Environment and Natural Resources Trust Fund
2010 Request for Proposals (RFP)

LCCMR ID: 154-E2

Project Title:

Delineating Priority Aquatic Habitat Investment Opportunities

LCCMR 2010 Funding Priority:

E. Natural Resource Conservation Planning and Implementation

Total Project Budget: $ $519,400

Proposed Project Time Period for the Funding Requested: 2 years, 2010 - 2012

Other Non-State Funds: $ $0

Summary:

This project will use GIS to identify and map strategic aquatic habitat investment opportunities that achieve goals described in SCPP, State Wildlife Action Plan, and National Fish Habitat Action Plan.

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Sponsoring Organization: DNR

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Location:

Region: Statewide

County Name: Statewide

City / Township:

_____ Knowledge Base _____ Broad App. _____ Innovation

_____ Leverage _____ Outcomes

_____ Partnerships _____ Urgency _____ TOTAL

MAIN PROPOSAL

PROJECT TITLE: Delineating Priority Aquatic Habitat Investment Opportunities

I. PROJECT STATEMENT

Minnesota DNR Section of Fisheries Management is an active partner in the National Fish Habitat Action Plan (NFHAP, www.fishhabitat.org). Fish Habitat Partnerships (FHPs), the regional operational units of NFHAP, are broad coalitions of stakeholders that seek to protect, restore, and enhance aquatic habitats under the overarching goals of the national plan. Together five FHPs overlay the entire state of Minnesota (see map) and focus on natural lakes, streams in SE Minnesota, the Upper Mississippi River basin, Lake Superior shoreline and tributaries, and rivers and streams in the Red River Valley.

The goal of this project is to apply GIS analysis to identify strategic investment opportunities throughout the state that fit within the framework of the Statewide Conservation and Preservation Plan (SCPP), the State Wildlife Action Plan (SWAP), and the strategic plans of the five FHPs. While the SCPP and SWAP provide important insights into conservation challenges and potential solutions, places on the landscape to apply restoration and protection are currently addressed only in broad geographic terms (e.g., regional or political subdivision). This analysis will focus on the hydrologic boundaries as the unifying scale at which cause and effect relationships between land uses, hydrology and biotic communities are best determined.

Our analysis will utilize a suite of stressor variables known to contribute to 1) alteration of natural hydrologic conditions, 2) disruption of energy flow within the environment, and 3) destabilization of aquatic systems and biotic communities. Stressor variables will be derived from GIS data representing various measures of land use, population density, human infrastructure, water consumption (groundwater and surface water), impediments to fish movement, and pollution point sources. In addition, each FHP will utilize regionally and locally available GIS data relevant to their respective aquatic system focus, such as population growth projections, aquatic plant management permits, stream buffers, location of springs, etc... Minnesota DNR is currently completing work to delineate lake watersheds that will be used to assess individual lake systems greater than 10 acres in size.

From this analysis, priority projects can be packaged into proposals and advanced by appropriate partners for funding consideration that will leverage federal funds with various partner sources (e.g., private donations, non-profit budgets, agency discretionary budgets, Clean Water Legacy Fund, Outdoor Heritage Fund, etc.). This systems-level understanding is desperately needed to inform local and regional decisions if we are going to ensure abundant clean water and suitable aquatic habitats.

This project will achieve the described goal through a combination of existing temporary agency staff and contracts for professional/technical services with qualified third parties.

II. DESCRIPTION OF PROJECT RESULTS

Result 1: GIS Analysis and Support **Budget:** $ 519,400

This result will fund 1-FTE ($65,000/yr) and multiple professional/technical contracts with universities and other qualified entities ($180,000/yr) to complete the GIS analysis. Existing analysis results from the 2007/2008 SCPP will be used as a starting point from which additional national and regional variables that are relevant to the respective FHPs will be incorporated to address systems-level relationships at a local watershed scale. The 2007/2008 SCPP analysis was resolved down to the township scale for some portions of the state where data were available (see figure H-18, page 58 of the SCPP). This project will expand on that level of resolution to provide habitat scoring that is resource-specific (i.e., for a lake watershed or a reach of stream; see illustration showing example of available lake watershed detail contained within township boundaries in the Brainerd Lakes Area).

