

**STATE OF GEORGIA  
TMDL IMPLEMENTATION PLAN**

**For Cadmium in Turkey Branch  
Suwannee 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.

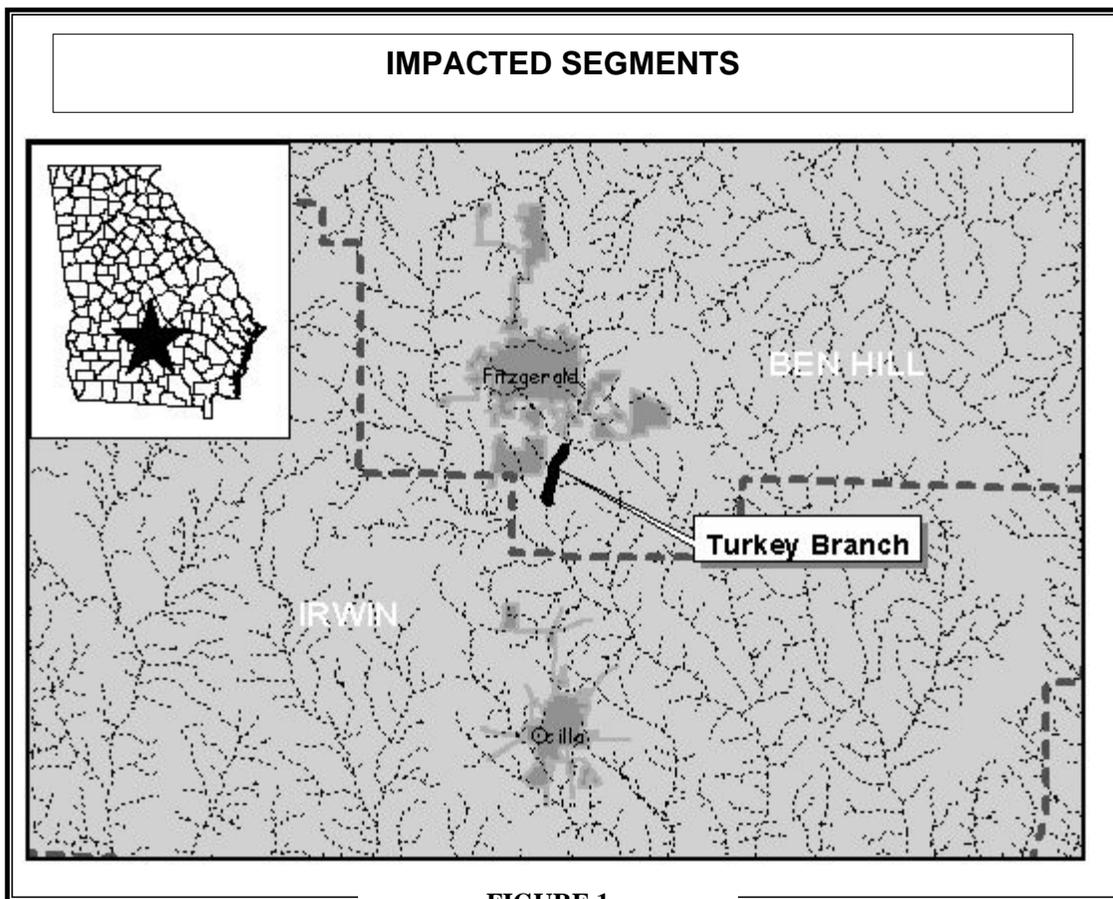


FIGURE 1

Impaired Waterbody Name	Location	Miles/Area Impacted	River Basin
1. Turkey Creek	Fitzgerald	8	Suwannee

## **INTRODUCTION**

In June 2000, the Georgia Environmental Protection Division (GA EPD) established a Total Maximum Daily Load (TMDL) for cadmium. The City of Fitzgerald WPCP (NPDES Permit # GA0047236) treats both municipal and industrial wastewater using an activated sludge system. It is the only major point discharger in the Turkey Branch watershed. The dissolved cadmium chronic criterion is .82µg/l while the acute dissolved cadmium acute criterion is 2.65µg/l for the critical conditions established in the TMDL.

## **DISCUSSION OF POLLUTANT**

Cadmium is a naturally occurring metal that is frequently used in electroplating and in rechargeable batteries. Cadmium compounds have been used to create pigments for artists' paints, enamels, ceramics and glasses. Cadmium pigments have also been used to color plastics.

Cadmium is a known toxin. In humans, the element tends to bio-accumulate in internal organs such as the kidneys. Cadmium compounds may enter the water through erosion of soils, atmospheric deposition resulting from metal smelting operations and discharge from industrial sources. Since the early 1900's, cadmium levels in the environment have decreased due to improved production and recovery methods.

## **WATERBODIES COVERED IN THIS PLAN**

The State of Georgia's 2002 Section 303(d) list identifies 8 miles of Turkey Branch from its headwaters to its confluence with the Willacoochee River as not supporting its designated use of fishing due to cadmium. The TMDL established for low-flow critical conditions is as follows:

Chronic=0.07842 kg/day

Acute= .25290 kg/day

## **POLLUTANT SOURCE(S)**

The TMDL identifies the C.A. Newcomer WPCP as a municipal point source for the impairment.

## **PLAN FOR IMPLEMENTATION OF TMDL/ MONITORING PLAN**

The discharge permit for the City of Fitzgerald's C.A. Newcomer WPCP was revised on August 28, 2002 to include effluent and instream monitoring for cadmium. Terms of the revised permit require the City of Fitzgerald to monitor total recoverable cadmium once per month for twelve months after issuance of the permit. Should the results indicate that cadmium is present at levels of concern, GA EPD may reopen the permit to include specific chemical limits for these parameters.

## **STAKEHOLDERS**

City of Fitzgerald, Ben Hill County, Delphi Automotive Systems, Aeroquip Corp., Custom Profiles Corp.

## **REFERENCES**

Agency for Toxic Substances and Disease Registry, 1999. *Cadmium CAS # 7440-43-9.*