Lessard-Sams Outdoor Heritage Council

DNR St. Louis River Restoration Initiative – Phase 10

ML 2023 Request for Funding

General Information

Date: 05/31/2022

Proposal Title: DNR St. Louis River Restoration Initiative – Phase 10

Funds Requested: $5,650,000

Manager Information

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Location Information

County Location(s): Carlton and St. Louis.

Eco regions in which work will take place:

- Northern Forest

Activity types:

- Restore

Priority resources addressed by activity:

- Habitat
- Wetlands

Narrative

Abstract

MNDNR's St. Louis River Restoration Initiative (SLRRI) is a collaborative program enhancing and restoring the St. Louis River estuary and contributing watershed. The 11,000-acre estuary is a unique resource of statewide significance. SLRRI's vision includes diverse, productive, and healthy aquatic and terrestrial ecosystems of the river and watershed. Through SLRRI Phase 10 we will restore an additional 63 acres of priority aquatic and wetland habitat for important fish, game, and Species of Greatest Conservation Need. To date, LSOHC has supported approximately 900 acres of SLRRI habitat restoration, leveraging over $24 million in federal funding.

Design and Scope of Work

The SLRRI will restore and enhance priority habitats in the St. Louis River estuary and its watershed. The SLRRI employs a collaborative approach using a network of resource managers, researchers, and key stakeholders. As partners, the MNDNR and MN Land Trust (MLT) have successfully restored wetland, stream and open water aquatic habitats while leveraging significant federal support. For this Phase 10 proposal, the Fond du Lac Band of Lake Superior Chippewa (FdL) joins us in expanding this successful initiative to include boreal wetlands (see Boreal Wetlands Restoration Attachment).

We will continue to restore and enhance 63 acres and improve fish passage in approximately 1,600 feet of priority habitats with an emphasis on the following:

Mud Lake is a warm water fish and migratory bird habitat restoration project. Mud Lake is an estuarine bay and coastal wetland complex. Mud Lake habitat and water quality have been degraded by a railroad causeway that bisects that bay. This project will improve the hydrologic function of Mud Lake and restore coastal marsh habitat. Baseline sampling and project designs are currently in progress. The SLRRI team will work in close coordination with the MPCA, USEPA, and the City of Duluth to restore ecological function to support birds and aquatic life.

Lower Knowlton Creek is a trout stream flowing into the estuary. Upper reaches of Knowlton Creek were previously restored using OHF and Federal appropriations under the St. Louis River AOC program. In the creek's lower reaches, a culvert under the state's Munger Trail is a barrier to both fish and wildlife passage. We will increase connectivity, restore adjacent stream reaches, and improve the resiliency of previous downstream restoration efforts.

Boreal wetlands occur throughout the St. Louis River watershed and are selected as a focus ecosystem by the 1854 Treaty Authority's "Climate Change Vulnerability Assessment and Adaptation Plan." Boreal wetlands provide habitat for culturally important plant and wildlife species, purify water, and protect from flooding. Of the ecosystems highlighted in the plan, boreal wetlands are ranked with the highest sensitivity and lowest adaptive capacity to climate change. Most wetlands in the NE portion of MN have lost habitat value due to some degree of hydrologic change, primarily ditching. In partnership with FdL, the SLRRI goal includes restoring habitat and hydrologic function in 500 acres of degraded wetlands within the FdL Reservation in the next ten years. As partners, we will choose specific project areas using protocols established in "Wetland Restoration Plan: Method for Prioritizing Efforts on the Fond du lac Reservation" and design, manage, and implement restoration actions. Actions may include plant establishment, resizing new and existing culverts, plugging or breaching ditches or other landscape-level activities that improve a wetland's ability to maintain high quality habitat in the long term.

In addition to specific projects mentioned above, the SLRRI will continue coordinating with our partners to develop

additional projects to improve fish and wildlife populations throughout the estuary and surrounding watersheds. Work on project sites previously identified within the SLRRI program will continue.

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

At the head of Lake Superior, the 11,000-acre St. Louis River estuary is a unique Minnesota resource. With extensive wetlands and warmer waters, it is the primary source of productivity for western Lake Superior fisheries and a critical flyway for waterfowl and other migratory birds. As the world's largest freshwater shipping port, nearly two-thirds of the estuary's native wetlands have been altered, eliminated, or impaired as a result of historic impacts of industrial activities. The proposed projects represent an opportunity to balance economic activities, while restoring the negative impacts of historic uses. Additionally, restorations will directly benefit Species of Greatest Conservation Need (SGCN) and other species by improving habitat quality and quantity in strategic locations to maximize benefits to populations.

Boreal wetlands in the St. Louis River watershed are critical and vulnerable habitat. They are biodiversity hotspots and host a variety of culturally significant plants critical to maintaining Anishinaabe lifeways (examples include willow species and Labrador tea, as well as peat, black ash and dogwood), and serve as breeding grounds for subsistence lifestyles, including fish, waterfowl, and other wildlife. They provide habitat for a multitude of threatened and endangered plants such as the Ram's head orchid, and they serve as breeding and hunting grounds for threatened and endangered animals such as the long-eared bat and the northern goshawk.

As the Outdoor Heritage Fund's 25-year framework states, "Success in conservation will depend highly on leveraging traditional and other sources of conservation funding with available OHF funds and coordinating efforts with conservation partners." The proposed project is integrated with local, state, federal, tribal, and non-government partners that have worked together to advance projects and secure non-OHF funding of approximately 47% of the total cost. Minnesota's legacy funds are an integral part of the overall strategy to restore the health of this valuable resource.

