

**Environment and Natural Resources Trust Fund
2011-2012 Request for Proposals (RFP)**

LCCMR ID: 127-E

Project Title: Innovative Aquatic Species Protection

Category: E. Aquatic and Terrestrial Invasive Species

Total Project Budget: \$ \$300,000

Proposed Project Time Period for the Funding Requested: 3 yrs, July 2011 - June 2014

Other Non-State Funds: \$ 30,000

Summary:

Demonstrating how current engineering practices installed with proven methods to change behavior can redesign the appearance and function of a public boat access reducing the spread of aquatic invasive species.

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Sponsoring Organization: Hennepin County

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Location

Region: Statewide

Ecological Section: Statewide, Western Superior Uplands (212K)

County Name: Statewide, Hennepin

City / Township: Spring Park & Orono

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity	_____ Readiness	_____ Leverage	_____ Employment
_____ TOTAL			_____ %

2011-2012 MAIN PROPOSAL

PROJECT TITLE: Innovative Aquatic Invasive Specie Protection

I. PROJECT STATEMENT

Aquatic Invasive Species (AIS) are at the doorstep of lakes throughout Minnesota. If introduced, AIS, especially zebra mussel, viral hemorrhagic septicemia and hydrilla, among others will cause irreversible harm to Minnesota lakes and the economy. Once established, limited remedies exist to control or eliminate invasive species. Therefore, prevention is of paramount importance. Numerous studies and past experiences have shown that public boat accesses are one of the more significant pathways for AIS introduction into lakes. There is an increasing debate within government agencies, the legislators, and newspapers on how far Minnesota should go to prevent the risk that public accesses present as a pathway to spread AIS.

Public education and inspections are important, but unfortunately have limitations. There is a significant missing gap in AIS protection when an inspector is not on-site and an uneducated boater moves throughout the state. For years, the Lake Minnetonka Conservation District AIS Taskforce has struggled to fill this gap for Lake Minnetonka. Budgets do not allow for full time inspectors at every access and education cannot target all users. This proposal suggests demonstrating how infrastructure changes at a public access installed with standard social marketing methods can target this protection gap.

The goal is to create a new infrastructure model for public boat accesses that persuades all users to behave responsibly and reduce the risk of spreading AIS, even in the absence of an on-site inspector. The changes will be comprehensive and address all AIS including aquatic animals, aquatic plants, and pathogens that can make their way to public accesses.

This project will use standard engineering principles to contain AIS on-site, design with established social marketing principles, construct two demonstration sites, monitor, evaluate, and develop a template to integrate into other public accesses. If successful, AIS protection funds can be efficiently allocated statewide towards similar changes.

The on-site engineering changes will be designed using proven behavior changing methods. The infrastructure and engineering changes will be understandable, aesthetically pleasing, attention-grabbing, ergonomically efficient, and monitored to give the access a completely redesigned appearance and function. Researchers who study what motivates people to engage in certain behaviors have identified proven strategies that greatly improve the likelihood people will take the desired action. Hennepin County has staff and contractors trained on how to incorporate these strategies into environmental programs. Many of the strategies are easy to incorporate into this type of project including communicating the social norm that other boaters follow these steps, providing clear prompts that remind boaters to take the appropriate actions and using vivid, personal and concrete messages. Monitoring and user surveys will provide a post-installation analysis. A design template and cost estimates will be developed for planning and/or installation at accesses statewide.

