Lessard-Sams Outdoor Heritage Council

Lake Nokomis Shoreline Habitat Enhancements

Laws of Minnesota 2015 Final Report

General Information

Date: 08/17/2025

Project Title: Lake Nokomis Shoreline Habitat Enhancements

Funds Recommended: $444,000

Legislative Citation: ML 2015, First Sp. Session, Ch. 2, Art. 1, Sec. 2, Subd. 5(g)

Appropriation Language: $444,000 in the first year is to the commissioner of natural resources for an agreement with the Minneapolis Park and Recreation Board to enhance aquatic habitat on Lake Nokomis. A list of proposed enhancements must be provided as part of the required accomplishment plan.

Manager Information

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Location Information

County Location(s): Hennepin.

Eco regions in which work will take place:

Metro / Urban

Activity types:

Enhance

Priority resources addressed by activity:

Habitat

Narrative

Summary of Accomplishments

MPRB received $444,000 to improve segments of the shoreline as well as aquatic habitat in Lake Nokomis through integrated lake management. Problems that existed within this segment of the lake included shoreline erosion, lack of vegetative growth, limited aquatic habitat and quality of habitat as well as suppression of plant growth due to sedimentation and algae. The shoreline improvements were established within three distinct vegetative zones which will be critical for helping with overall lake clarity. The total area of shoreline improvements extends approximately 4840 linear feet.

Process & Methods

In 2015 the Minneapolis Park and Recreation Board (MPRB) developed a new Master Plan for Lake Nokomis and Lake Hiawatha area. This process took many months and was led by a Community Advisory Committee (CAC) and included several community meetings and public open house meetings to solicit feedback from the community. The purpose was to provide a community driven vision for new long-term improvements to park facilities, recreation, landscape, trails, and shorelines. The Master Plan studied the existing conditions of the park, assessed community needs in relation to park use, and proposed specific improvement projects. One of the visions established as part of the Master Plan was to create more naturalized areas around Lake Nokomis, converting turf areas to native landscapes. Native landscapes will help stabilize segments of the shoreline, improve water quality, and enhance native habitat.

Park Board staff engaged the community again during the design and planning process for the shoreline restoration project. MPRB believes this helps develop a strong community understanding of the project need and importance, lifts up community knowledge of the area, and allows projects to be successful. MPRB staff and their team of consultants worked with stakeholder groups during the schematic design phase in an effort to develop a successful plan. Two community open house meetings were held for the community to better understand the reasoning for these improvements and to hear what impacts the proposed improvements would have on Lake Nokomis and the surrounding character of the area. The open house events engaged the community in a respectful manner, allowing the public to voice their opinions. In addition an online survey was conducted to solicit feedback from those who could not attend either meeting.

The actual implementation of the project included three basic phases: site preparation, construction, and maintenance. Contractors began by installing sediment control devices at the lake edge, tree protection measures around trees to remain in the restoration area, and pedestrian control devices to ensure safe recreation in the vicinity during construction. Many trees were trimmed to ensure good sunlight penetration, and many invasive trees were removed. Segments of degraded bituminous pathway were also removed, to limit some pedestrian lake access. The last element of site preparation involved the application of EPA-approved herbicides by certified applicators to eliminate turfgrass and ground -level invasives.

Construction activities primarily involved grading, rock placement, and planting. In placed the ground was regraded to ensure a more gradual slope from upland to sumberged planting areas. Boulder riprap was installed in certain areas along the shoreline where wave action could to the most damage to the project. Field flagging of specific planting areas and lake access pathways (stabilized turf) guided subsequent plantings. The different zones were planted in different ways:
-- Wetland Buffer Zone (near the shoreline): hand held seeders
-- Upland Buffer Zone (majority of project): mechanical seeding by tractor, hand installation of perennial plugs near lake access pathways, later overseeding by both hand and mechanical means
-- Emergent Planting Zone (in water): hand placement

-- Shrubs (scattered throughout project): hand and machine planting

In all the project planted at least 49 species of native forbs, 35 species of native grasses and sedges, and 4 species of native shrubs.