Deliverable	Completion Date
1. Coordinate GIS needs with respective FHPs	September 30, 2010
2. Develop scope of work and draft P/T contract(s)	October 31, 2010
3. Issue P/T contract(s)	November 30, 2010
4. Conduct GIS analysis and develop maps of priority areas	On-going ending June 30, 2012

III. PROJECT STRATEGY

A. Project Team/Partners

Project Team: Jason Moeckel, Operations Support Supervisor, Division of Fish & Wildlife will serve as project manager; Michael Duval, Lakes Management Coordinator, MnDNR, Division of Fish & Wildlife will serve as the coordinator with the Fish Habitat Partnerships; Lyn Bergquist, GIS Coordinator, MnDNR, Division of Fish & Wildlife will serve as technical supervisor of GIS project activities; Leslie Jagger, GIS Specialist, MnDNR, Division of Fish & Wildlife will conduct agency-directed GIS project activities.

Partners: Pat Rivers, Midwest Glacial Lakes Partnership (a National Fish Habitat Partnership); Jeff Hastings, Driftless Area Restoration Effort (a National Fish Habitat Partnership); Ken Lubinski, Fishers and Farmers Fish Habitat Partnership (Candidate); Steve Krentz, Great Plains Prairie Fish Habitat Partnership (Candidate); Pam Dryer, Great Lakes Fish Habitat Partnership (Candidate)

B. Timeline Requirements

The timeline for this project is two years. We anticipate that some GIS data layers will need to be created or refined in order to complete the assessment. Some of these layers have been refined under an existing grant from USFWS to the Midwest Glacial Lakes Partnership. Compilation and refinement of data layers is anticipated to take the greatest amount of time for this project. The assessment will utilize a minimum of 17 variables identified by the NFHAP Science and Data Committee, which will require a significant amount of computer time to complete over the entire state. Following the analysis, data will need to be reviewed for quality and accuracy prior to finalizing the assessment.

C. Long-Term Strategy

This proposal is a discrete task that will identify strategic areas to develop on-the-ground project proposals. As such, there is no further obligation for funding from the LCCMR; however, this project will generate a suite of strategic project areas and project categories (restoration, protection, and enhancement) that will contribute toward achieving SCPP aquatic habitat goals across the state. Such a catalog of identified projects affecting system-level problems has the added benefit of better positioning the state to recommend projects for rapidly emerging funding opportunities such as the federal American Recovery and Reinvestment Act of 2009 or Minnesota's new constitutional amendment. Long-term measures of success from this assessment will be in the form of various organizations and state and federal agencies working together with landowners and local and regional units of government to make land and water use improvements that benefit aquatic habitats.