What is the degree of timing/opportunistic urgency and why it is necessary to spend public money for this work as soon as possible?

Mud Lake is MNDNR's final AOC restoration project, earmarked for significant federal support through the Great Lakes Restoration Initiative in the near future. Securing the remaining funds anticipated for construction keeps this large project on track for completion by 2025 and supports AOC delisting goals.

Boreal wetlands are both threatened by climate change and provide resiliency to its impacts. Extreme rains and droughts are predicted to increase in severity by 2050. We have a short window to identify impaired wetlands and restore them to function as high quality habitat and withstand emerging stressors. We can magnify positive outcomes by leveraging MNDNR's recent five-year federal grant to develop and implement boreal wetland habitat restoration projects supporting environmental justice and climate resiliency.

Continued investment the SLRRI program helps maintain momentum and success. While the AOC program comes to a close, there is a continued need to restore, enhance, and protect estuary habitat.

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

Science-based targeting is used to identify, design, monitor, and ensure the quality of all SLRRI projects. This comes in the form of comprehensive planning, team-lead project development, and partnering with researchers and subject matter experts.

The SLRRI team works with many local, state, tribal, and federal resource professionals and stakeholders to develop and update the Habitat Plan, a comprehensive science-based plan for protecting, restoring, and managing the estuary's fish and wildlife habitat. The Habitat Plan guides and prioritizes restoration work, and it has been the foundation of the SLRRI and AOC program.

Boreal wetland restoration will be largely informed by FdL's Wetland Restoration Plan and Wetland Prioritization geodatabase. The Plan recognizes that potential restoration sites mapped adjacent to high functioning wetlands may result in more wetland functional gains than one that is not. The Plan also includes a Wetland Functional Assessment that ranks wetland function (high, moderate, standard) by a suite of functional classes and includes a data layer on culturally-significant areas. This can help target restoration activities where wetlands are not functioning highly in these categories while also expanding corridors or complexes, especially if they exist in close proximity to wetlands that are high functioning within these categories. FdL also maintains updated data through National Heritage Information System, which can be used to conserve or restore habitat for threatened and endangered species (overlap with culturally significant species).

Restoration Site Teams (RSTs) are developed for each project to identify restoration objectives. Resource managers, ecologists, biologists, and other partners examine conceptual project alternatives, evaluating habitat benefits and trade-offs between using qualitative and quantitative habitat metrics. Restoration objectives consider both the individual site and its role within the St. Louis River watershed. Knowledge transfer from previously completed OHF-funded projects is facilitated by engaging local resource experts on multiple SLRRI projects. State, federal, and academic researchers continue to monitor and evaluate the estuary's fish and wildlife populations and habitat to prioritize restoration projects, model expected outcomes of restoration alternatives, and evaluate restoration outcomes.

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

- H5 Restore land, wetlands and wetland-associated watersheds
- H6 Protect and restore critical in-water habitat of lakes and streams

Which two other plans are addressed in this proposal?

- Lower St. Louis River Habitat Plan
- Other : Fond du Lac Reservation's CWA Sec. 319 Nonpoint Source Pollution Assessment Report and Management Plan (2021) (http://www.fdlrez.com/RM/watermain.htm)

Describe how your program will advance the indicators identified in the plans selected:

The Habitat Plan identifies conservation targets, strategies, and projects required to restore the estuary. Projects include fish habitat restoration at Keene and Kingsbury Creeks, deep water preservation and sheltered bay restoration at Mud and Perch Lakes, and restoration of natural drainage systems. Mud and Perch Lake restoration are also included as a Remedial Action Plan (RAP) management action required to remove the "loss of fish and

wildlife habitat" impairment and delist the St. Louis River AOC.

FdL Reservation's 2021 Nonpoint Source Management Plan identifies wetland management as playing a key role in ameliorating nonpoint source pollution. The plan prioritizes projects such as those contained in this proposal that improve wetland function or protect highly diverse or sensitive wetlands.

Which LSOHC section priorities are addressed in this proposal?

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

Describe how your program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife as indicated in the LSOHC priorities:

The SLRRI Phase 10 restoration efforts in the estuary will produce the diverse, productive, and healthy aquatic ecosystems that will make it one of the top fishing destinations in Minnesota. This is based on the unparalleled variety of angling opportunities these habitats provide. Few waters in Minnesota have the ability to host destination quality fishing for walleye, muskellunge, smallmouth bass, lake sturgeon, and black crappie. Restorations and enhanced management of the estuary will increase the number, size, and quality of fish SCGN and game fish species, as well as improve angler and other recreational access.

The estuary and the associated ridgeline is one of the most important migratory stopover sites and breeding areas for birds along the Mississippi River and Great Lakes flyway. More than 130 species of birds (80% of bird species that occur in Minnesota) rely on the estuary for some portion of their life cycle. Numerous marsh bird SCGN are expected to benefit from the proposed coastal marsh restoration.

Boreal wetlands provide high biodiversity conservation value, including culturally-significant species, especially as an important breeding area for ducks and other birds. Vegetation includes woody and herbaceous trees that are preferred for moose. Restored wetlands will sustain biodiversity under a variety of climate stressors.

What other fund may contribute to this proposal?

- N/A

Does this proposal include leveraged funding?

Yes

Explain the leverage:

To date, the SLRRI program has secured $27M in OHF funding and $24M in non-OHF funds, a ratio of 53:47 OHF to non-OHF funds.

