



## Lessard-Sams Outdoor Heritage Council

Voyageurs National Park Wetland Restoration Project, Phase 3  
Laws of Minnesota 2023 Accomplishment Plan

---

### General Information

**Date:** 06/07/2023

**Project Title:** Voyageurs National Park Wetland Restoration Project, Phase 3

**Funds Recommended:** \$1,153,000

**Legislative Citation:** ML 2023, Ch. 40, Art. 1, Sec. 2, subd. 4(g)

**Appropriation Language:** \$1,153,000 the first year is to the commissioner of natural resources for an agreement with the National Park Service to restore and enhance wetland and lacustrine habitat in Voyageurs National Park. A list of proposed restorations and enhancements must be provided as part of the required accomplishment plan.

### Manager Information

**Manager's Name:** Steve Windels

**Title:** Project Leader/Wildlife Biologist

**Organization:** Voyageurs National Park

**Address:** 360 Highway 11 E

**City:** International Falls, MN 56649

**Email:** steve\_windels@nps.gov

**Office Number:** 218-283-6692

**Mobile Number:** 218-324-3400

**Fax Number:**

**Website:**

### Location Information

**County Location(s):** Koochiching and St. Louis.

**Eco regions in which work will take place:**

- Northern Forest

**Activity types:**

- Restore

**Priority resources addressed by activity:**

- Wetlands

## Narrative

### **Abstract**

Wetlands in large lakes in the Voyageurs National Park area have been degraded by invasive cattails, which reduces biodiversity, degrades fish/wildlife habitat, and outcompetes wild rice/manoomin. Phases 1&2 of the project entailed refinement of restoration methods. We will continue mechanical treatment methods in Phase 3 to remove invasive cattails and other vegetation, including use of contracted harvesting machines, NPS owned-cutting machines, and hand crews in more inaccessible areas. Total new acreage restored/enhanced will exceed 310 ac, with additional acres possible with successful prescribed burning. Most treated wetlands will see increases in wild rice/manoomin.

### **Design and Scope of Work**

Earlier phases of our Wetland Restoration Project were completed under an Adaptive Management framework, aka "Learning by Doing." Through these previous efforts we have better refined our restoration techniques, including which techniques work best in different types of wetlands or under different water level conditions.

For this Phase 3 proposal, we have identified an additional 37 wetland parcels (310 ac total) in Kabetogama and Rainy Lake portions of Voyageurs National Park that could be restored or enhanced using a combination of methods. Dense stands of invasive hybrid cattail will be treated using one or more of these methods: 1) underwater and surface cuts of cattail using amphibious cutting machines and/or hand crews; 2) total removal of floating cattail mats using contracted harvesting equipment; 3) smothering of shallow-rooted cattails using organic spoils from total removal methods; and 4) prescribed burning when conditions allow. Woody encroachment into shallow sedge habitats will be set-back using hand crews, and these sedge habitats can be further improved using prescribed fire when conditions allow.

We have several excellent examples from Phases 1&2 of our project of wild rice/manoomin returning naturally from the dormant seed bank once released from competition with invasive cattails. However, efforts to enhance wild rice stands in treated wetlands using purchased wild rice seed have been mixed. On the other hand, mixes of native seed containing a variety of sedges, rushes, and other emergent and broadleaf wetland plants have been successful in increasing plant diversity in treated areas. Based on the knowledge our project has gained to date, we will enhance restoration efforts using wild rice and other native seed mixes targeted to areas most likely to achieve our objectives of increasing area of wild rice and/or increasing plant diversity in restored wetlands.

Voyageurs National Park initiated a 10-year Wetland Restoration Plan in 2016 to restore degraded wetlands in the park, particularly those impacted by invasive hybrid cattail, and Phase 2 will be mostly completed in 2023 with generous assistance from a grant from the Outdoor Heritage Fund. If funded, completion of Phase 3 of this proposed project would further restore cattail-invaded wetlands to diverse wetland communities that will create and enhance fish and wildlife habitat and improve recreational and cultural opportunities for all Minnesotans.

During phase 3, Voyageurs National Park will be working in cooperation with Voyageurs Conservancy. This partnership will assist in grant management and the long term maintenance of these restored wetlands.