II. DESCRIPTION OF PROJECT ACTIVITIES

(Proposed & final activities to be directed by Hennepin County Environmental Services):

Activity 1: Project Design Development

Budget \$60,000

(July 2011 – June 2012)

Outcome	Comp. Date
Finalize the required steps, tools, and barriers for public access users behaviors: • <i>Utilizing a taskforce of governmental and private professionals in the specific field. (ex. DNR, LMCD, Water Patrol, Cities,, and local boating groups/marinas.)</i>	5/31/12
Develop the preliminary engineering practices to be installed: • <i>The final concepts will be incorporated. Some of the on-site changes include directing traffic flow to an AIS containment area, parking lot striping and colors, ergonomic and available power sprayers, significant changes in signage, straight forward bait and vegetation disposal, unique lighting, noticeable monitoring, among others. Anything disposed within the AIS containment area will drain to an underground sand filter that will contain and render harmless all types of AIS.</i>	5/31/12
Develop the preliminary social marketing techniques to be installed: • <i>The engineered infrastructure changes will be designed using social marketing techniques including communicating the social norm, clear prompts, vivid personal messages, etc.</i>	5/31/12
Contract with surveyor and survey parking lot as necessary (County survey crew).	10/31/12

Develop final design renovations: <ul style="list-style-type: none"> •<i>Utilizing all of the development planning, a final design will be created. The design engineer, sign company, lighting, and pump specialists will create the final design with the principle that it must be easily incorporated at standard accesses statewide without restricting access.</i> 	6/30/12
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*All contracts will be awarded with a competitive selection process.

Activity 2: Project Construction

Budget \$190,000

(July 2012 – May 2013)

Outcome	Comp. Date
Finalization of design and bid specifications and make the contract available for the bidding process. Review of all apparent bid proposals and award contract.	7/31/12
Contract administration for the construction of the project at two Hennepin County-owned accesses within the City of Spring Park and City of Orono on Lake Minnetonka.	5/31/13

Activity 3: Monitoring, Analysis and Template Design

Budget \$50,000

(May 2013 – June 2014)

Outcome	Comp. Date
Finalize monitoring plan and documentation method: <ul style="list-style-type: none"> •<i>Utilize the same design taskforce to finalize monitoring and analysis process.</i> 	5/31/13
Obtain survey and monitoring documentation: <ul style="list-style-type: none"> •<i>Information will be obtained through DNR inspections, user surveys, and video monitoring. The monitoring documentation will be obtained throughout different times of the boating season.</i> 	11/30/13
Develop final template design and project analysis: <ul style="list-style-type: none"> •<i>The final design template will include cost estimates and assist with the planning for incorporation throughout the state. The project analysis will summarize the findings from the season monitoring indicating successes and suggested alternatives.</i> 	6/30/14

III. PROJECT STRATEGY

A. PROJECT TEAM / PARTNERS (No partners below are receiving ENRTF)

- Lake Minnetonka Conservation District – General support & technical advisor (Board Approved 2/24/10). Board expressed interest in providing future funding under their Save the Lake funds.
- Department of Natural Resources – General support & technical advisor (Potential contributing dollars through “Aquatic Invasive Species Prevention Grant” program.)
- City of Spring Park – General support & technical advisor (Board Approved 3/15/10).
- Hennepin County Water Patrol – General support & technical advisor.
- City of Orono – General support & technical advisor.
- Minnehaha Creek Watershed District – General support & technical advisor.
- Hennepin County Environmental Services - \$30,000. (\$10,000 each year in 2011, 2012, and 2013). Plus a plethora of in-kind hours from Environmental Service staff as needed throughout the entire process of the project. Additional services will be provided during the contract, design and bidding process by staff members of the Transportation, Design, and Purchasing Departments.

B. TIMELINE REQUIREMENTS

The proposed timeline of the project is July 2011 to June 2014. This timeline will allow for final design ideas to be developed during the boating season and the final design developed, project bid, and contract award in time for a fall installation after Labor Day weekend when the access has less use. Construction would begin in the fall of 2012 with finishing touches completed during the spring of 2013. This timeline would allow monitoring throughout the entire 2013 boating season.

C. LONG-TERM STRATEGY AND FUTURE FUNDING NEEDS

The long-term strategy of this proposal is to demonstrate that a significant infrastructure change and general appearance of a public boat access can considerably reduce the AIS threat of an individual public lake access. If these infrastructure changes are successful, the general design template can then be readily incorporated into other public accesses throughout Minnesota. It is anticipated that with a tested and designed template completed, it would cost \$30,000 to \$90,000 to retrofit a typical access with similar AIS prevention methods. The goal would be to invest first in lakes with significant resources, lakes currently infested with AIS, lakes with proposed new public accesses, or where local groups work together to secure funding.

