



Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2014 Final Report

General Information

Date: 09/22/2020

Project Title: Evaluate Effectiveness of AIS Prevention Strategies

Funds Recommended: \$4,040,000

Legislative Citation: ML 2014, Ch. 256, Art. 1, Sec. 2, Subd. 5(k)

Appropriation Language: \$4,040,000 in the second year is to the commissioner of natural resources for an agreement with the Central Minnesota Initiative Fund to develop a series of pilot projects to enhance aquatic habitat by preventing the spread of aquatic invasive species, including pilot projects conducting education and outreach, inspection and decontamination, enforcement, and other activities. All pilot projects must be conducted on a reimbursement basis and require a match of nonoutdoor heritage fund dollars. A required evaluation of results must be funded with nonoutdoor heritage fund dollars. The required evaluation must evaluate the efficacy of inspection and decontamination activities utilized in any of the pilot projects in preventing the spread of aquatic invasive species. A list of pilot projects must be included in the required final report. This appropriation is available until June 30, 2019. The accomplishment plan must accelerate the start of the pilot project. M.L. 2019, First Special Session, Chapter 2, Article 1, Section 2, Subd. 10. Carryforwards (a) The availability of the appropriation in Laws 2014, chapter 256, article 1, section 2, subdivision 5, paragraph (k), Evaluate Effectiveness of Aquatic Invasive Species Prevention Strategies, is extended to June 30, 2020. This subdivision is effective the day following final enactment.

Manager Information

Manager's Name: Don Hickman

Title:

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Location Information

County Location(s):

Eco regions in which work will take place:

- Northern Forest
- Forest / Prairie Transition
- Prairie
- Metro / Urban

Activity types:

- Enhance
- Other : Evaluate the effectiveness of aquatic invasive species prevention strategies

Priority resources addressed by activity:

- Habitat

Narrative

Summary of Accomplishments

Innovative AIS control and education programs have been widely acknowledged as far removed from the traditional stable of conservation easement and high priority land acquisition programs that the LSOHC generally espouses. However, these projects, though not permanent in nature, address the significant impacts to land and water resources that AIS pose. Left untreated, AIS severely impacts the habitat and outdoor recreational opportunities that LSOHC is committed to preserving.

Process & Methods

Projects supported by LSOHC surfaced many innovative strategies for engaging citizens that have either historically been considered “disengaged” with traditional AIS prevention messaging (wakeboarders), are potentially “influencers” (teenagers that are both future recreationalists, and also highly effective at bugging their parents to engage in best AIS prevention practices), and users that recognize and value AIS prevention messages but have been too busy or cognizant of counter-veiling economic pressures (resort owners and tourism boosters). In the first two examples, we have no doubt that the videos produced by the Mississippi Headwaters Board to reach wakeboarders or the “Wipe Out Invasive Species” toilet paper (developed using private funds) which was part of the CROW programming were clever, reached new audiences, and changed knowledge, even if changes in behavior are difficult to document. In contrast, the partnership on Lake Vermillion, Cass and Itasca Counties linked education (to resort owners and their guests) with direct action (sponsoring resort staff to help with inspections, etc.) and not only changed knowledge and behavior, but also forged lasting relationships between constituencies that have not always seen common interest. The two “CD3” projects (hosted by Wildlife Forever) were somewhere between these examples – they explored innovative ideas (use of geo-fencing to deliver location specific information on fishing conditions and AIS risk or best practices; Wi-Fi stations to support videos at points of access or decontamination) and identified barriers. The self-contained boat cleaning stations now reflect designs most likely to be used, most resistant to vandalism and damage, and at a cost that local units of government and/or private resorts could consider deploying them without future state support. Aitkin Soil and Water Conservation District addressed a recent and unpopular caveat of Minnesota law requiring the dumping of bait and prohibition on the transport of water on exit from a lake. They incentivized bait shops and fishermen by providing clean water in bags to save bait. In Cass County, AIS inspectors received “enhanced training” to equip them with knowledge and context for why inspections and decontamination are required, and in de-escalation techniques to manage conflicts with public access users. In addition to improving the quality of interactions inspectors had with access users, the County also found that they retained veteran, skilled inspectors that received enhanced training at a much greater rate, saving time and money. Five projects involved direct treatment of known aquatic invasive species (as a