Maintenance activities included in the construction contract and funded by OHF occurred throughout 2020 and into the spring of 2021. Activities included the spot re-application of herbicides to control invasive weeds, hand pulling of invasives, spot and large-scale mowing to control annual weeds and invasives, and implementation of Integrated Pest Management plan for long term care and maintenance.

How did the program address habitats of significant value for wildlife species of greatest conservation need, threatened or endangered species, and/or list targeted species?

According to the original land survey map of Hennepin County prior to the development of the city, Lake Nokomis was originally a shallow lake. It was likely full of emergent vegetation and was an effective spawning ground for fish. Dredging in the early 1900's disturbed Nokomis's littoral habitat. The concurrent construction of the storm sewer conveyance system added nutrients and sediment to the lake system. These two actions combined created a feedback loop that caused Lake Nokomis to switch to an algae dominated low-habitat-value system. Through projects completed by the Blue Water Partnership in the 2000's along with later nutrient reduction projects in the southern portion of the watershed, much of the external sediment and phosphorus load to the lake has been addressed. However, the lake remains locked in an algae-dominated state. The intent of the current project is to help push the lake back into a clear-water habitat-rich state. This will restore the historic function of the lake as an interconnected habitat system that benefits aquatic vegetation, aquatic invertebrates, fish, birds, reptiles, amphibians, and small mammals.

The project did not target specific wildlife nor plant species of great conservation need, though it will benefit multiple wildlife species, particularly pollinators and fish. The existing landscape was severely degraded and establishing an appropriate habitat area was the most important facet of the project.

How did the program use science-based targeting that leveraged or expanded corridors and complexes, reduced fragmentation, or protected areas in the MN County Biological Survey.

Lake Nokomis sits within a Department of Natural Resources Conservation Corridor in close proximity to the Mississippi River Flyway. It is connected to the Missisippi River by an unbroken ecological corridor along Minnehaha Creek, all of which is parkland. Most of this parkland, however, consists of mown turfgrass with limited habitat potential. In Minneapolis, the critical ecological improvement is not so much connectivity or fragmentation reduction, because the parkland system creates an already interconnected system. The issue is the habitat quality within that system. This project succeeded in creating significant upland and aquatic habitat improvement within an interconnected network of green spaces.

Explain Partners, Supporters, & Opposition

During the course of the project several partner agencies were involved, either through the community engagement process or with permitting and approval. The Friends of Lake Nokomis is a citizen-led, nonprofit organization focused on preserving and improving the condition of Lake Nokomis. They were active during community engagement. The Friends of Lake Nokomis has partnered with the Minneapolis Park and Recreation Board (MPRB) to be active stewards of the lake. The Minnehaha Creek Watershed Organization (MWMO) is the local watershed management organization, They were involved during design and permitting to approve the eventual design. The Department of Natural Resources was another permitting agency which granted approval of the design since it fell within waters of the State.

During the community engagement for the project, MPRB did not encounter significant public opposition to the project, and many community members support expansion and enhancement of habitat areas within this and other parks.

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

One of the biggest challenges had to do with lake levels. Given annual rainfall and outlet weir control the lake level fluctuates routinely so water elevation will vary. In more recent years lake levels have been higher as a result of more frequent significant rainfall events, thereby seasonally inundating surrounding lakeshore. Certain segments of the proposed shoreline improvement areas fell within areas which have been seasonally inundated as a result of high lake levels. As a result, most emergent and submergent vegetation originally planned as part of the project was eliminated due to concerns it would not survive. The project did install two areas of emergent vegetation where conditions would allow. It is hoped that plants in these emergent areas will spread naturally. Essentially the project was able (in addition to significant upland shoreline restoration) to create new seedbanks for the gradual reestablishment of a full shoreline vegetation continuum.

What other dedicated funds may collaborate with or contribute to this program?

N/A

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

The MPRB has identified priority areas for natural area management, those being native plant communities with good ecological quality as well as park lands planted as part of park redesign with native plants. Per this classification, the Nokomis shoreline area is considered a priority area. Management of natural areas primarily focuses on control of invasive and weedy plants to enhance native plant regeneration. These areas are managed with a variety of tools including prescribed burning and mowing. With the extensive naturalized areas with the MPRB park system, the MPRB has been working towards developing management strategies and associated costs for improving the ecological quality and function of its naturalized areas.