MNDNR has received a Great Lakes Restoration Initiative award (attached) from EPA to restore boreal wetlands in partnership with FdL and the 1854 Treaty Authority. The award disburses $300,00 per year for 5 years for the project. The first year's disbursement ($300k) is identified as leverage in this proposal. EPA is also prioritizing a significant amount of GLRI funding towards the construction of the Mud Lake restoration project; these funds will be identified as leverage after they are received.

The MNDNR and MN Land Trust have completed projects with many different agencies and organizations, who all share the goals of the SLRRI. Though not formally tracked as leverage, the MPCA provides management support and technical expertise. The USEPA, NOAA, USFWS, USACE, and other federal and tribal agencies have provided funding, technical expertise, or in-kind services.

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
2011	GLRI - Capacity funds	$800
2012	NFWF/SOGL - Wild rice restoration	$160,000
2013	GLRI - Chambers Grove restoration	$400,000
2013	NFWF/SOGL - Knowlton Creek restoration	$400,000
2013	GLRI - Radio Tower Bay restoration	$1,500,000
2014	GLRI via UACE Partnership - Chambers Grove restoration	$130,000
2014	Clean Water Fund - Chambers Grove restoration	$70,000
2012	USFWS Cooperative Agreement - Interstate Island Ph. 1 restoration	$40,000
2015	GLRI - Knowlton Creek restoration	$700,000
2017	NRDA Settlement - Kingsbury Bay restoration	$5,003,242
2017	NRDA Settlement - Kingsbury Creek restoration	$637,500
2017	GLRI - Kingsbury Bay and Grassy Point restoration	$7,770,000
2018	GLRI - Perch Lake restoration	$3,512,000
2018	GLRI via USACE Partnership - Perch Lake restoration	$400,000
2019	GLRI - Interstate Island Ph. 2 restoration	$839,650
2019	Great Lakes Fish & Wildlife Restoration Act - Interstate Island Ph. 2 restoration	$145,000
2019	Coastal Program (USFWS) - Interstate Island Ph. 2 restoration	$200,000
2019	Coastal Program (NOAA) - Interstate Island Ph. 2 restoration	$5,200
2020	GLRI - Avian forest habitat restoration	$65,000
2020	Coastal Program (NOAA) - Interstate Island Ph. 2 restoration	$15,000
2020	GLRI via USACE Partnership - Mud Lake restoration	$520,000
2022	GLRI Management Assistance Award - Environmental Justice & Climate Resiliency Initiative	$1,500,000

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

St. Louis River habitat restoration projects are designed to be maintained by the natural processes that define these systems. Barring catastrophic events, these projects will not require future adjustment, or clean-up.

MNDNR Duluth Area Fisheries manages the Lower St. Louis River through regular monitoring, assessment, and regulation. They partner with Wisconsin DNR, MN Pollution Control Agency, USEPA Great Lakes Toxicology and Ecology Lab, and NOAA's National Estuarine Research Reserve in the effort to monitor and address issues associated with the long-term maintenance of habitat restoration outcomes in the estuary.

Fond du Lac resource managers will include all restored boreal wetlands in their five-year wetland functional assessment cycles to track function over time.

Healthy and robust native plant communities are resistant to invasion by exotic species. If invasive species successfully establish on a site they can disrupt the food web of the native community and result in reduced populations of desirable native species. Restoration of native plant communities will inhibit the establishment of invasives, and MNDNR is partnered with the other entities described above to control them.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2023-26	GLRI (USEPA)	Post restoration monitoring (AOC sites only)	-	-
All years	Fish & Wildlife Game & Fish fund	Regular Surveys/monitoring	-	-
All years	Fond du Lac Resource Management	Long-term monitoring at specific sites	-	-

Identify indicator species and associated quantities this habitat will typically support:

The proposed projects restore approximately 60 wetland acres, supporting the following indicator species:

- Mallards = 24 (based on one per 2.47 wetland acres, noting that upland habitat for nesting is also needed)
- Trumpeter Swans = 2 pairs (based on one pair per 150 acres, and considering the total 300-ac Mud Lake wetland complex)

Trout (all species) serve as indicator species for regional trout streams while Walleye, Muskellunge, and Northern Pike are indicator species for lakes. The estimates below are based on population averages calculated for total project areas of 60 wetland and access improvements to 3 northeast MN trout stream acres. These averages are generated from available data and published sources, and do not capture the variability inherent in aquatic populations. Natural populations, including healthy populations with good habitat, vary among locations, and also rise and fall within lakes and rivers.

- Trout (all species) = 120 lbs
- Walleye = 120 adults
- Muskellunge = 12 adults
- Northern Pike = 600 adults

How will the program directly involve, engage, and benefit BIPOC (Black, Indigenous, People of Color) and diverse communities:

West Duluth, where most of our estuary restoration takes place, has had greater environmental impairments and a higher proportion of low income and BIPOC residents compared to Duluth as a whole. Native Americans and Hmong residents tend to be highly represented as shore fishing and local angling user groups in the estuary. Improving estuary resources provides direct and meaningful benefits to residents in these comparatively low-income neighborhoods and user group. It also supports and enhances tribal treaty rights to hunt, fish and gather.

The SLRRI team is leading the Lake Superior Headwaters Sustainability Partnership, an emerging initiative to continue the coordination and collaboration established by the AOC program into the future. This initiative seeks to align natural resource management efforts with community health and economic development.

All SLRRI projects, and especially proposed boreal wetlands restoration, will be completed in close coordination with FdL and the 1854 Treaty Authority to ensure that tribal benefits are maximized and Traditional Ecological Knowledge is valued. FdL meets all three of Minnesota's primary Environmental Justice criteria: federally recognized Tribal area, 50% or more people of color, and at least 40% of people with reported income less than 185% of the federal poverty level. FdL's Environmental Program maintains list of culturally significant species, which will be included in restoration or protection plans and highlighted post-restoration so Band members are aware of enhanced resources.