strategy to prevent spread to other waters), and each contributed significantly to greater knowledge and should inform future work or investments in this type of approach. The Marine-Carnelian Watershed District has struggled with cost, ecological impact, and efficacy of treating Eurasian watermilfoil. Their pilot project (developed in close coordination with DNR Fisheries staff) resulted in several years of data that suggest that they have identified that split application of aquatic herbicide is highly effective at reducing EWM reproduction or spread and has fewer non-target impacts. Two other treatment examples (of invasive cattails in Voyageurs National Park and Starry Stonewort in Lake Koronis) were pilot efforts to control species not previously successfully managed in the upper Midwest. The Koronis effort (as the first confirmed location of Starry Stonewort in Minnesota) has resulted in refined treatment of this invasive filamentous algae (even more important now that it has spread to over a dozen additional lakes within our state). Like the Vermillion/Cass/Itasca project, the Voyageurs project helped create or deepen relationships (with an adjacent Tribal nation). The fourth effort of treatment was intense mechanical treatment at public landings in Carver County (in lakes with known infestations of invasive species) with the goal of reducing export of viable AIS. This program provided “inconclusive results” -- reducing vegetation near public accesses did not seem to impact the amount of vegetation (whether native or invasive) on boats exiting the lake. An effort by the Lake County Soil and Water Conservation District to trap rusty crawfish in areas immediately adjacent to the Boundary Waters Canoe Area Wilderness proved less successful as weather conditions, existing crawfish populations, and staff availability hindered ability to trap sufficient crustaceans to impact overall populations. Their crawfish boils, however, were very popular and an excellent educational vehicle. Efforts to improve the convenience or ease, cost, or efficacy of inspection and decontamination programs were the most difficult to assess. The Carver County effort to “tag” clean boats was intended to expedite re-entry, but DNR staff quickly expressed concerns about the quality of inspections and requested suspension of the effort. Kandiyohi County sought to improve the speed and convenience of inspection by allowing for “reservations” (similar to a restaurant) so that recreationalists could be “in and out” quickly. Although this idea continues to hold appeal, limited marketing of the service, greater cost than anticipated, and turnover of paid county staff and of the County Board resulted in early termination without ever fully testing the concept. At Lake Vermillion an effort was made to improve the accuracy of boat traffic prediction as a strategy to most cost-effectively allocate AIS inspection resources, but a primary conclusion was that boat traffic patterns vary so much (based on multiple variables) that a single algorithm or model is of limited value. Wright County attempted to explore the benefits and concerns associated with the first-in-Minnesota mandatory inspection program (similar to those in many western states), but found that the project experienced both regulatory barriers (particularly to scale the project so that it was cost-effective) and political opposition created a climate where the project proponents felt the idea was never given an opportunity to succeed. The Initiative Foundation recognized this strategy would generate controversy but hoped it would identify conditions in which it could be successful, even if modifications were required over time. The Citizens League’s Civic Governance Project’s project to increase coordination and collaboration between state/local governments and stakeholder groups revealed that a focus on Civic Leadership Development, while slow, is more sustainable than a simple civic engagement strategy. An organizing approach to water quality improvements shows some promise.

Explain Partners, Supporters, & Opposition

Project advisors included:

Dr. Douglas Jensen, University of Minnesota – Duluth Sea Grant Program

Jay Green, Anglers for Habitat

Gabriel Jabbour, Minnetonka Marine

John Barton, Three Rivers Park District

Dr. Kristin Blann, The Nature Conservancy

Pat Conzemius, Wildlife Forever

Terra Guetter, Pelican River Watershed District

Joe Shneider, Minnesota Coalition of Lake Associations

Jeff Forester, Minnesota Lakes and Rivers Advocates
Dr. Peter Sorenson, University of Minnesota Aquatic Invasive Species Research Laboratory
Heidi Wolf, Minnesota Department of Natural Resources
Barb Halbakken, Becker Count Coalition of Lake Associations

Project hosts included:

- Aitkin County SWCD
- Vermillion Lake Association
- Carnelian-Marine-St. Croix Watershed District
- Carver County
- Cass County Environmental Services
- Citizen's League
- Mississippi Headwaters Board
- Crow River Organization for Water Powers Joint Board
- Kandiyohi County
- Lake County SWCD
- Lake Koronis Association (Stearns County)
- Resort Ambassador Program (Cass & Itasca counties and Lake Vermilion area)
- Voyageurs National Park/National Park Service
- Wildlife Forever
- Wright County SWCD

Exceptional challenges, expectations, failures, opportunities, or unique aspects of program

The fact that many of the partners engaged in this project had not previously partnered with LSOHC resulted in a delay in many projects getting started; they weren't prepared to seize the opportunity that matching funds represented. This in part is why we requested an extension to carry the project into a sixth year. Despite this delay, we are proud of the outcomes (and even the "lessons learned") through this effort and are grateful to the Council for extending support well outside your traditional investments.

