



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: ND461

Title: Effects of Fathead Minnows and Drainage on Wetland Ecosystems

Focus Categories: Ecology, Water Quality

Keywords: fish, wetlands

Start Date: 03/01/2001

End Date: 02/28/2002

Federal Funds: \$4,200

Non-Federal Matching Funds: \$9,321

Congressional District: First

Principal Investigator:

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Abstract

Wetlands serve as critical habitat for numerous species within the prairie landscape, but the ecology of these ecosystems is poorly known. One concern is the influence of fathead minnows on wetlands, as alterations of the prairie landscape may be increasing the proportion of basins supporting minnow populations. Additionally, extensive loss of prairie wetlands has necessitated restoration of these important ecosystems, but few studies have assessed the success of these efforts. We are investigating the effects of fathead minnows on prairie wetlands and evaluating the ecological success of wetland restoration by studying 20 prairie wetlands in Minnesota from 1996-1999. We used a 2X2 factorial design to examine the effects of fathead minnows (presence:absence) and wetland history (restored:non-drained) on the abundances of aquatic invertebrates, amphibians, aquatic macrophytes, and phytoplankton, as well as water clarity and water-column concentrations of phosphorus and nitrogen. We have completed data collection for this study, and we are proceeding with data analysis and preparation of manuscripts. Funding requested in this proposal will be used for the stipend of a graduate student during the final three months of this study.