DNR's OHF projects aim to serve all Minnesotans. At the same time, we are bringing more focus in all our work to BIPOC and diverse communities. The Minnesota DNR has adopted advancing diversity, equity and inclusion (DEI) as a key priority in its 2020-22 strategic plan. The plan focuses on increasing the cultural competence of our staff, creating a workforce that is reflective of Minnesota, continuing to strengthen tribal consultation and coordination, and building partnerships with diverse communities.

Activity Details

Requirements

If funded, this proposal 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?
Yes

Where does the activity take place?

- County/Municipal
- Public Waters
- Other : Tribal land/Federal Trust land

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program?
No

Other OHF Appropriation Awards

Have you received OHF dollars in the past through LSOHC?
Yes

Approp Year	Approp Amount	Amount Spent to	Leverage Reported in	Leverage Realized to	Acres Affected in	Acres Affected to	Complete/Final Report

	Received	Date	AP	Date	AP	Date	Approved?
2021	$2,024,000	-	$1,085,000	$1,085,000	154	0	No
2020	$2,280,000	-	-	-	35	0	No
2019	$3,777,000	$130,000	$1,137,500	$1,482,500	33	0	No
2018	$2,013,000	$890,000	-	$840,000	36	18	No
2017	$3,392,000	$3,359,300	$1,500,000	$6,700,000	192	159	No
2016	$2,707,000	$2,707,000	$2,000,000	$5,000,000	40	67	Yes
2014	$2,290,000	$2,290,000	$1,369,000	$1,600,000	52	38	Yes
2012	$3,668,900	$3,668,900	$2,029,000	$2,800,800	208	208	Yes

Timeline

Activity Name	Estimated Completion Date
Boreal Wetlands Restoration	June 2027
Project prioritization, integration, and development; site-specific coordination	June 2028
Mud Lake – Enhance hydrologic connection, remove legacy wood waste and restore ecological functions	December 2025
Lower Knowlton Creek – Remove fish passage barrier and restore a natural stream channel	December 2025

Budget

Grand Totals Across All Partnerships

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Personnel	$785,000	-	-	$785,000
Contracts	$4,500,000	$300,000	-, GLRI via EPA (documentation attached)	$4,800,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	$7,000	-	-	$7,000
Professional Services	$170,000	-	-	$170,000
Direct Support Services	$158,500	-	-	$158,500
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	$25,000	-	-	$25,000
Supplies/Materials	$4,500	-	-	$4,500
DNR IDP	-	-	-	-
Grand Total	**$5,650,000**	**$300,000**	**-**	**$5,950,000**

Partner: MN Land Trust

Totals

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Personnel	$200,000	-	-	$200,000
Contracts	$1,000,000	$300,000	GLRI via EPA (documentation attached)	$1,300,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	$2,000	-	-	$2,000
Professional Services	$20,000	-	-	$20,000
Direct Support Services	$54,000	-	-	$54,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	$5,000	-	-	$5,000
Supplies/Materials	$1,500	-	-	$1,500
DNR IDP	-	-	-	-
Grand Total	**$1,282,500**	**$300,000**	**-**	**$1,582,500**

Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Restoration staff	0.5	4.0	$200,000	-	-	$200,000

Partner: MN DNR

Totals

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Personnel	$585,000	-	-	$585,000
Contracts	$3,500,000	-	-	$3,500,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	$5,000	-	-	$5,000
Professional Services	$150,000	-	-	$150,000
Direct Support Services	$104,500	-	-	$104,500
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	$20,000	-	-	$20,000
Supplies/Materials	$3,000	-	-	$3,000
DNR IDP	-	-	-	-
Grand Total	**$4,367,500**	**-**	**-**	**$4,367,500**

Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
EWR Supervisor	0.2	3.0	$75,000	-	-	$75,000
FAW OAS	0.7	3.0	$132,000	-	-	$132,000
EWR Project Manager	0.7	3.0	$197,000	-	-	$197,000
FAW Project Manager	0.7	3.0	$181,000	-	-	$181,000

Amount of Request: $5,650,000
Amount of Leverage: $300,000
Leverage as a percent of the Request: 5.31%
DSS + Personnel: $943,500
As a % of the total request: 16.7%
Easement Stewardship: -
As a % of the Easement Acquisition: -

Describe and explain leverage source and confirmation of funds:
MNDNR has a Partnership Agreement with USACE to design the Perch Lake project. The 65% federal share ($400k, GLRI) is secured. EPA awarded $3.5M in GLRI funds to construct the Perch Lake project. $1M was identified as leverage in ML2018, the remainder ($2.5M) is leveraged in this proposal.

Does this proposal have the ability to be scalable?
Yes

If the project received 70% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?
Completely funding the construction/administration of Mud Lake would be prioritized, with the remaining parcel budgets and acres scaled proportionate to the remaining funds.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?
Personnel/DSS expenses would reduce to 70-85% of the requested amount, prioritizing Mud Lake. Getting projects to being construction-ready and overseeing construction requires the largest investment of staff time. Staff time spent on advancing the SLRRI program as a whole and developing future projects would be most reduced.

