



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2002IA1B

**Title:** Modeling, GIS, and Technology Transfer in Support of TMDL Development and Implementation in Iowa

**Project Type:** Research

**Focus Categories:** Water Quality, Models, Law, Institutions, and Policy

**Keywords:** TMDL, water quality, GIS, modeling, environmental policy

**Start Date:** 03/01/2001

**End Date:** 02/28/2003

**Federal Funds:** \$15,379

**Non-Federal Matching Funds:** \$31,211

**Congressional District:** Iowa 3rd

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**Abstract**

This project integrates the research base on nonpoint source pollution control and watershed modeling and Geographic Information Systems (GIS) developed at Iowa State University's Department of Agricultural and Biosystems Engineering with research capabilities at other centers and departments on campus to focus on key issues which will be faced in Iowa in implementing TMDLs on impaired watersheds and water bodies. The long-term goal of this project is to focus on developing critically needed decision support framework for enhancing the TMDL decision-making and implementation process by combining relevant information on in-stream water quality, pollutant sources, and alternative best management scenarios with issues related to costs and equity. The overarching aim is to develop tools and information resources that support and enlighten stakeholder input and participation and lead to better informed, science-based, and publicly acceptable management decisions regarding TMDLs.

This project, in combination with other ongoing water quality monitoring and bio-economic modeling efforts, will result in a more practical approach to the development and implementation of TMDLs in Iowa. While the initial focus of the project is on waterbodies and watersheds impacted by agriculture, the approach and methods will be applicable to other TMDL issues in the state. Through the interaction with the Iowa Department of Natural Resources (IDNR), the Iowa State Water Resources Research Institute (ISWRRI) and other agencies and organizations, this project will provide valuable information needed for TMDL development and implementation both in Iowa and nationwide. Given the highly controversial

nature of TMDL, research is needed now than ever to provide the tools needed to make tough and costly decisions mandated for effective watershed management.