What other funds contributed to this program?

- Other : Other cash and in-kind match came from local lake associations, counties, cities, water management organizations, watershed districts, federal agencies, non-LSOHC state AIS aid, and private business and individual contributions..

How were the funds used to advance the program?

The \$3.2 million in total match for this project was used for a broad variety of purposes including administrative support, use of facilities and land , direct financial support for equipment and supplies, education and training expenses, volunteer labor, paid employee labor, and professional services. County AIS aid dollars significantly augmented this project and gave Counties incentive to participate in these innovative AIS solutions. Similarly, LSOHC funding gave local entities the impetus to rally local match sources around a single project not currently being addressed at the local level. These partnerships significantly enhanced project support, delivery, and evaluation, and helped perpetuate several projects beyond the LSOHC program period.

What is the plan to sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

Six of 16 projects have strategies to continue their efforts after OHC funds are expended:

- Carnelian-Marine-St. Croix Watershed District—funding has been secured from Washington County, the

Watershed District, and lakeshore owners to continue EWM management refined by the LSOHC project.

- Cass County Environmental Services -- Enhanced Training for AIS Inspectors—Cass County has allocated a portion of their State AIS aid funding to support continued training.
- Lake Koronis Association—LKA is considering forming a Lake Improvement District to fund sustained starry stonewort management.
- Resort Ambassador Program—SWCD and County funding will be used to continue AIS control efforts in cooperation with resorts and campgrounds.
- Wildlife Forever and CD3, LLC—Local watershed districts, municipalities, WMO's and SWCD are contracting to operate and maintain boat cleaning stations. CD3 will update AIS messages delivered via WiFi at each station.
- Lake Vermilion Boat Traffic Analysis: A Predictive Model—County and lake association funds will support the continued use of the model developed to most efficiently schedule lake access inspections.

The remaining projects were: not financial sustainable; projects that were fully concluded; strategies not as effective as intended, or; encountered barriers which prohibited continued operation.

Budget

Totals

Item	Request	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$282,000	\$338,100	-	-	-	\$282,000	\$338,100
Contracts	\$3,598,000	\$2,470,400	\$3,598,000	\$3,202,000	State, Cty, Local	\$7,196,000	\$6,800,000
Fee Acquisition w/ PILT	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-
Travel	\$40,000	\$8,400	-	-	-	\$40,000	\$8,400
Professional Services	\$30,000	\$49,600	-	-	Private Source	\$30,000	\$49,600
Direct Support Services	-	-	-	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-
Other Equipment/Tools	\$10,000	-	-	-	-	\$10,000	-
Supplies/Materials	\$80,000	\$6,500	\$400,000	-	Private Source	\$480,000	\$6,500
DNR IDP	-	-	-	-	-	-	-
Grand Total	\$4,040,000	\$2,873,000	\$3,998,000	\$3,202,000	-	\$8,038,000	\$7,202,600

Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Project Manager (D. Hickman, VP Community and Economic Development)	0.2	5.0	\$80,800	-	-	\$80,800
Project Coordinator (J. Sumption, Consultant)	0.5	5.0	\$209,500	-	-	\$209,500
Accounting	0.0	5.0	\$47,800	-	-	\$47,800

Explain any budget challenges or successes:

The primary challenge was subgrantee reporting. Required reports were difficult for subgrantee contacts to complete. Many subgrantee contacts were not in accounting roles and significant time was spent training. Contacts found it difficult to trace from workplan budget to the reporting templates. Quarterly reporting templates were described as "not intuitive." Additionally, a component to track the grant to date balances for each grant and match category would add greater understanding. Once documentation was final the reimbursement piece was simple and funds received promptly. Grant management staff were helpful and provided a great deal of guidance to evaluate allowability of expenses.

Total Revenue: -

Revenue Spent: -

Revenue Balance: \$0

Of the money disclosed above, what are the appropriate uses of the money:

- E. This is not applicable as there was no revenue generated.