If the project received 50% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?
The Mud Lake budget and construction would be reduced the least (to 70-85% of requested amount). Restoration work may be scaled, or additional funds acquired to implement the full project. Further construction delays at Mud Lake would be likely. The remaining parcel budgets would be proportionally scaled and potentially delayed.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?
Personnel/DSS expenses would be reduced to 50-70% of the requested amount. Getting projects to the point of being construction-ready requires the largest investment of staff time. Staff time spent on advancing the SLRRI program as a whole and developing future projects would be most reduced.

Personnel

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

Please explain the overlap of past and future staffing and position levels previously received and how that is coordinated over multiple years?
FTEs listed in the proposal are based on the current MNDNR SLRRI staffing plan and are an estimate of the personnel time required to deliver the grant outputs included in this proposal and advance the overall mission of the SLRRI. An array of staff may work on projects to complete deliverables and manage the grant. MLT's basis for billing is the individual Protection or Restoration project we work on, ensuring allocation to the appropriate grant award. MLT also uses timesheet based accounting ensuring only those personnel funds actually expended are used to achieve the goals of the grant. Time involving coordination among projects is billed proportionately. Personnel funds are generally coordinated to spend down oldest funds first.

Contracts

What is included in the contracts line?
MNDNR budget: contracts for engineering and design, construction, and construction administration and quality control oversight

MLT budget: contracts for engineering, design, and restoration. Contract with Fond du Lac Resource Management Division for boreal wetland restoration project coordination and management.

Travel

Does the amount in the travel line include equipment/vehicle rental?
No

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

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?
MNDNR Process: Used Direct and Necessary calculator provided by DNR OHF staff.

MLT Process: In a process that was approved by the DNR on March 17, 2017, we determined our direct support services rate to be 27%. The rate represents the relationship of indirect costs to direct costs and is fully explained in materials submitted to the DNR. The calculations are based on the most recent audited financial statements that were available at the time. We will apply the approved rate to personnel expenses funded by the grant.

Other Equipment/Tools

Give examples of the types of Equipment and Tools that will be purchased?
The Equipment and Tools budget line includes field and safety equipment or tools, space rental, and utilities.

Federal Funds

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

Are the funds confirmed?
Yes

- Cash : $300,000

Is Confirmation Document attached?
Yes

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	50	0	0	13	63
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	0	0
Total	**50**	**0**	**0**	**13**	**63**

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	$1,281,500	-	-	$4,368,500	$5,650,000
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	-
Total	**$1,281,500**	**-**	**-**	**$4,368,500**	**$5,650,000**

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	0	0	63	63
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**63**	**63**

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	$5,650,000	$5,650,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	-	-	-	-
Total	**-**	**-**	**-**	**-**	**$5,650,000**	**$5,650,000**

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	$25,630	-	-	$336,038
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	-	-	-	-	$89,682
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

11600

Outcomes

Programs in the northern forest region:

- Healthy populations of endangered, threatened, and special concern species as well as more common species ~ *Program monitoring conducted by others will evaluate the response of indicator species at project sites.*

  Boreal wetland function will be monitored and assessed by Fond du Lac Resource Management professionals.

Parcels

Sign-up Criteria?
No

Explain the process used to identify, prioritize, and select the parcels on your list:
The SLRRI is a partner to the Great Lakes Restoration Initiative (GLRI) and the Area of Concern (AOC) Process. As such, there is a Remedial Action Plan that identifies projects that need to be completed in order to delist the AOC. The list of actions was developed by a broad group of partner agencies and groups. The MNDNR was identified as the Agency Lead on several of the projects on the action item list, and has prioritized these projects for funding in previous proposals. Mud Lake is MNDNR's final AOC project that is not fully funded and is therefore prioritized in this proposal.

Apart from the AOC delisting process, additional work identified in the Lower St. Louis River Habitat Plan and the Lake Superior Lakewide Action and Management Plan will need to be completed to achieve the full habitat restoration potential of the estuary and surrounding watersheds. Restoring boreal wetlands in the river's watershed is critical to maintaining water and habitat quality in the river and watershed. Specific boreal wetland locations will be prioritized for restoration using existing plans and assessments developed by Fond du Lac.

Continued progress on non-AOC projects may be re-scaled, but remains critical to demonstrate to our Partners, including the federal GLRI, that the state is committed to continued success in the estuary, and to increase resiliency to protect previous investments.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Boreal Wetlands Restoration - various parcels on Fond du Lac reservation (approx. centroid)	Carlton	04918219	50	$1,000,000	Yes
Mud Lake (10,000 ft river shoreline)	St. Louis	04815202	10	$2,100,000	Yes
Lower Knowlton Creek (1600 ft stream)	St. Louis	04915223	3	$1,500,000	Yes

Parcel Map

- Protect in Easement
- Protect in Fee with PILT
- Protect in Fee W/O PILT
- Restore
- Enhance
- Other

Lessard-Sams Outdoor Heritage Council
Fiscal Year 2024/ ML 2023 Request for Funding
DNR St. Louis River Restoration Initiative Ph. 10 –Proposal Illustration

MNDNR's St. Louis River Restoration Initiative (SLRRI) is a collaborative program enhancing and restoring the St. Louis River estuary. This 11,000 acre estuary is a unique, valuable resource of statewide significance. SLRRI's vision for the estuary includes diverse, productive, and healthy aquatic and terrestrial ecosystems of the river and watershed. MNDNR and MN Land Trust's SLRRI Phase 10 will restore an additional 63 acres of priority aquatic and wetland habitat for important fish, game and Species of Greatest Conservation Need. To date, the Outdoor Heritage Fund has supported 712 acres of estuary habitat restoration and leveraged over $24 million in federal funding.

