

Lessard-Sams Outdoor Heritage Council

Nelson Slough/JD#19 ML 2023 Request for Funding

General Information

Date: 06/01/2022

Proposal Title: Nelson Slough/JD#19

Funds Requested: \$6,192,000

Manager Information

Manager's Name: Morteza Maher Title: Administrator Organization: Middle-Snake-Tamarac Rivers Watershed District Address: 453 N. McKinley St. City: Warren, MN 56762 Email: morteza.maher@mstrwd.org Office Number: 218-745-4741 Mobile Number: 218-230-5703 Fax Number: 218-745-5300 Website: www.mstrwd.org

Location Information

County Location(s): Marshall.

Eco regions in which work will take place:

• Forest / Prairie Transition

Activity types:

• Enhance

Priority resources addressed by activity:

- Habitat
- Wetlands

Narrative

Abstract

This project will 1) replace the existing water control structure of Nelson Slough on East Park WMA; and 2) increase embankment heights by three feet to provide more freeboard during large flood events, thus improving overall safety of the project and improving management capacity on a nearly 2,482-acre impoundment. Upon completion of the project, wildlife managers will be able to more effectively manage flood waters to reduce "bounce," thereby improving habitat conditions for nesting and migrating waterfowl and other wetland wildlife.

Design and Scope of Work

Nelson Slough is an on-channel impoundment on Judicial Ditch 19 (JD19) built in 1971 to reduce flood damages in Marshall County and downstream in the Red River Basin of Minnesota, North Dakota, and Manitoba, Canad. Over its 50-year lifespan, the project has provided both flood damage reduction benefits and wetland wildlife habitat benefits on East Park Wildlife Management Area (WMA). However, the project is aging and does not meet the design standards of today. Flood waters come more frequently than anticipated, and slow release of those flood waters is impeding wildlife production on the WMA.

A project team established according to the 1998 Red River Basin Mediation Agreement to discuss how the project could best fit current needs. The Project Team consists of representatives from the Middle Snake Tamarac Rivers Watershed District (MSTRWD), the Minnesota Department of Natural Resources (DNR), and other local stakeholders, and settled upon the proposed design. The Watershed District along with the DNR is now looking forward to construction.

The project has two primary purposes:

1. Improve wetland wildlife habitat within the impoundment. Wildlife habitat, in particular for migratory waterfowl and wetland birds, will be managed to provide both forage and resting areas during the migration seasons, but also nesting habitat for those over-water nesting birds.

2. Improve the flood storage capacity of the impoundment. The volume of flood waters is not expected to change, but rather timing is expected to be utilized more effectively. Flood damages downstream are expected to be reduced with the improvements to the project.

To accomplish those goals, the Watershed District, in partnership with the DNR, is proposing to replace the existing water control structure with a structure more capable of handling current flood events. The existing water control structure features a 6' primary spillway with a 70' secondary spillway. The proposed water control structure would increase overall weir length to 250', with a 40' primary spillway and an additional 30' of secondary spillway, providing much more capacity than the existing structure. Additionally, the existing embankments will be raised 3.0 to 3.5' above the existing embankments to provide additional freeboard for expected flood events.

Managers will be able to more effectively manage flood waters with the completion of this project. Currently flood waters are slow to leave the impoundment, flooding out water bird nesting attempts and negating potential storage for follow-up flood events. Furthermore, the current embankments leave little freeboard, limiting the volume of flood waters that may be stored during any one event. With the replacement of the water control structure, the improved embankments, and improvements to correct stability issues downstream on JD 19, flood waters can be effectively stored and metered out following downstream flood peaks to decrease damages caused to infrastructure and adjacent farmlands.

Through improvements to the JD 19 system to improve stability, proposers of the project also expect to see improvements in water quality downstream in the legal ditch system as well as in the Tamarac River and Red River.

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?

Wetlands and shallow lakes in Minnesota provide habitat for more than 20 bird Species of Greatest Conservation Need (SGCN), eight or more amphibians and reptiles, and numerous invertebrates, including mussels, snails, and dragonflies. The Wildlife Action Network ranks East Park WMA as High and Medium-High.

Nelson Slough provides habitat for waterfowl, migratory water birds, and other wetland wildlife. Current operation limits the rate at which flood waters can be released from the impoundment leading to unacceptable levels of "bounce" following large rain events. This bounce can in turn flood out nests of over-water nesting birds, reduce light penetration necessary for submerged aquatic vegetation to grow, and dislodge floating cattail bogs which further limit habitat availability and plant growth.

Species of Greatest Conservation Need located at Nelson Slough could include lesser scaup, northern pintail, trumpeter swans, American and least bitterns, black terns, Franklin's gulls, and other over-water colonial nesting birds that are negatively affected by bounce following rain events. Reduced bounce upon completion of the project should lead to better nesting success by SGCN and other waterfowl and over-water nesting birds. Specifically in the Aspen Parklands, Minnesota's Wildlife Action Plan 2015-2025 (WAP) notes that management of shallow lakes is important for Forster's terns, red-necked grebes, and western grebes.