In addition, MPRB will continue to regularly monitor phosphorous, nitrogen, chlorophyll-a, zooplankton, and phytoplankton and compare levels to historic data and MPCA standards. MPRB will also perform aquatic plant surveys within the enhancement areas.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2022-indefinitely	MPRB Operational Funds	Aquatic vegetation surveys	Water quality monitoring	-
2022-2024	n/a	Warranty period plant monitoring and additional planting if necessary	Maintenance of protective fencing	-
2024-indefinitely	MPRB Operational Funds	Targeted management according to MPRB Natural Areas Plan	-	-

Budget

Totals

Item	Requested	AP Amount	Spent	Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	-	-	-	$115,600	$115,600	MPRB General Operating & Teen Teamworks, MPRB General Operating	$115,600	$115,600
Contracts	$67,300	$284,300	$67,300	-	-	-	$67,300	$67,300
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-
Professional Services	$157,500	$157,500	$157,500	-	-	-	$157,500	$157,500
Direct Support Services	-	-	-	-	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	-	-	-	-	-	-	-	-
Supplies/Materials	$219,200	$2,200	$219,200	-	-	-	$219,200	$219,200
DNR IDP	-	-	-	-	-	-	-	-
Grand Total	**$444,000**	**$444,000**	**$444,000**	**$115,600**	**$115,600**	**-**	**$559,600**	**$559,600**

Personnel

Position	Annual FTE	Years Working	Amount Spent	Leverage	Leverage Source	Total
Landscape Architect/Project Manager	0.06	5.0	-	$45,000	MPRB General Operating	$45,000
Water Quality Staff	0.03	5.0	-	$15,000	MPRB General Operating	$15,000
Youth Crew Supervisor	0.05	5.0	-	$8,800	MPRB General Operating & Teen Teamworks	$8,800
Youth Worker(s)	0.5	5.0	-	$46,800	MPRB General Operating & Teen Teamworks	$46,800

Explain any budget challenges or successes:
During the course of the project, MPRB experienced some issues with tracking reimbursements and ensuring costs were contained in the correct category. This led to project amendments and justifiable frustration on the part of LSOHC staff and members. Though the project was accomplished for the allocated budget, cost categories (specifically the difference between "contracts" and "supplies" were misunderstood by MPRB at original project submittal and during the project.

Total Revenue: $0

Revenue Spent: $0

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	2	2	2
Total	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**2**	**2**

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	-	-	-	-	-	-	$444,000	$444,000	$444,000	$444,000
Total	**-**	**-**	**-**	**-**	**-**	**-**	**$444,000**	**$444,000**	**$444,000**	**$444,000**

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 Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0	0	0
Enhance	2	2	0	0	0	0	0	0	0	0	2	2
Total	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**

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	$444,000	$444,000	-	-	-	-	-	-	-	-	$444,000	$444,000
Total	**$444,000**	**$444,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**$444,000**	**$444,000**

Target Lake/Stream/River Feet or Miles

.92 shoreline miles

Explain the success/shortage of acre goals

The request for funding was to improve 4580 linear feet of shoreline. Careful thought and consideration went into defining what level of improvements throughout the proposed shoreline area were most critical in order to best develop a design strategy which could meet the project objective but also was be done within project funding. The competitive public bid process most likely contributed to the Minneapolis Park and Recreation Board being able to construct more shoreline (4857 linear feet) than originally thought.

Outcomes

Programs in metropolitan urbanizing region:

Improved aquatic habitat indicators ~ *The Minneapolis Park and Recreation Board has identified several key factors to help preserve the shoreline improvements. A primary focus will be to continue to remove invasive tree and herbaceous species from the shoreline, reaching out to groups such as the Conservation Corps Minnesota and the MPRB's youth employment program, Teen Teamworks. MPRB will continue to regularly monitor phosphorous, nitrogen, chlorophyll-a, zooplankton, and phytoplankton and compare levels to historic data and MPCA standards. MPRB staff will also perform regular aquatic vegetation surveys to understand the extent of spread of desirable aquatic species planted as part of the project.*