2011-2012 Detailed Project Budget

Project Title: Innovative Aquatic Invasive Specie Protection

LCCMR Requested Dollars: \$300,000

IV. TOTAL TRUST FUND REQUEST BUDGET 3 years

BUDGET ITEM	AMOUNT
Contracts:	
Human Behaviorist Specialist and/or Marketing Communications Specialist: The contract selection will use a competitive selection process. (Potentially existing Hennepin County consultant service agreement contractors, open bidding, the University of Macalester, and/or the University of Minnesota)	\$ 25,000
Design Engineer: The contract selection will use a competitive selection process. (Potentially existing Hennepin County consultant service agreement contractors and/or open bidding (Included in the design engineering contract will be the survey, specialists with knowledge on pumps, lighting, and underground sand filters.))	\$ 60,000
Contract administration for the construction of the project from successful bidder.	\$ 190,000
Monitoring/analysis/social marketing specialist: The contract selection will use a competitive selection process. (Potentially existing Hennepin County consultant service agreement contractor, open bidding, and/or the University of Minnesota.)	\$ 25,000
TOTAL ENVIRONMENT & NATURAL RESOURCES TRUST FUND \$ REQUEST	\$ 300,000

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ Being Applied to Project During Project Period:		
Hennepin County Environmental Services (\$10,000 each year in 2011, 2012, 2013)	\$ 30,000	<i>Secured</i>
Lake Minnetonka Conservation District (Board indicated interest in providing additional funding through their Save The Lake grant program. The timing of the grant program cannot secure these funds at this time.)	TBD	<i>Pending</i>
Other State \$ Being Applied to Project During Project Period:		
Department of Natural Resources Staff indicated that State Funding is probable at a later date for the signage of this project through an AIS grant program. The timing of the grant program cannot secure these funds at this time.	TBD	<i>Pending</i>
In-kind Services During Project Period:		
Hennepin County: Project manager and Lead staff project management (Environmental Services) Bidding/Purchasing (Hennepin County) Contract administration (Hennepin County staff)	\$ 7,000	
Technical Advisory Design Committee Staff from LMCD, DNR, MCWD, City of Spring Park, HC Water Patrol.	\$ 1,500	
Mileage All Hennepin County staff and technical advisory design committee mileage	\$ 2,500	



NORTH ARM PUBLIC ACCESS

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INNOVATIVE AQUATIC SPECIE PROTECTION

Spring Park and North Arm Public Boat Accesses
(Lake Minnetonka - City of Spring Park & Orono)