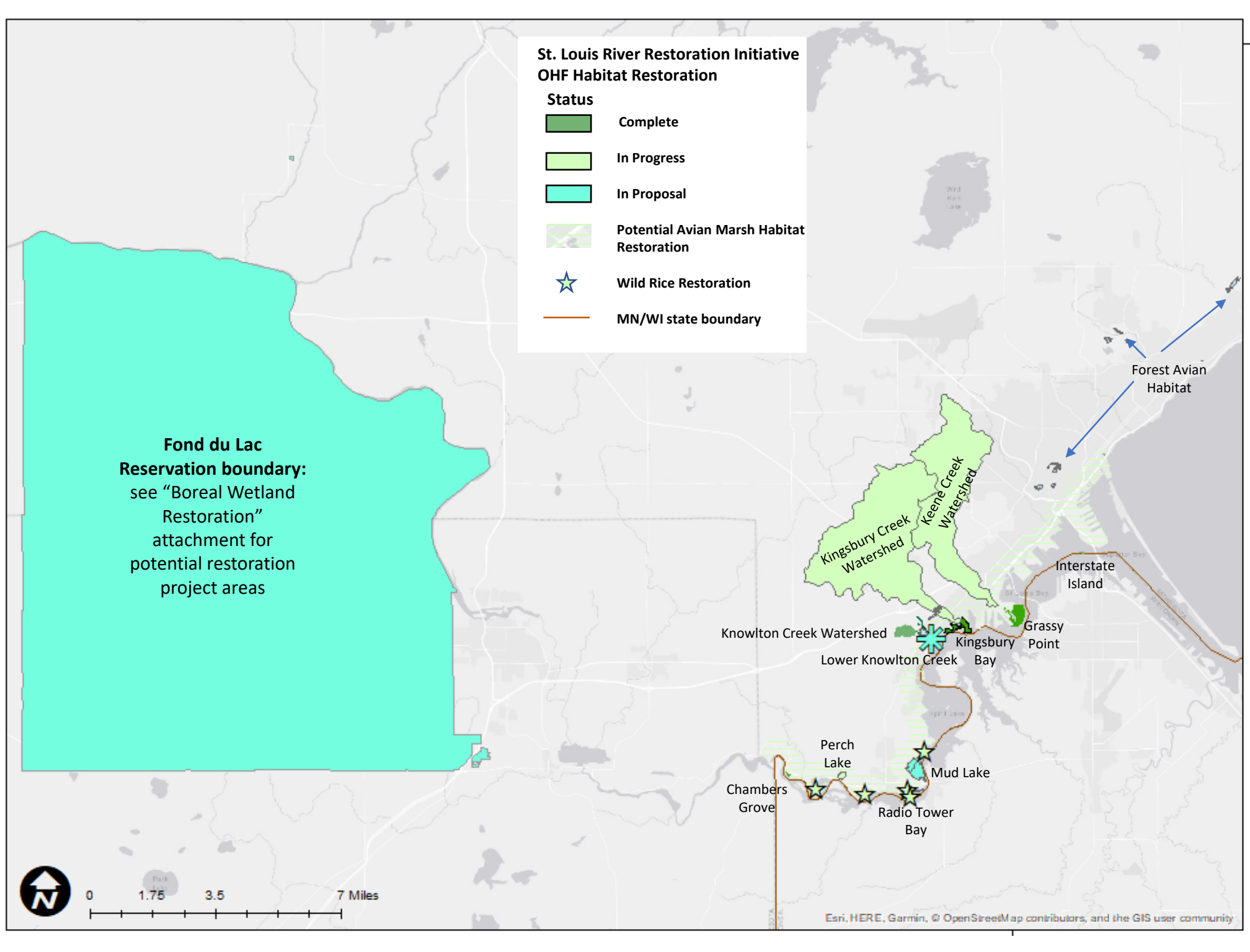
Proposed Projects:

Project	Total Acres*	Estimated Completion	Outcome
Mud Lake	130	December 2025	Enhance hydrologic connection and restore ecological functions
Lower Knowlton Creek	4	December 2025	Remove fish passage barrier and restore a natural stream channel
Boreal wetland restoration	50	June 2026	Restore coastal marsh habitat to attract migrating and breeding birds
Total	**251***		

*Total Acres includes acreage accounted for in this proposal and in prior approved awards to reflect entire project area.

Past support from the OHF has been applied to many projects critical to restoring estuary fish and wildlife habitat including:

Project	Acres	Status	Outcome
Radio Tower Bay	30	Completed	Wood waste removed from estuary wetland
Chambers Grove	7	Completed	Sturgeon and walleye Spawning habitat improvement
Wild Rice	163	In progress	Restoring historic wild rice beds
Interstate Island WMA (Phase 1)	2	Completed	Restored critical tern nesting habitat
Interstate Island WMA (Phase 2)	5	Completed	Piping Plover and Common Tern critical habitat restoration & expansion
Knowlton Creek	43	Completed	Restored cold-water trout stream
40th Ave. West	27	Completed	Restore benthic habitat using biomedium from Kingsbury Bay project
Kingsbury Bay	80	Completed	Restore sheltered bay (sedimentation)
Grassy Point	150	Completed	Restore sheltered bay (wood waste and sedimentation)
Forest avian habitat restoration	115	In Progress	Improve forest timber stands to benefit migratory and breeding birds
Marsh avian habitat restoration	60	In Progress	Improve coastal marsh habitat to benefit migratory and breeding birds
Perch Lake	30	In Progress	Enhance hydrologic connection and restore ecological functions
Total	**712**		


