

STATE OF GEORGIA
REVISED TMDL IMPLEMENTATION PLAN
TALLAPOOSA RIVER BASIN
Revision 01; April 28, 2006

COPPER

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

The initial TMDL Implementation Plan was part of the TMDL developed in 2004. This Revision supercedes the initial TMDL Implementation Plan.

This Implementation Plan is applicable to the following segments in the Chattahoochee River Basin:

Impaired Waterbody	Location	Miles/Area Impacted
Buffalo Creek	Downstream Southwire Corp. (Carroll County)	3
Buffalo Creek	Upstream Little Tallapoosa River (Carroll County)	6
Tributary to Buffalo Creek	Carrollton (Carroll County)	1

INTRODUCTION

The Georgia Environmental Protection Division (GAEPD) has identified three segments in the Tallapoosa River Basin as impaired due to exceedances of the water quality standard for Copper. All are listed as not supporting their designated use of Fishing. The Fishing classification, as stated in *Georgia's Rules and Regulations for Water Quality Control* Chapter 391-3-3-(6)(c), is established to protect the "propagation of Fish, Shellfish, Game and Other

Aquatic Life; secondary contact recreation in and on the water; or for any other use requiring water of a lower quality.”

The Buffalo Creek watershed is located in Carroll County, Georgia, near the City of Carrollton. Carrollton is west of the metropolitan Atlanta area, on the western border of Georgia. Buffalo Creek is listed from downstream of the Southwire Corporation to the confluence with the Little Tallapoosa River, and is broken into two segments for listing. The current land use is predominately a mixture of pasture and forest. The area is developing and becoming more urban.

DISCUSSION OF POLLUTANT

Copper is a naturally occurring element that is found in various compounds with other elements. The metallic form of Copper has a number of common uses such as water pipes, coinage, and electrical wiring & components. Copper salts such as copper sulfate are used in agriculture as a fungicide.

POLLUTANT SOURCES

The potential sources of Copper in these watersheds are from both point sources and nonpoint sources. Title IV of the Clean Water Act (CWA) establishes the National Pollutant Discharges Elimination System (NPDES) permit program. The NPDES permit program requires permits for the discharge of “pollutants” from any “point source” into “waters of the United States” (40 CFR 122.1). There are two categories of NPDES permits: 1) municipal and industrial wastewater treatment facilities and 2) regulated storm water discharges. Industrial and municipal wastewater treatment facilities have NPDES permits with effluent limits. These permit limits are either based on federal and state effluent guidelines or on water quality standards. Municipal and industrial wastewater treatment facilities’ discharges may be contributing Copper to the receiving waters. There are three NPDES permitted discharges identified in these watersheds. They are listed in the Table below.

Facility Name	Permit Number	Receiving Waters	NPDES Permit Limits			
			Flow ¹ (MGD)	Daily Max Copper (lbs/day)	Total Heavy Metals ⁴ (µg/L)	PH
Southwire (Wire Plant)	GA0001139	Buffalo Creek	02a, 03a, 04a, 06a- Combine sewer overflows Low stream conditions			
			Monitor	0.329 ³	NA	>5.0 and <9.0
Southwire (Wire Plant)	GA0001139	Buffalo Creek	02b, 03b, 04b- Combine sewer overflows High stream flow conditions			
			Monitor	Monitor	NA	>5.0 and <9.0

Southwire (Copper Division)	GA0001571	Buffalo Creek	Monitor ²	Monitor	1000	>6.0 and <9.0
Holox, Ltd.	GA0037494	Buffalo Creek	NA	NA	NA	NA

¹ Monitoring is required only when a discharge is occurring

² Wastewater treatment plant and commingled storm water

³ Applies when actual discharge flow and receiving stream flow result in a daily average instream wastewater concentration (IWC) of 13.2% or greater.

⁴ Total Heavy Metals is defined as the sum of cadmium, total chromium, copper, lead, nickel, silver, and zinc.

Storm water NPDES permits establish industrial non-point source controls. Currently, regulated storm water discharges include those associated with industrial activities, construction sites five acres or greater, and large and medium municipal separate storm sewer systems (MS4s). There are numerous industrial sites in the watershed. The seven facilities listed in the Table below have submitted a Notice of Intent (NOI) to be covered under Georgia's General Storm Water NPDES Permit Associated with Industrial Activities. It is unknown at this time whether these facilities are contributing Copper to the watershed. It is unknown if there are any construction sites in these watersheds.

