



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2004IN162B

Title: Phosphorus Deposition in an Agricultural Drainage Ditch and Constructed Wetlands System

Project Type: Research

Focus Categories: Agriculture, Non Point Pollution, Nutrients

Keywords: Nonpoint source pollution, agricultural watershed, constructed wetlands

Start Date: 12/01/2003

End Date: 11/30/2004

Federal Funds: \$20,000

Non-Federal Matching Funds: \$40,000

Congressional District: 4th

Principal Investigators:

None

Abstract

Nutrients used in agriculture tend to adhere to soil particles and are subsequently transported to ditches and streams by tile drainage and surface runoff. Increased concentrations of nutrients, principally phosphorus and nitrogen, in streams can lead to undesirable increases in plant and algae growth, low dissolved oxygen, and consequent decreases in aquatic life variety. Concentrations of phosphorus in water are generally low, and small increases can have large repercussions. Deposits of nutrient laden sediments in streams and wetlands can then act as a source of phosphorus nonpoint pollution.

Most watershed nutrient studies rely on values derived from water samples. This project will examine phosphorus deposition and distribution in the bed of a headwaters agricultural ditch and an associated constructed wetland. The data will complement extensive water quality data previously collected for this site. In addition to determining the spatial distribution of phosphorus, the mobility of nutrients stored in sediments and organic matter of the wetlands will be examined during the spring "flush" of the wetlands.