### **How does the plan address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species?**

Over 50% of Minnesota's wetlands have been lost over the last 200 years. Of the remaining wetlands, most are under threat of invasive species including non-native cattails. Minnesota Pollution Control Agency identified non-

native cattails as the single greatest negative impact on Minnesota wetlands (MPCA 2015). More than 43% of threatened or endangered species in Minnesota and elsewhere in the U.S. depend on wetlands. Climate change impacts to hydrologic cycles are expected to further stress most wetland systems in Minnesota. It is therefore critical to restore remaining wetlands which have been degraded by invasive species. The proposed wetland project will result in a more natural and diverse community that will benefit a variety of both game and non-game species of fish and wildlife. One of the main target species for the proposed project is wild rice/manoomin, a plant with high cultural and biological significance. In addition, wetlands will be restored to create diverse plant communities to create or enhance habitat for a variety of fish and wildlife species. Targeted bird species include yellow rail, American bittern, least bittern, Virginia rail, red-necked grebe, and black tern, all of which are on Minnesota's list of Species in Greatest Conservation Need. Waterfowl species positively affected include trumpeter swans, Canada geese, mallards, and wood ducks during the breeding season, and ring-necked ducks, green-winged teal, American widgeons, and others during the spring and fall migration. Targeted mammal species include several important furbearer species, namely muskrats, river otter, American beaver, and mink. Important targeted game fish species include northern pike, whose spawning areas are degraded by invasive non-native cattails. Forage fish such as minnows will also benefit from the restoration. Several other species on Minnesota's list of Species in Greatest Conservation Need will also benefit from the proposed project, including: common snapping turtles, eastern red-backed salamanders, a variety of insects such as caddisflies, and various mollusk species.

### **Describe how the plan uses science-based targeting that leverages or expands corridors and complexes, reduces fragmentation or protects areas identified in the MN County Biological Survey:**

The project was designed using an Adaptive Management framework to improve future management decisions. In the first phases of the project, this management framework has allowed the development of the most cost-effective techniques while simultaneously restoring wetlands. It has now also allowed targeted restoration for future management in Phase 3 by focusing on restoring the most critical wetlands. Our work has been focused on restoring or enhancing key components of individual wetlands to improve ecological function and biodiversity within the larger wetland complex.

While the MN County Biological Survey activities have yet to be completed/published in this area (this is the last part of the state to be surveyed), it is already known that many of the wetland habitats in the area are currently threatened by invasive cattails. Any rare species and habitats identified by the upcoming MN Biological Survey will add further urgency to our proposed restoration work.

### **Which two sections of the Minnesota Statewide Conservation and Preservation Plan are most applicable to this project?**

- H2 Protect critical shoreland of streams and lakes
- H5 Restore land, wetlands and wetland-associated watersheds

### **Which two other plans are addressed in this program?**

- Minnesota's Wildlife Action Plan 2015-2025
- The Nature Conservancy's Superior Mixed Forest Ecoregional Plan

### **Which LSOHC section priorities are addressed in this program?**

#### **Northern Forest**

- Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas

## Outcomes

### Programs in the northern forest region:

- Improved aquatic habitat indicators ~ *Pre-treatment surveys of vegetation and wildlife for potentially restored sites started as early as 2015, before Phase 1 was initiated. Short-term monitoring (i.e., 1-3 years post-restoration) has occurred on sites already restored and is planned for future restored sites as well. Longer term monitoring of vegetation and wildlife indicator species (e.g., 5-10 years post- restoration) is also planned. All monitoring and evaluation of the project is funded by NPS and partners.*

### Does this program include leveraged funding?

No

### Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.

Not Applicable

### Non-OHF Appropriations

Year	Source	Amount
2021	National Park Foundation	\$200,000
2017	Initiative Foundation	\$790,000
2016	National Park Service	\$240,000

### How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

All invasive species control and habitat restoration projects require ongoing maintenance. Voyageurs National Park has staff and equipment capable of sustaining the monitoring and maintenance required once the OHF funds have been expended. Our non-profit park partner, Voyageurs Conservancy, has also made our Wetland Restoration Project as a key focus of their future fundraising campaigns, to ensure the work we started under the current 10-yr Restoration Plan can continue. We are also incorporating much of the ongoing monitoring and maintenance into current and future programs already occurring at the park and surrounding areas. We are working closely with other agencies and partners to develop long-term management plans for the control of invasive cattails and protection of critical wetland habitats. One of our project's objectives is to also increase public and other stakeholder awareness and education on the issues with invasive species and critical habitats which should in turn bring in future funds for long-term wetland management.

### Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2023-2033	NPS	Monitor long-term impacts of restoration on wetlands	Monitor fish and wildlife in restored wetlands	-
2023-2033	NPS	Publish and present outcomes of project to educate and assist other wetland management plans	Continue partnerships to assist with cattail and wetland management	Develop effective cattail and wetland management strategies
2023-2033	NPS	Determine long-term efficacy of restoration	Removal of any reemerging cattail	Replant native vegetation as needed

**Provide an assessment of how your program celebrates cultural diversity or reaches diverse communities in Minnesota, including reaching low- and moderate-income households:**

Several Native American communities in Minnesota have been working to restore wild rice elsewhere in the state. Our project will assist in that effort by re-establishing this culturally and economically significant species throughout our project area. In addition, Voyageurs National Park does not require an entry fee, providing low- and moderate -income households the opportunity recreate in and benefit from these restored areas.

**Activity Details**

**Requirements**

**If funded, this program will meet all applicable criteria set forth in MS 97A.056?**

Yes

**Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?**

Yes

**Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program?**

Yes

**Where does the activity take place?**

- Public Waters
- Other : Voyageurs National Park, a 218,000 acre protected area that is the most protected class of units within the U.S. National Park Service

**Land Use**

**Will there be planting of any crop on OHF land purchased or restored in this program?**

No

**Timeline**

<b>Activity Name</b>	<b>Estimated Completion Date</b>
Complete final reporting	2028
Re-seeding with native seed mixes	2027
Remove woody encroachment in sedge habitats	2027
Total removal of floating mats of invasive cattails	2027
Underwater and surface treatment of invasive cattails	2027

**Date of Final Report Submission: 06/30/2028**

**Availability of Appropriation:** Subd. 7. Availability of Appropriation

(a) Money appropriated in this section may not be spent on activities unless they are directly related to and necessary for a specific appropriation and are specified in the accomplishment plan approved by the Lessard-Sams Outdoor Heritage Council. Money appropriated in this section must not be spent on indirect costs or other institutional overhead charges that are not directly related to and necessary for a specific appropriation. Money appropriated to acquire land in fee may be used to restore, enhance, and provide for public use of the land acquired with the appropriation. Public-use facilities must have a minimal impact on habitat in acquired lands.

(b) Money appropriated in this section is available as follows:

- (1) money appropriated for acquiring real property is available until June 30, 2027;
- (2) money appropriated for restoring and enhancing land acquired with an appropriation in this act is available for four years after the acquisition date with a maximum end date of June 30, 2031;
- (3) money appropriated for restoring or enhancing other land is available until June 30, 2028;
- (4) notwithstanding clauses (1) to (3), money appropriated for a project that receives at least 15 percent of its funding from federal funds is available until a date sufficient to match the availability of federal funding to a maximum of six years if the federal funding was confirmed and included in the original approved draft accomplishment plan; and
- (5) money appropriated for other projects is available until the end of the fiscal year in which it is appropriated.

**Budget**

*Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan.*

**Totals**

Item	Funding Request	Leverage	Leverage Source	Total
Personnel	\$763,400	\$417,000	NPS	\$1,180,400
Contracts	\$206,000	-	-	\$206,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	\$16,500	\$45,000	NPS	\$61,500
Professional Services	-	-	-	-
Direct Support Services	\$121,100	\$75,000	NPS	\$196,100
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	\$600,000	NPS	\$600,000
Other Equipment/Tools	\$22,500	\$60,000	NPS	\$82,500
Supplies/Materials	\$23,500	\$50,000	NPS, Voyageurs Conservancy	\$73,500
DNR IDP	-	-	-	-
<b>Grand Total</b>	<b>\$1,153,000</b>	<b>\$1,247,000</b>	-	<b>\$2,400,000</b>