Facility Name	NOI Number	Receiving Watershed
Cofer Tehnology Center	01346	Buffalo Creek
Holox, Inc.	02481	Buffalo Creek
Houghton International, Inc.	00322	Buffalo Creek
Southwire – Oak Mountain Academy	03012	Richards Lake
Souhwire Company – Machinery Division	00350	Buffalo Creek
Southwire Company – Wire Mills	00351	Buffalo Creek
Southwire Copper Division	00353	Buffalo Creek

Storm water discharges from MS4s are diverse in pollutant loadings and frequency of discharge. All cities and counties within Georgia with a population greater than 100,000 at the time of the 1990 Census are permitted for storm water discharge. This includes 60 permittees, 45 of which are located in the greater Atlanta metro area. MS4 permits prohibit non-storm water discharges in the storm sewer systems and require controls to reduce the discharge of pollutants to the maximum extent practicable, including the use of management practices, control techniques and systems, and design and engineering methods. There are no known MS4s contributing Copper to the watersheds.

There are two inactive landfills in the watersheds of the listed segments. It is unknown whether these are contributing Copper to the watershed at this time. It

is unknown whether any nonpoint sources potentially cause or contribute to exceedances of the water quality standard for Copper. The available data indicated that sediments in Buffalo Creek contain Copper which could contribute to a background load.

PLAN FOR IMPLEMENTATION OF TMDL

Through its NPDES permitting process, GA EPD will determine whether the permitted dischargers to the listed watersheds have a reasonable potential of discharging Copper at levels equal to or greater than the allocated load. The results of this reasonable potential analysis will determine the specific type of requirements in an individual facility's NPDES permit. GA EPD will use its USEPA-approved 2001 NPDES Reasonable Potential Procedures to determine whether monitoring requirements or effluent limitations are necessary. If effluent limitations or monitoring requirements are determined to be necessary for any of these facilities, it is recommended that concentration limits or concentration monitoring requirements be imposed in addition to any loading limits or monitoring requirements.

GA EPD will also encourage local governments and stakeholders to continue implementing management practices and activities that are already in place, including watershed assessments of pollutant sources and controls as well as water quality sampling and monitoring.

REMEDIATION ACTIVITIES

The Southwire Company is involved with a Resource Conservation and Recovery Act (RCRA) site remediation. Eleven solid waste management units (SWMUs) and one hazardous waste management unit (HWMU) potentially impacted by metals have been identified at the Southwire Copper Division facility. Six SWMUs potentially impacted by metals have been identified at the Southwire Wire Mill Facility. Each of these units will be evaluated to determine the extent of soil, surface water, and groundwater impact. The GA EPD Hazardous Waste Management Branch is working with Southwire to define and schedule the RCRA activities.

Southwire has completed remediation efforts in the headwaters and streambed of a tributary to Buffalo Creek, which enters Richards Lake from the southeast. In 1995, 1996 and 1999, sections of the creek were cleaned by excavating impacted soils and sediments. Also, in 1999 a soil and streambed project was completed to remove slag material from the Southwire Copper Division smelting operation, which had been used as structural fill material on Oak Mountain Academy property in the 1970s. The streambed from the Oak Mountain

Academy property towards Richards Lake was also remediated (Southwire, 2003).

In June of 2000, smelting operations were permanently discontinued, eliminating fugitive and stack air emissions. Smelter and tank house equipment have been decontaminated, demolished and completely removed from the site. The potential for mechanical and electrical failures to cause unpermitted discharge from the combined sewer handling and treatment system has been virtually eliminated by a complete upgrade to the system done by Southwire in 2000 and 2001. The facility typically discharges less than six times a year and only during severe rainfall events. Since 1997, Copper concentrations in Buffalo Creek downstream of Southwire have decreased approximately 85 to 90% and approximately 90% in the tributary to Buffalo Creek (Southwire, 2001 & 2003).

MONITORING PLAN

The GA EPD has adopted a basin approach to water quality management that divides Georgia's fourteen major river basins into five groups. This approach provides for additional sampling work to focus on one of the five basin groups each year and offers a five year planning and assessment cycle. The Coosa, Tallapoosa and Tennessee River Basins were the subjects of focused monitoring in 2001 and 2005.

EDUCATION/OUTREACH ACTIVITIES

The Environmental Protection Division will continue to provide guidance and education to the public on water quality issues through outreach by the Watershed Protection Branch. Permitted discharges will be regulated through the NPDES permitting process. EPD is working with local governments, agricultural, and forestry agencies such as the Georgia Department of Agriculture, the Natural Resources Conservation Service, the Regional Development Centers, the Georgia Soil and Water Conservation Commission, and the Georgia Forestry Commission to foster the implementation of best management practices to address nonpoint sources. Public education efforts will be targeted to stakeholders to provide information regarding the use of best management practices to protect water quality.

REFERENCES

Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6-.03,
Water Use Classifications and Water Quality Standards,
Revised February 2004.

GA EPD, 2004. Total Maximum Daily Load Evaluation for Two Segments of
Buffalo Creek and Tributary to Buffalo Creek in the Tallapoosa River Basin
for Copper. January 2004.