lower those levels.

### **Proposal of Additional Management Measures**

Stakeholders were asked to suggest additional management measures that could be implemented to further reduce fecal coliform levels. Suggestions provided by the stakeholders included installation of an in-stream litter trap, a green infrastructure demonstration project, additional green space acquisition, development of an educational website which focuses on water quality/management issues, development of stock workshops/presentations which could be utilized by stakeholder organizations in reaching out to the community, development of a "watershed sheriffs" program, identification of appropriate stream restoration projects and homeowners assistance in implementing good housekeeping measures for protecting water quality.

Stakeholders were then asked to identify areas in which they could help implement these ideas. The areas identified included providing assistance in writing a 319(h) grant proposal, identifying appropriate locations for green infrastructure demonstration or stream restoration projects and providing assistance in reaching out to the local community.

### **Measurable Milestones**

In order to measure the effectiveness of any additional management measures which are implemented, stakeholders were asked to suggest measurable milestones for tracking purposes. It was agreed that the only measurable milestone which would be of any concern to the stakeholder group is improvements in water quality. An additional monitoring component will be included in the watershed improvement plan to track effectiveness of implemented measures.

The meeting was adjourned.