St. Louis River Restoration Initiative
OHF Habitat Restoration
Status
Complete
In Progress
In Proposal
Potential Avian Marsh Habitat Restoration
Wild Rice Restoration
MN/WI state boundary
Fond du Lac Reservation boundary: see "Boreal Wetland Restoration" attachment for potential restoration project areas
Forest Avian Habitat
Keene Creek Watershed
Kingsbury Creek Watershed
Interstate Island
Grassy Point
Kingsbury Bay
Knowlton Creek Watershed
Lower Knowlton Creek
Perch Lake
Mud Lake
Chambers Grove
Radio Tower Bay
0
1.75
3.5
7 Miles
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Additional Boreal Wetlands Restoration Project Background

The Boreal Wetlands Restoration Project described in the St. Louis River Restoration Initiative's Phase 10 proposal represents a combined initiative between the Minnesota Department of Natural Resources (MNDNR), the Minnesota Land Trust (MLT) and the Fond du Lac Band of Lake Superior Chippewa (FdL). The project focuses on those strategies outlined in the *Climate Change Vulnerability Assessment and Adaptation Plan for the 1854 Ceded Territory,* as well as the cultural resources that have higher sensitivity and lower adaptive capacity to climate change (see Figure 1). In their plan, the Tribe has identified culturally sensitive species and habitats, such as boreal wetlands, that serve important roles in sustenance and medicine. Additionally, they have important cultural connections through storytelling, ceremonies, harvesting, processing, and sharing.

Although the Tribe has had success in obtaining funding for projects that directly address Clean Water Act impairments or that meet infrastructure needs, it has been nearly impossible to obtain funding that protects and restores these particular sensitive species and habitats under current conditions, as well as from emerging climate changes. Although agency-led priorities do occasionally align with their cultural priorities in the realm of fisheries, the Tribe's priorities focused on boreal wetland protection and restoration do not often align with agency priorities (See Figure 2). As a result, the Tribe has experienced a disproportionate, adverse effect on their immediate environmental, cultural, and health impacts. By improving the climate resiliency of the selected natural resources, the Tribe, as an underserved community, will be able to overcome a lack of financial resources to address these culturally important resources. In this way, they will benefit by continuing and improving access to foods and medicines that are vital to sustaining their cultural connections. This project will also meaningfully engage their communities as the work plan tasks are undertaken.

The proposed Boreal Wetlands Restoration Project, to be cooperatively led by the MLT and FdL, includes the following tasks:

- Promote environmental justice for Tribal members to protect culturally significant species and enhance the climate resiliency of wetlands.
- Identify wetlands with the most potential to become climate resilient, provide carbon sequestration, and support culturally significant species for the FdL Band through modification or restoration actions and that are located in the FdL Reservation or in the 1854 Ceded Territories that are also in the St. Louis River Watershed in the Lake Superior basin, using FdL's wetland functional assessment and restorable wetlands prioritization map, USGS watershed models and studies, and other similar resources.
- Choose which wetlands will be prioritized to undergo enhancement or restoration to improve their climate resilience, while meeting FdL's cultural resource needs, and remaining within the allowable budget.
- Determine the causes for their climate susceptibility, assess feasible options to increase their resiliency and ecological function, and evaluate other important factors, such as: culturally significant species/habitats identified in the *Climate Change Vulnerability Assessment and Adaptation Plan for the 1854 Ceded Territory*, ability to withstand drought stress and/or inundation, feasibility to improve hydrologic function, groundwater recharge, runoff management/flood control, stream stability, and water quality.
- Complete any needed surveys, data collection, archeological/cultural and environmental reviews, engineering design, and regulatory compliance activities. Obtain access agreements and other required authorizations.

- Manage the development of construction plans and specifications; solicit bids; enter into construction contracts; and conduct construction inspection.
- Engage FdL communities in meaningful ways to ensure Native voices are heard and traditional ecological knowledge is understood and incorporated into plans and solutions.

		Sensitivity: Low → High				
		S0	**S1**	**S2**	**S3**	**S4**
Adaptive Capacity: High ↓ Low	**AC4**	• Black Crappie	• Berries (w/o Bog Species) • White-Tailed Deer			
	AC3		• Bald Eagles • Wolves • Birds and Waterfowl (turkey, duck, pheasants, geese)	• **Air Quality** • **Walleye** • Northern Pike	• **Sturgeon** • Eastern White Pine • Furbearers (beaver, black bear, bobcat, coyote, fisher, fox, mink, muskrat, river otter,) • Northern Red Oak, Bass Wood, and Chokecherry	
	AC2			• **Culturally Significant Plants** • **Sugar Maple** • Black Ash • Resource Access • Shrub Wetlands	• **Wild Rice** • **Labrador Tea** • Berries (bog species)	• Quaking Aspen
	AC1			• Culturally Significant Places	• **Water Quality and Quantity** • Birds and Waterfowl (ruffed grouse, spruce grouse, loons, swans) • Cisco • Furbearers (lynx, American marten, snowshoe hare) • Lake Trout • Whitefish	• **Moose** • Brook Trout • Vernal Pools
	AC0					• **Paper Birch** • **Boreal Wetlands** • Northern White Cedar

Figure 1. Vulnerability index of priority ecosystems as ranked by the *Climate Change Vulnerability Assessment and Adaptation Plan: 1854 Ceded Territory including the Bois Forte, Fond du lac, and Grand Portage Reservations* (2016). Note that Boreal Wetlands are ranked as having the highest sensitivity and lowest adaptive capacity.