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Acres (AP)	Total Acres (Final)
Restore	0	0	0	0	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0
Enhance	0	0	0	0	0	0	2,200	0	2,200	0
Total	0	0	0	0	0	0	2,200	0	2,200	0

Total Requested Funding by Resource Type (Table 2)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Funding (AP)	Total Funding (Final)
Restore	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	\$4,040,000	\$2,873,000	\$4,040,000	\$2,873,000
Total	-	-	-	-	-	-	\$4,040,000	\$2,873,000	\$4,040,000	\$2,873,000

Acres within each Ecological Section (Table 3)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in	0	0	0	0	0	0	0	0	0	0	0	0

Fee w/o State PILT Liability												
Protect in Easement	0	0	0	0	0	0	0	0	0	0	0	0
Enhance	550	0	550	0	0	0	550	0	550	0	2,200	0
Total	550	0	550	0	0	0	550	0	550	0	2,200	0

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban (AP)	Metro/Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	\$1,010,000	\$719,000	\$1,010,000	\$718,000	-	-	\$1,010,000	\$718,000	\$1,010,000	\$718,000	\$4,040,000	\$2,873,000
Total	\$1,010,000	\$719,000	\$1,010,000	\$718,000	-	-	\$1,010,000	\$718,000	\$1,010,000	\$718,000	\$4,040,000	\$2,873,000

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)
Restore	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	\$1,836	-

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro / Urban	Metro / Urban	Forest / Prairie	Forest / Prairie	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)
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	(AP)	(Final)	(AP)	(Final)						
Restore	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	\$1,836	-	\$1,836	-	-	-	\$1,836	-	\$1,836	-

Target Lake/Stream/River Feet or Miles

Outcomes

Programs in forest-prairie transition region:

- Other ~ *As part of the overall program, the Initiative foundation retained the services of U of M Professor, Dr. Mae Davenport, and her staff to develop evaluation plans tied directly to each project's accomplishment plan. Evaluation parameters and milestone accomplishments were established, and actual results were measured. If interim project amendments were necessary, the evaluation plans were updated accordingly. Acceptance of the final evaluation analysis by Dr. Amit Pradhananga, Project Evaluation Rep, was an integral part of overall final report approval. This afforded the program objective third-party verification of procedures and results.*
- Improved aquatic habitat vegetation ~ *As part of the overall program, the Initiative foundation retained the services of U of M Professor, Dr. Mae Davenport, and her staff to develop evaluation plans tied directly to each project's accomplishment plan. Evaluation parameters and milestone accomplishments were established, and actual results were measured. If interim project amendments were necessary, the evaluation plans were updated accordingly. Acceptance of the final evaluation analysis by Dr. Amit Pradhananga, Project Evaluation Rep, was an integral part of overall final report approval. This afforded the program objective third-party verification of procedures and results.*

Programs in metropolitan urbanizing region:

- Improved aquatic habitat indicators ~ *As part of the overall program, the Initiative foundation retained the services of U of M Professor, Dr. Mae Davenport, and her staff to develop evaluation plans tied directly to each project's accomplishment plan. Evaluation parameters and milestone accomplishments were established, and actual results were measured. If interim project amendments were necessary, the evaluation plans were updated accordingly. Acceptance of the final evaluation analysis by Dr. Amit Pradhananga, Project Evaluation Rep, was an integral part of overall final report approval. This afforded the program objective third-party verification of procedures and results.*

Programs in the northern forest region:

- Improved aquatic habitat indicators ~ *As part of the overall program, the Initiative foundation retained the services of U of M Professor, Dr. Mae Davenport, and her staff to develop evaluation plans tied directly to each project's accomplishment plan. Evaluation parameters and milestone accomplishments were established, and actual results were measured. If interim project amendments were necessary, the evaluation plans were updated accordingly. Acceptance of the final evaluation analysis by Dr. Amit Pradhananga, Project Evaluation*

Rep, was an integral part of overall final report approval. This afforded the program objective third-party verification of procedures and results.

Programs in prairie region:

- *Protected, restored, and enhanced shallow lakes and wetlands ~ As part of the overall program, the Initiative foundation retained the services of U of M Professor, Dr. Mae Davenport, and her staff to develop evaluation plans tied directly to each project's accomplishment plan. Evaluation parameters and milestone accomplishments were established, and actual results were measured. If interim project amendments were necessary, the evaluation plans were updated accordingly. Acceptance of the final evaluation analysis by Dr. Amit Pradhananga, Project Evaluation Rep, was an integral part of overall final report approval. This afforded the program objective third-party verification of procedures and results.*
- *Other ~ As part of the overall program, the Initiative foundation retained the services of U of M Professor, Dr. Mae Davenport, and her staff to develop evaluation plans tied directly to each project's accomplishment plan. Evaluation parameters and milestone accomplishments were established, and actual results were measured. If interim project amendments were necessary, the evaluation plans were updated accordingly. Acceptance of the final evaluation analysis by Dr. Amit Pradhananga, Project Evaluation Rep, was an integral part of overall final report approval. This afforded the program objective third-party verification of procedures and results.*

Parcels

Sign-up Criteria?

No