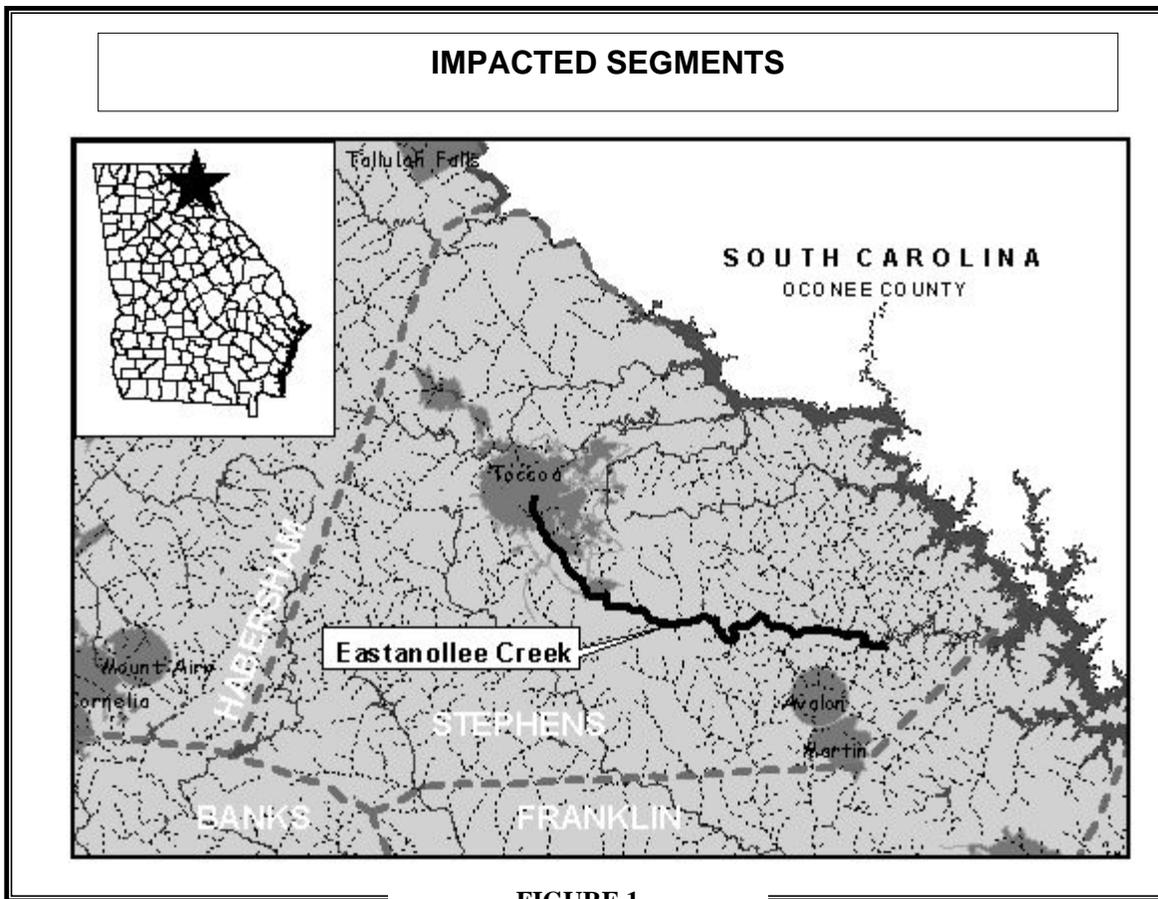


**STATE OF GEORGIA  
TMDL IMPLEMENTATION PLAN**

**For Zinc in Eastanollee Creek  
Savannah River Basin**

Prepared by  
The Georgia Department of Natural Resources  
Environmental Protection Division  
Atlanta, GA

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 overall goal of the Plan is to define a set of actions that will help achieve water quality standards in the state of Georgia.



| Impaired Waterbody Name | Location                | Miles/Area Impacted | River Basin |
|-------------------------|-------------------------|---------------------|-------------|
| 1. Eastanollee Creek    | Toccoa to Lake Hartwell | 14                  | Savannah    |

**INTRODUCTION**

Georgia's final 2002 Section 303(d) list identified Lake Hartwell as not supporting its designated use due to zinc.