**Personnel**

Position	Annual FTE	Years Working	Funding Request	Leverage	Leverage Source	Total
Seasonal Restoration Tech	0.42	3.0	\$55,000	\$15,500	NPS	\$70,500
Interpretive Specialist	0.05	4.0	-	\$20,000	NPS	\$20,000
Red-Carded Wildland Firefighter	0.04	4.0	-	\$18,000	NPS	\$18,000
Fire Management Officer/Burn Boss	0.05	4.0	-	\$23,000	NPS	\$23,000
Marine Mechanics	0.1	4.0	-	\$46,000	NPS	\$46,000
Barge Operator	0.02	4.0	-	\$9,000	NPS	\$9,000
Seasonal Restoration Tech	0.42	4.0	\$70,000	\$35,000	NPS	\$105,000
Project Leader	0.2	4.0	-	\$126,000	NPS	\$126,000
Field Crew Leader	0.33	4.0	-	\$94,500	NPS	\$94,500
Field Crew Leader	1.0	4.0	\$218,400	-	-	\$218,400
Project Supervisor	0.05	4.0	-	\$30,000	NPS	\$30,000

Restoration Ecologist	1.0	4.0	\$420,000	-	-	\$420,000
-----------------------	-----	-----	-----------	---	---	-----------

## Capital Equipment

Item	Funding Request	Leverage	Leverage Source	Total
Facilities, boats, barges, vehicles, restoration machine	-	\$600,000	NPS	\$600,000

**Amount of Request:** \$1,153,000

**Amount of Leverage:** \$1,247,000

**Leverage as a percent of the Request:** 108.15%

**DSS + Personnel:** \$884,500

**As a % of the total request:** 76.71%

**Easement Stewardship:** -

**As a % of the Easement Acquisition:** -

### How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount?

We removed 15K from personnel, the maximum we could trim while operating the full four years. Overall acreage was reduced to 310, proportional to the 70% reduction explanation given in the initial proposal. Categories were adjusted based on current yearly cost estimates, expected minimums, or were proportionally reduced.

### Describe and explain leverage source and confirmation of funds:

Capital expenses and equipment leverage from the NPS is currently owned property of the NPS. In-kind personnel costs and other costs are pending annual Federal appropriations.

## Personnel

### Has funding for these positions been requested in the past?

No

## Contracts

### What is included in the contracts line?

\$206,000 in contracting large harvesting equipment for cattail removal and the potential for some conservation crews for hand cutting.

## Travel

### Does the amount in the travel line include equipment/vehicle rental?

Yes

### Explain the amount in the travel line outside of traditional travel costs of mileage, food, and lodging

Automobile lease for the project to travel to and from project sites and haul equipment and tools. Requesting one vehicle for the term of the project and leveraged with two additional vehicles funded by NPS.

### I understand and agree that lodging, meals, and mileage must comply with the current MMB Commissioner Plan:

Yes



## Direct Support Services

### How did you determine which portions of the Direct Support Services of your shared support services is direct to this program?

We initially requested 5.2% of the grand total for Direct Support Services, however, the National Park Service has recently implemented a required 10.5% charge for reimbursable grant funds to go towards grant administration. This percentage was determined as a ratio of indirect and direct costs, therefore 100% of this 10.5% will be entirely related to this program. The original DSS that was going to go directly to Voyageurs National Park will now be coming from in-kind support.

## Other Equipment/Tools

### Give examples of the types of Equipment and Tools that will be purchased?

Underwater brush saws for aquatic vegetation removal, brush saws for woody plant removal, attachments for restoration machine, tools for fixing equipment in the field.