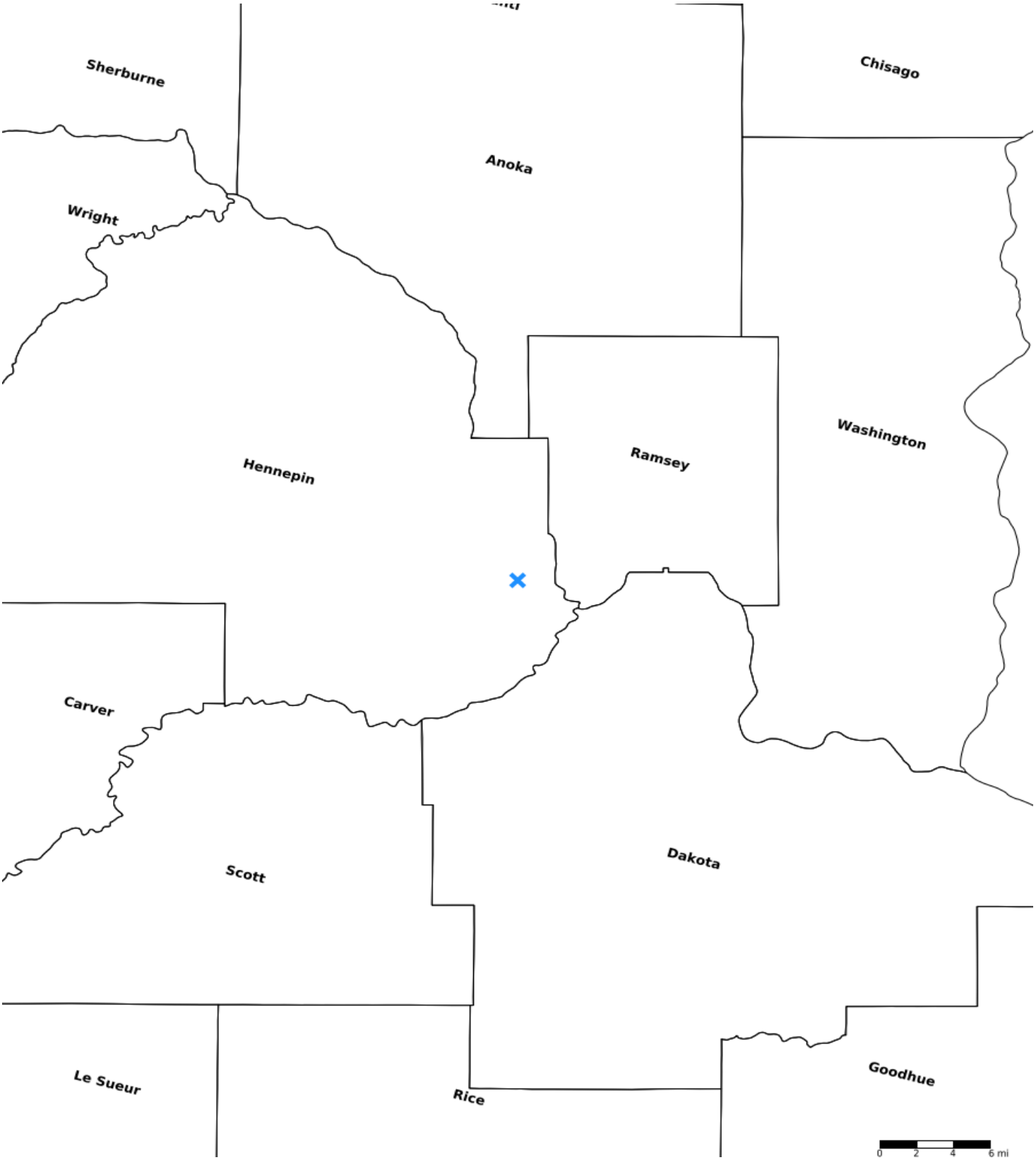
Parcels

Sign-up Criteria?
No

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection	Description
Nokomis Lake	Hennepin	02824213	192	$444,000	Yes	Littoral and riparian habitat

Parcel Map


Sherburne
Chisago
Anoka
Wright
Hennepin
Ramsey
Washington
Carver
Scott
Dakota
Le Sueur
Rice
Goodhue
0 2 4 6 mi
Protect in Easement
Protect in Fee with PILT
Protect in Fee W/O PILT
Restore
Enhance
Other