## DISCUSSION OF POLLUTANT

Zinc is a common metallic element with a variety of uses. It is used a coating to rustproof steel, in dry batteries, and to make alloys such as brass and bronze. Zinc compounds are widely used to make paint, rubber, dyes and wood preservatives. Excessive amounts of zinc have been shown to be deleterious to health.

## WATERBODIES COVERED IN THIS PLAN

On the 2000 Section 303(d) list, the state of Georgia included 14 miles of the Eastanollee River from Toccoa to Lake Hartwell. The Total Maximum Daily Load (TMDL) for zinc in Eastanollee Creek is as follows:

### Point Sources

Wasteload Allocation (WLA)

Dissolved chronic criterion: .336 kg /day total dissolved (96-hour average)  
*.615 kg / day total recoverable*

Dissolved acute criterion: .368 kg /day total dissolved (1-hour average)  
*1.278 kg /day total recoverable*

### Nonpoint Sources

Load Allocation (LA)

Dissolved chronic criterion: .103 kg /day (96-hour average at 7Q10 flow)

Dissolved acute criterion: .104 kg /day (9g-hour average at 1Q10 flow)

### TMDL

Dissolved chronic criterion: .439 kg /day (96-hour average at 7Q10 flow)

Dissolved acute criterion: .472 kg / day (96-hour average at 1Q10 flow)

## POLLUTANT SOURCES

The TMDL finalized in July, 2001 identified two potential point sources of zinc within the watershed. These sources are the City of Toccoa WPCP (Permit # GA00218144) and the Coats American manufacturing facility (Permit # GA0002038). In addition to the point sources, the TMDL also identifies urban runoff as an additional contributor to zinc loading within the Eastanollee Creek watershed. GA EPD specifically indicates in the 2000 303(d) list that overflowing manholes are a potential contributor to the zinc impairment.

## PLAN FOR IMPLEMENTATION OF TMDL/ MONITORING PLAN

Both permits for the point dischargers have been revised to reflect the TMDL. The revised permit for the City of Toccoa WPCP requires monthly effluent monitoring while the Coats American permit requires quarterly effluent monitoring.

In 1994 samples taken upstream from the two major point dischargers in Eastanollee Creek indicated zinc was present in levels that exceeded the acute criterion for the metal. This finding indicated that other, nonpoint sources could be contributing to the zinc loading in the stream.

Efforts to address the nonpoint source(s) of zinc are already underway within the watershed. Consent Order No. EPD-WQ-3276 (Order) was executed in 1996 by the City and the State of Georgia Environmental Protection Division (EPD) to address violations at the Facility. The Order required the

City to perform actions to identify and correct the sources of infiltration and inflow into the sewer system required to meet water quality criteria in Eastanollee Creek. In response, the City agreed to comply with the permitted effluent limitations at the Facility and completed construction of the Facility upgrade (treatment units and processes) on October 11, 1999.

The City of Toccoa continues to experience violations of the permitted effluent limitations at the Facility and numerous overflows from the sewer system. As a result, a second Consent Order (EPD-WQ-3648) was issued September 28, 1999. The City is performing ongoing actions to identify and correct the sources of infiltration and inflow into the sewer system and is reporting these actions to the EPD on a quarterly basis.

## **MONITORING PLAN**

The NPDES permit #GA0021814 requires monthly monitoring of effluent zinc.

## **EDUCATION/OUTREACH ACTIVITIES**

The Environmental Protection Division will continue to provide guidance and education to the public on all water quality issues through outreach by the Water Protection Branch.

## **STAKEHOLDERS**

City of Toccoa, Coats American Inc.

## **REFERENCES**

Agency for Toxic Substances and Disease Registry, 1999. *Zinc* CAS # 7440-66-6.