## Federal Funds

### Do you anticipate federal funds as a match for this program?

Yes

#### Are the funds confirmed?

Yes

#### Is Confirmation Document attached?

[Yes](#)

- In Kind : \$1,247,000

Output Tables**Acres by Resource Type (Table 1)**

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	310	-	-	-	310
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	-
<b>Total</b>	<b>310</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>310</b>

**Total Requested Funding by Resource Type (Table 2)**

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	\$1,153,000	-	-	-	\$1,153,000
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	-
<b>Total</b>	<b>\$1,153,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$1,153,000</b>

**Acres within each Ecological Section (Table 3)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	-	-	-	-	310	310
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>310</b>	<b>310</b>

**Total Requested Funding within each Ecological Section (Table 4)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	\$1,153,000	\$1,153,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$1,153,000</b>	<b>\$1,153,000</b>

**Average Cost per Acre by Resource Type (Table 5)**

Type	Wetland	Prairie	Forest	Habitat
Restore	\$3,719	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	-

**Average Cost per Acre by Ecological Section (Table 6)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	\$3,719
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	-

**Target Lake/Stream/River Feet or Miles**

## Parcels

*For restoration and enhancement programs ONLY: Managers may add, delete, and substitute projects on this parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.*

### Parcel Information

#### Sign-up Criteria?

No

#### Explain the process used to identify, prioritize, and select the parcels on your list:

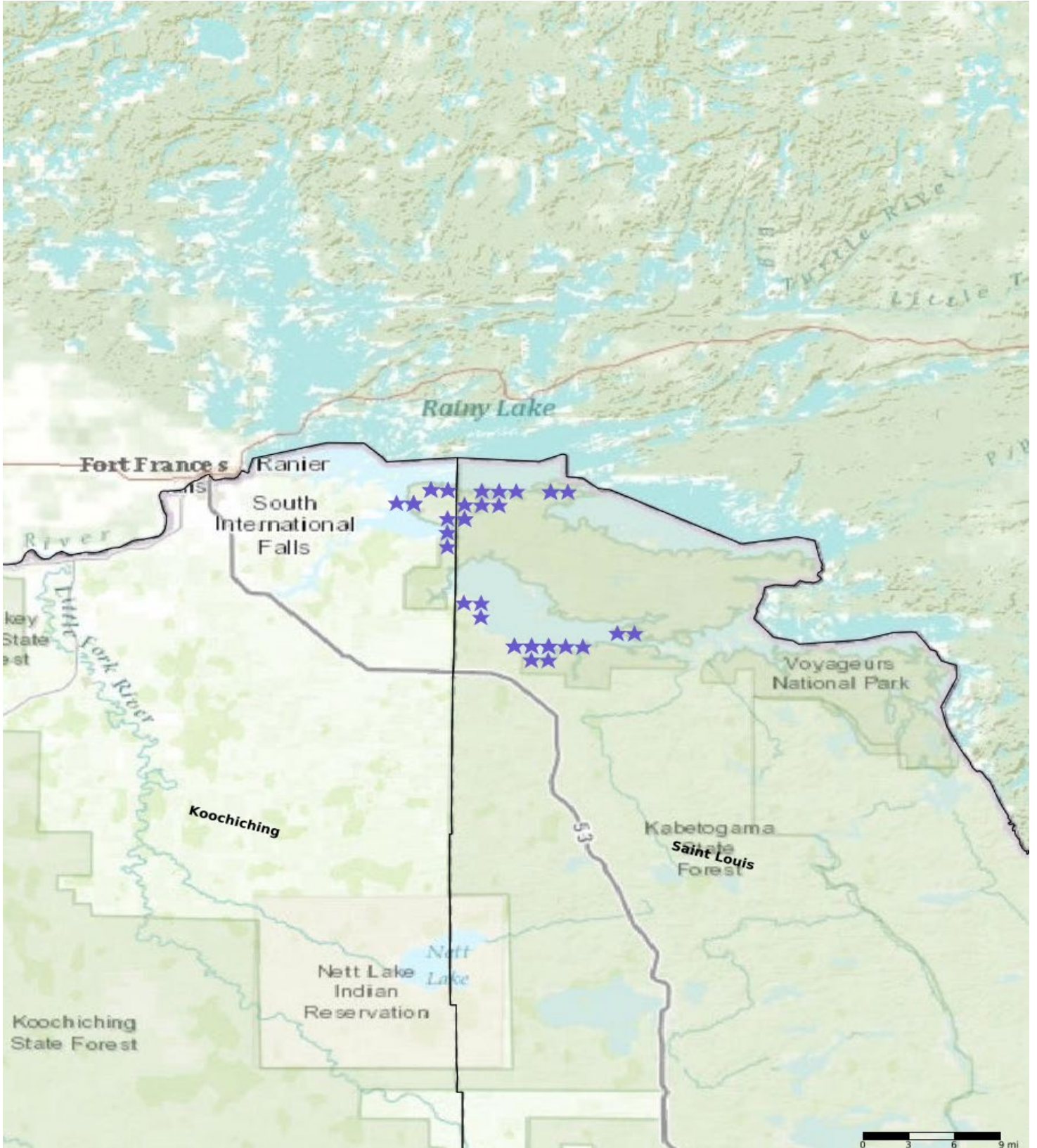
Parcels for treatment and restoration were first identified by the presence of invasive cattails of significant quantity to warrant restoration. Parcels were prioritized by the presence of floating cattail mats which have the potential to engulf bays and remove open water habitat and can detach causing navigational hazards and property damage. Submerged rooted mats were selected next as underwater cutting is a very successful method of eradicating cattail and will restrict new floating mats from forming. Areas where woody vegetation and cattails were encroaching into wetlands were also selected for increased restoration benefits. Parcels with archeological and cultural sites were avoided to protect those resources. The remaining parcels after this process are prioritized by ease of access and cost-effectiveness of restoration.

### Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
East Black Bay	Koochiching	07022212	28	\$104,142	Yes
Dove Bay	Koochiching	07122236	11	\$40,913	Yes
South Sunrise Point	Koochiching	07122236	10	\$37,194	Yes
Dove Bay	Koochiching	07122235	5	\$18,597	Yes
Black Bay Narrows	Koochiching	07022204	2	\$7,439	Yes
Black Bay Narrows	Koochiching	07022203	2	\$7,439	Yes
Black Bay Narrows	Koochiching	07022203	1	\$3,719	Yes
Black Bay Narrows	Koochiching	07022203	1	\$3,719	Yes
East Black Bay	Koochiching	07022224	33	\$122,739	Yes
East Black Bay	Koochiching	07022213	13	\$48,352	Yes
W of Dove Bay	Koochiching	07122235	6	\$22,316	Yes
East Cranberry Bay	St. Louis	07021204	0	\$0	Yes
Echo Island W	St. Louis	06921208	8	\$29,755	Yes
Echo Island W	St. Louis	06921207	7	\$26,035	Yes
East Irwin Bay	St. Louis	06921236	22	\$81,826	Yes
Irwin Bay	St. Louis	06921235	3	\$11,158	Yes
Duck Bay	St. Louis	06921227	4	\$14,877	Yes
Sphunge Islands	St. Louis	06921227	3	\$11,158	Yes
Duck Bay	St. Louis	06921226	7	\$26,035	Yes
Irwin Bay	St. Louis	06921226	1	\$3,719	Yes
East Irwin Bay	St. Louis	06921225	7	\$26,035	Yes
Deer Point Islands	St. Louis	06921225	3	\$11,158	Yes
Echo Island W	St. Louis	06921217	2	\$7,439	Yes
Deer Point Islands	St. Louis	06920230	12	\$44,632	Yes
Mud Bay	St. Louis	06920229	10	\$37,194	Yes
Long Slough	St. Louis	06920222	1	\$3,719	Yes
Long Slough	St. Louis	06920223	12	\$44,632	Yes
Lost Bay Rainy	St. Louis	07121236	10	\$37,194	Yes
Lost Bay Rainy	St. Louis	07121236	2	\$7,439	Yes

Lost Bay Rainy	St. Louis	07121234	5	\$18,597	Yes
East Cranberry Bay	St. Louis	07121233	2	\$7,439	Yes
North Cranberry Bay	St. Louis	07121232	8	\$29,755	Yes
Lost Bay Rainy	St. Louis	07120231	2	\$7,439	Yes
East Black Bay	St. Louis	07021207	33	\$122,739	Yes
Southwest Cranberry Bay	St. Louis	07021207	3	\$11,158	Yes
Southwest Cranberry Bay	St. Louis	07021206	1	\$3,719	Yes
Southwest Cranberry Bay	St. Louis	07021205	30	\$111,580	Yes

Parcel Map



- Protect in Easement
- ▲ Protect in Fee with PILT
- Protect in Fee W/O PILT
- ★ Restore
- ✕ Enhance
- ⊕ Other