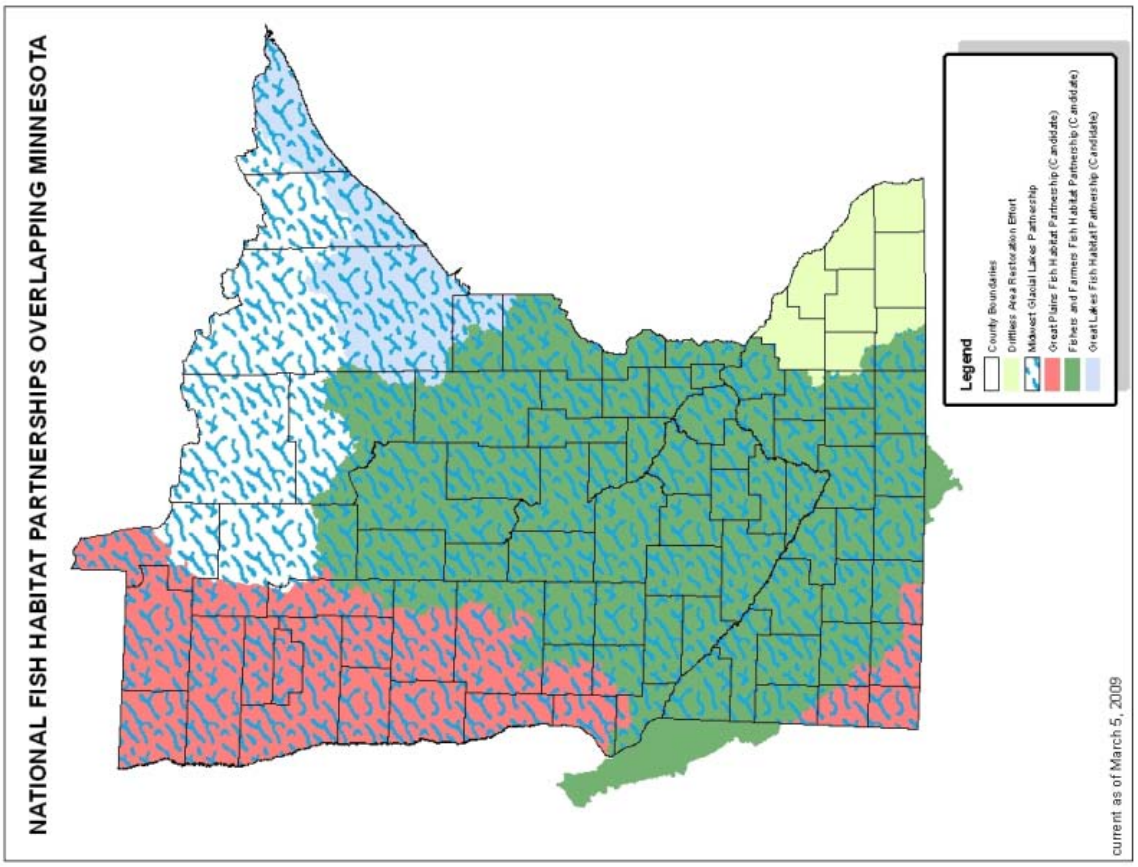
Project Budget

IV. TOTAL PROJECT REQUEST BUDGET (Two years)

BUDGET ITEM *(See list of Eligible & Non-Eligible Costs, p. 13)*	**AMOUNT**
Personnel:	$ -
Leslie Jagger (100% FTE) -- Temporary GIS Specialist; 65% salary/35% bens.; 24-mo appt.; conduct Midwest Glacial Lakes FHP GIS assessment work	$ 130,000
Contracts: *In this column, list out proposed contracts. Be clear about whom the contract is to be made with and what services will be provided. If a specific*	$ -
1. P/T contract to qualified academic or commercial vendor to conduct Fishers and Farmers FHP GIS assessment (Upper Mississippi River basin)	$ 120,000
2. P/T contract to qualified academic or commercial vendor to conduct Great Lakes Basin FHP GIS assessment (Lake Superior tributaries)	$ 120,000
3. P/T contract to qualified academic or commercial vendor to conduct Great Plains Prairie Fishes FHP GIS assessment (Red River and Big Sioux basins)	$ 120,000
4. Profession Services - contract administration	$ 29,400
Equipment/Tools/Supplies: *In this column, list out general descriptions of item(s) or item type(s) and their purpose - one line per item/item type.*	$ -
Travel: *Be specific. Separate in-state and out-of-state travel; explain each. Only travel essential to completing project activities can be included.*	
Additional Budget Items: In this column, list any additional budget items that do not fit above categories. List by item(s) or item type(s) and explain how number was	
TOTAL PROJECT BUDGET REQUEST TO LCCMR	$ 519,400

V. OTHER FUNDS

SOURCE OF FUNDS	**AMOUNT**	**Status**
Other Non-State $ Being Applied to Project During Project Period: *Indicate any additional non-state cash $ to be spent on the project during the funding period. For*	$ -	*Indicate: Secured or*
Other State $ Being Applied to Project During Project Period: *Indicate any additional state cash $ (e.g. bonding, other grants) to be spent on the project during*	$ -	*Indicate: Secured or*
In-kind Services During Project Period: *Indicate any in-kind services to be provided during the funding period. List type of service(s) and estimated value. In-kind services listed must be specific to the project.*	$ -	
Funding History: Indicate funding secured prior to July 1, 2010 for activities directly relevant to this specific funding request. State specific source(s) of funds.		
US Fish & Wildlife Service grant to MNDNR as agent for Midwest Glacial Lakes Partnership to fund lake watershed delineations in Minnesota	$ 50,000	



