STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN

ALTAMAHA RIVER BASIN

LOW DISSOLVED OXYGEN DUE TO POINT SOURCES

Prepared by
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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.

This Implementation Plan is applicable to the following segements in the Altamaha River Basin:

Impaired Waterbody	Location	Miles/Area Impacted
Big Cedar Creek	Little Cedar Creek to Ohoopee River	3
Ohoopee River	Neels Creek to Little Ohoopee River	18
Ohoopee River	Little Ohoopee River to U.S. Hwy 292	23
Swift Creek	Old Norrmantown Rd. to Pendleton Creek	5

DISSOLVED OXYGEN DUE TO POINT SOURCES

INTRODUCTION

The Altamaha River Basin is part of the Middle Three Basins in Georgia. The Althamaha contains two 8-digits Hydrologic Unit Codes (HUCs), the Ohoopee River Basin and the Altamaha River Basin. The four (4) segments of the Altamaha River Basin listed were placed on the 303(d) list for low dissolved oxygen concentration based on water quality modeling results and not for measured dissolved oxygen concentrations below the water quality standard. Georgia Environmental Protection Division (GAEPD) maintains a database of current National Pollutants Discharge Elimination System (NPDES) Permits and GIS files that locate each permitted outfall. Monthly Discharge Monitoring Reports (DMRs) for 1999 were downloaded from the Permit Compliance System (PCS). Table 1 shows the four point sources that discharge into or upstream of an impaired segment and NPDES permit limits for contributing point sources that was used for modeling.

Table 1			**June 1999 Monthly Average Permit Limits**			
NPDES Permit	**Facility Name**	**Receiving Water**	**Flow (mgd)**	**DO (mg/L)**	**BOD (mg/L)**	**NH3 (mg/L)**
GA0022900	Doc Rogers Correction Inst.	Ohoopee River	0.85	2	30	17.4
GA0025488	Vidalia WPCP	Swift Creek	1.88	6	10	2
GA0032395	Wrightsville Pond	Big Cedar Creek	0.75	6	30	17.4
GA0033391	Lyons North WPCP#2	Swift Creek	0.67	6	10	2

DISCUSSION OF POLLUTANT

Naturally occurring low levels of dissolved oxygen are often the result of high organic (leaf litterfall, decomposing plants) loading, slow flows (due to minimum topographical relief) and elevated temperatures in a surface water system.

The data collected by the USGS in Georgia during 1999 showed that dissolved oxygen impairments were limited to small, headwater streams where the drainage areas are relatively small and dry weather flows are low, or zero. In the downstream reaches of

larger watersheds where the flows are higher and not intermittent, and the assimilative capacity is therefore greater, the dissolved oxygen concentrations always met the minimum standard of 4.0 mg/l, and the daily average of 5.0 mg/l.

POLLUTANT SOURCES

Allocations were based on EPA Dissolved Oxygen Criteria that states if the natural dissolved oxygen is less than the standard, then only a 10% reduction in the natural condition is allowed. Or, the target limits are defined as 90% of the naturally occurring dissolved oxygen concentration at critical conditions. Two conditions are apparent when plotting the Ohoopee River Basin. First, upstream the total cause of oxygen deficits below the 90% on natural standard is two point sources (one on Dyers Creek and the other on Big Cedar Creek). Second, downstream the free flowing portion of the Ohoopee River Basin, the effects of all point sources in the basin combined are small, and dissolved oxygen at critical conditions rises above the standard of 5 mg/L. This means that no regulatory intervention will be required for the downstream free flowing stretches of the Ohoopee River. But, intervention will be required upstream where dry weather flows are low or zero and stream channels are dominated by the point sources discharges.

PLAN FOR IMPLEMENTATION OF TMDL

For the four segments listed one point source, Wrightsville Pond (GA0032395) will need to be completely removed to meet water quality standards. GA EPD is currently in the process of discussing the implications of the TMDL and their available options with the City of Wrightsville. Two additional point sources needed to be reduced by 50%. They are Vidalia WPCP (GA0025488) and Lyons North WPCP #2 (GA0033391). GA EPD modified the waste load allocation (WLA) for these point sources during the NPDES permitting renewal process. The remaining point source does not need a reduction.

MONITORING PLAN

The GAEPD has adopted a basin approach to water quality management; an approach that divides Georgia's fourteen major river basins into five groups. Each year, the GAEPD water quality monitoring resources are concentrated in one of the basin groups. One goal is to continue to monitor 303(d) listed waters. The next monitoring cycle for the Altamaha River Basin is in 2004 and will help further characterize water quality conditions resulting from the implementation of best management practices in the watershed.

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. Permitted discharges will be regulated through the NPDES permitting process. EPD is working with local governments, agricultural, and forestry agencies such as the Natural Resources Conservation Service, The Regional Developments 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 individual 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 December 2002.

GAEPD, 2002. Atlamaha River Basin Dissolved Oxygen TMDLs. February 2002.