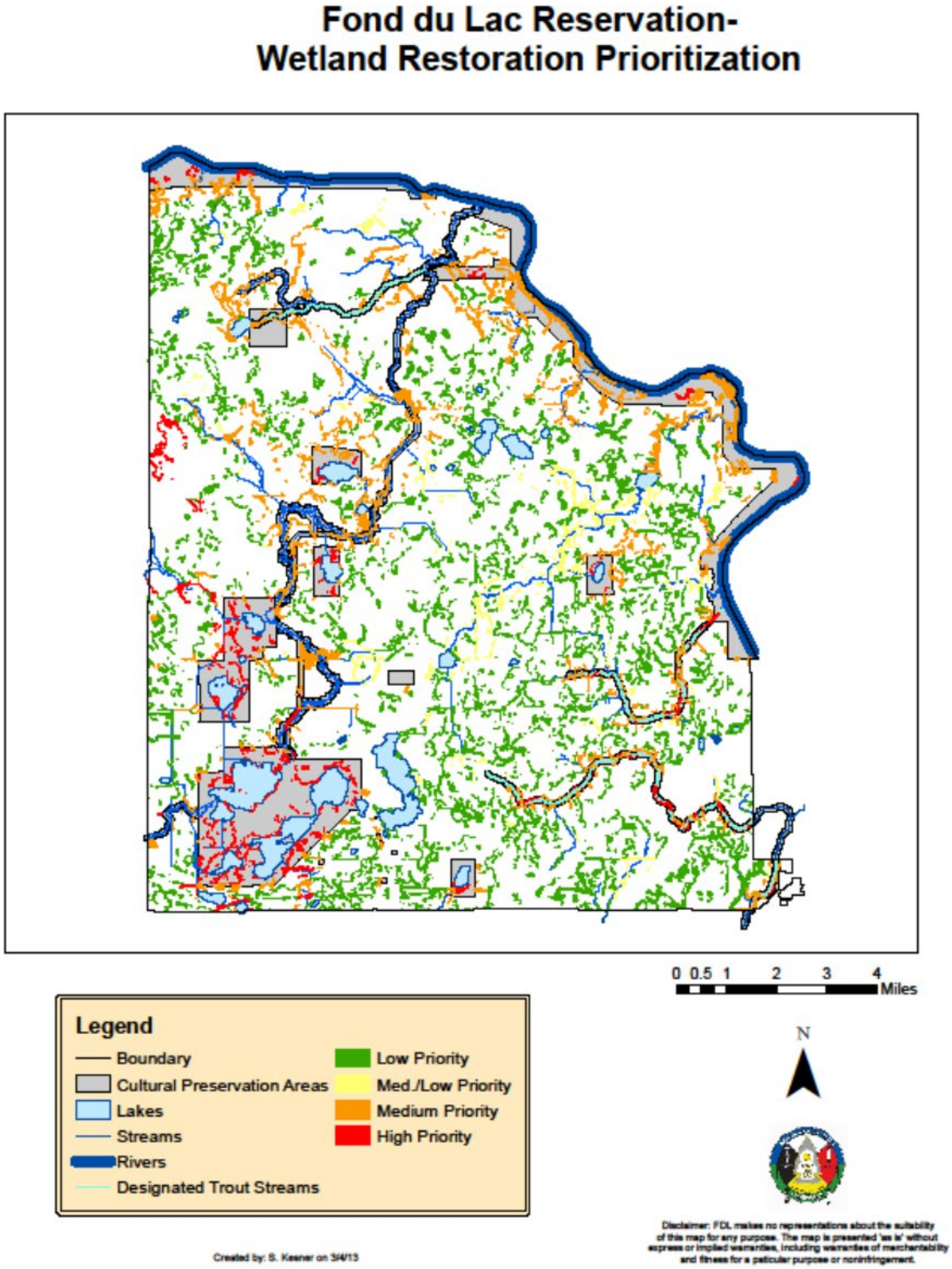
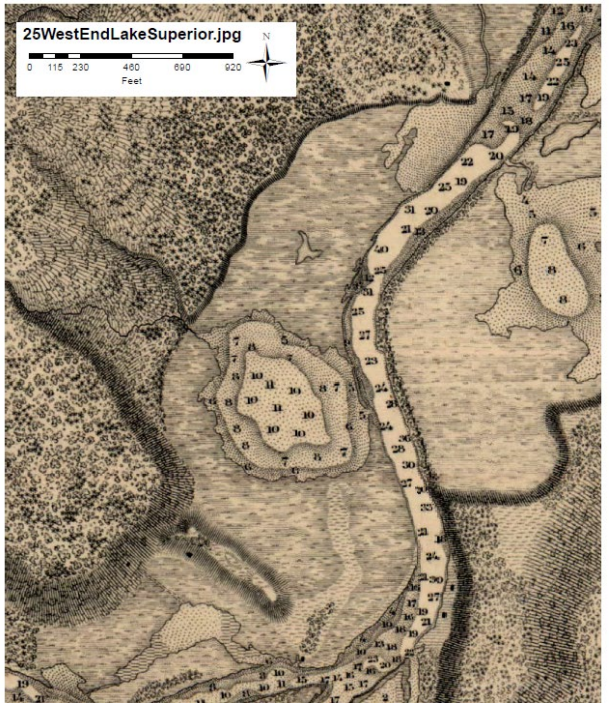


Figure 2. Prioritization of wetlands for restoration within the Fond du Lac Reservation. High Priority wetlands (shown in red) are those prioritized for restoration under this proposal.

Map of Mud Lake in 1861



Air photo of Mud Lake in 1961

Mud Lake Preferred Alternative (concept design). Causeway retained for rail with a southern opening and new northern opening to optimize water flow.