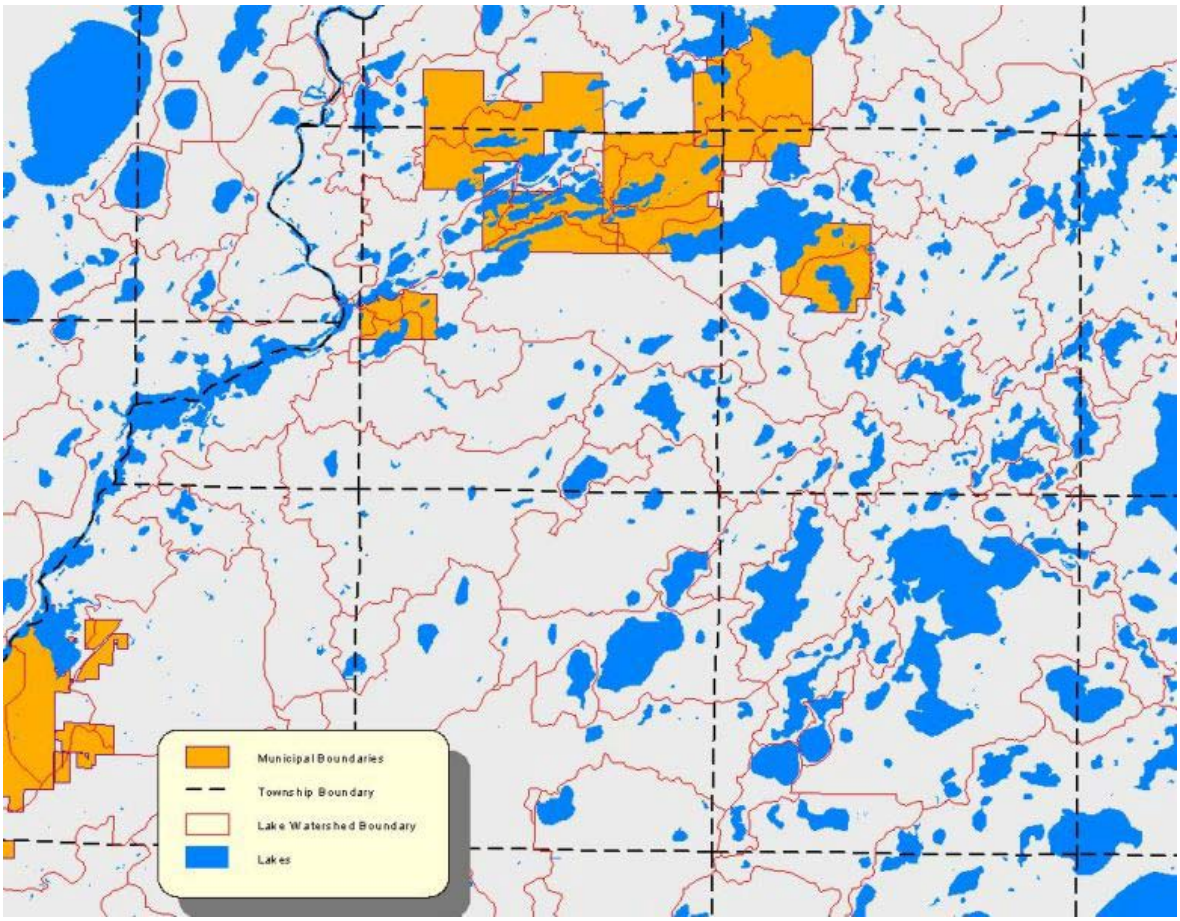


Illustration: Example of lake watershed boundary detail (solid lines) contained within Township boundaries (dashed lines). Watersheds shown for lakes >100 acres in Brainerd Lakes Area.

Project Manger Qualifications

Jason Moeckel, Fisheries Operations Support Supervisor

Jason Moeckel is the Fisheries Operations Support Supervisor for the Minnesota Dept. of Natural Resources, Section of Fisheries Management. The Fisheries Operations Support Supervisor oversees Fisheries GIS unit and the Fisheries Watershed Program. He received his B.S. degree in Environmental Studies from San Jose State University, and his M.S. degree in Resource Conservation from the University of Montana. Jason has conducted coldwater and warmwater fish habitat improvement work on streams in Minnesota, Montana, and Wyoming across a gradient of disturbances from urban to wilderness. He also serves as the Chair and DNR representative on the Minnesota Stormwater Steering Committee.

As project manager, Jason will supervise and direct overall implementation of the proposed project.

Organization Description

Minnesota Dept of Natural Resources

Mission: Our mission is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life.