AIS CONTAINMENT AREAS



UNDERGROUND SAND CONTAINMENT AREAS



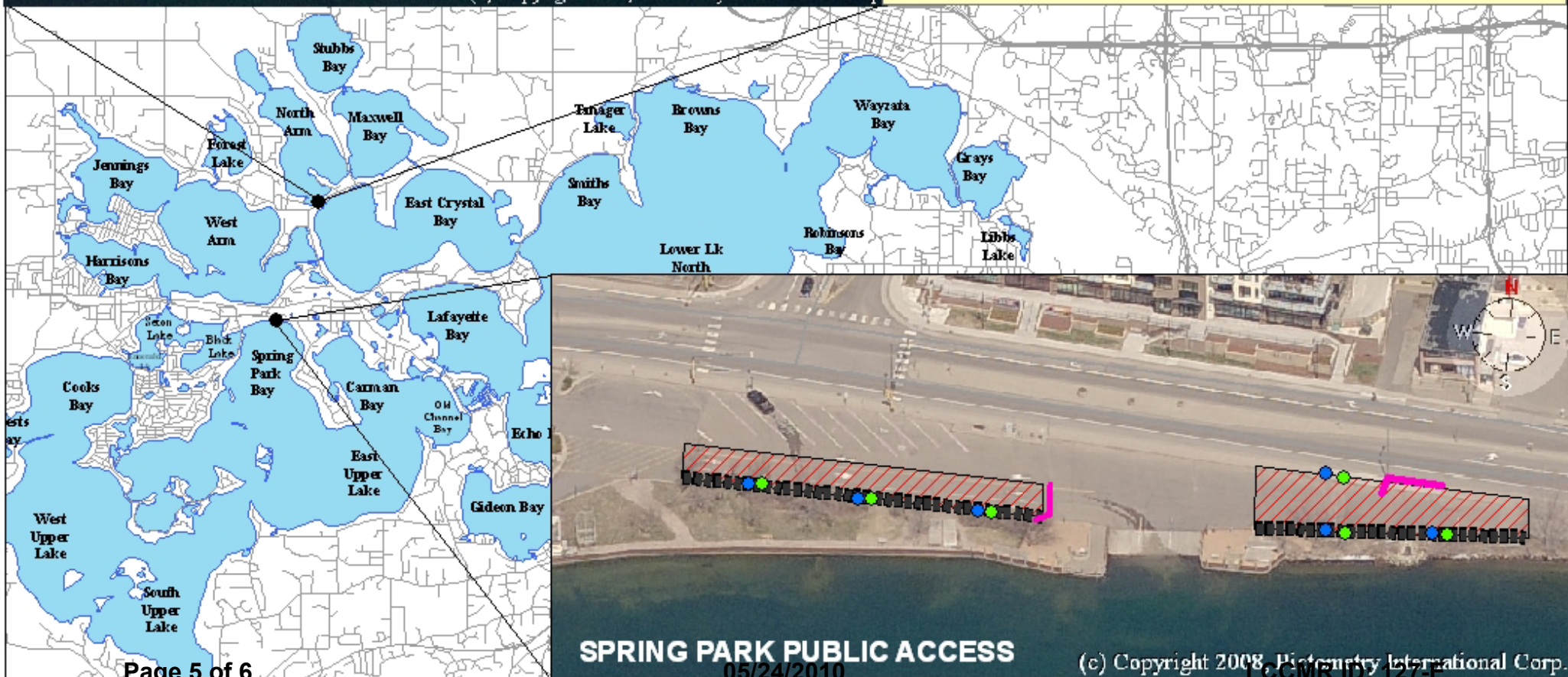
POWER SPRAYERS



BEHAVIOR CHANGING SIGNAGE 7 STRATEGIES



OVERHANGING SIGNAGE WITH MONITORING



SPRING PARK PUBLIC ACCESS

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PROJECT MANAGER QUALIFICATIONS AND ORGANIZATION DESCRIPTION

Organization: Hennepin County Environmental Services
Project Manager: Tony Brough (612) 348-4378

Tony Brough has managed the Lake Improvement Program for Hennepin County for the last 10 years. Duties that translate to this proposal include project management, managing contracts, obtaining permits, construction inspections, budget planning and reporting. Tony has worked in the natural resources field for 20 years including the Anoka Conservation District, the Rice Creek Watershed, and Hennepin County Environmental Services. He is the current County staff member on the Lake Minnetonka Conservation District Aquatic Invasive Species Taskforce and has a Bachelor of Science degree in Natural Resources and Environmental Sciences from the University of Minnesota.

The Lake Improvement Program originated in 1978 by the County Board adopted Resolution #78-5-93. The work performed under this program is an outgrowth of work performed since the 1880's including dredging, riprapping, and placing/maintaining navigational buoys on Lake Minnetonka. The Spring Park and North Arm public accesses are maintained under this Hennepin County program.

Hennepin County Environmental Services is a department within Hennepin County. The overarching goal is to preserve and enhance Hennepin County's environment for future generations through the responsible management natural resources and the promotion of environmental stewardship. Staff strives to meet and exceed expectations by engaging people and communities in developing innovative solutions to environmental challenges.