Managing submerged aquatic vegetation for the benefit of migrating waterfowl is key to the Minnesota Shallow Lakes Program Plan. Many species of waterfowl and other wetland-associated birds migrate through the area each spring and fall and benefit from the lake maintained in the clear-water state dominated by submerged aquatic vegetation. A state endangered species, sheathed pondweed (Stuckenia vaginata) is found within the impoundment. This submerged plant species can be negatively affected by prolonged deep water, as light penetration needed for plant growth decreases with water depth and turbidity. Completion of the project is expected to better allow managers to maintain water levels that would benefit this and other submerged aquatic vegetation species.

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

The original Nelson Slough flood control project is already past its expected lifespan of 50 years. Failure of the water control structure or associated embankments would lead to increased flood damages to downstream infrastructure and adjoining farmlands and would eliminate habitat management capacity of a nearly 2,482 acre impoundment. The Project Team associated with this project has identified chosen project as the preferred alternative. This project will benefit the wetland wildlife and residents of northwestern Minnesota, along with all those who wish to recreate at East Park WMA.

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:

The 1998 Red River Basin Mediation Agreement calls for each watershed within the Basin to reduce its contribution to peak flows of the Red River of the North by 20%. By improving an existing flood control project, the MSTRWD can utilize existing infrastructure more wisely instead of establishing new flood control projects.

The Minnesota Duck Recovery Plan goals include boosting the state's breeding duck populations. The most productive prairie wetland habitat is a mix of wetland and grassland as a habitat complex. A complex could be 4-9 square miles and should be comprised of 10% temporary/seasonal wetlands, 10% permanent wetlands, and 40%

grasslands, with the remaining 40% available for crops. In addition to mixes of grasslands and healthy wetlands, The Duck Plan also called for accelerated efforts to restore 1,800 shallow lakes. The Nelson Slough Project will contribute to management of permanent wetlands within these complexes as well as management of a shallow lake.

The Minnesota Prairie Conservation Plan (2nd edition, 2018) outlines focal areas (Core Areas and Habitat Complexes) where we can build on an existing base of conservation lands and improve the habitat there. The Nelson Slough Project lies within the East Park Core Area identified in the Minnesota Prairie Conservation Plan. With the improvements to the site, wetland acres will be preserved within the East Park Core Area, where there is currently a shortfall in goal acres.

The Minnesota Biological Survey (MBS) lists areas adjacent to the project of Outstanding and Moderate Biodiversity, while the impoundment itself is listed as Below. Upon completion of this project, management will continue to improve wetland habitat conditions within Nelson Slough providing habitat for SGCN such as lesser scaup, northern pintail, least bitterns, American bitterns, marsh wrens, Virginia rails, trumpeter swans and Forster's terns, as well as state endangered species such as sheathed pondweed.

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

- H3 Improve connectivity and access to recreation
- H4 Restore and protect shallow lakes

Which two other plans are addressed in this proposal?

- Long Range Duck Recovery Plan
- North American Waterfowl Management Plan

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

The MNDNR Shallow Lakes Program Plan (2010) calls for the agency to "maximize management of all 200 shallow lakes within state Wildlife Management Areas (WMAs)... for high quality waterfowl habitat." Upon completion of this project, managers will be able to more easily manipulate water levels following flood events, creating conditions more beneficial to nesting and migrating waterfowl and other water birds.

Listed as a goal in the NAWMP is to maintain "wetlands and related habitats sufficient to sustain waterfowl populations at desired levels, while providing places to recreate and ecological services that benefit society." First, the project will help sustain waterfowl populations through improved nesting conditions and management of migratory habitat. Secondly, since the project is located at a state-owned WMA, recreation opportunities will be maintained. Finally, the impoundment is designed to provide ecological services in both flood protection and water quality improvement.

Which LSOHC section priorities are addressed in this proposal?

Forest / Prairie Transition

• Protect, restore, and enhance habitat for waterfowl, upland birds, and species of greatest conservation need

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 proposed project is on an existing Wildlife Management Area (WMA) and is both permanently protected and publicly accessible. This project has served not only flood damage reduction goals but also wetland wildlife habitat goals for over 50 years and those goals will not change upon completion of the project. The improvements proposed by this project are expected to last another 50 years, creating a long-term opportunity for public recreation and wildlife habitat management.

What other fund may contribute to this proposal?

• N/A

Does this proposal include leveraged funding?

Yes

Explain the leverage:

This project is expected to receive state funds from the Flood Hazard Mitigation (FHM) program and local funding from the Middle Snake Tamarac Rivers Watershed District (MSTRWD) and the Red River Watershed Management Board (RRWMB)

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.

FHM application is submitted for 2022 bonding session; if approved, OHF and other local cost shares will be lowered proportionally, if not approved in 2022, then OHF is the only state fund. There was no other state fund neither received nor used for anything on this project.

Non-OHF Appropriations

Year	Source	Amount
2016-2021	NRCS - RCPP	500000
2016-2021	MSTRWD	243000
2021-2022	RRWMB	40000

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

Watershed contracted engineers will design and oversee construction and renovation of infrastructure to achieve long-lasting results. A typical goal is to have water control structures and embankments last a minimum of 30-40 years. Completed infrastructure will be jointly managed by Department of Natural Resources and MSTRWD staff. Periodic enhancements such as invasive species removal and water control structure and embankment maintenance or replacement will be accomplished through annual funding requests to a variety of funding sources including, but not limited to, the Game and Fish Fund, bonding, gifts, the Environmental and Natural Resources Trust Fund, and federal sources such as the North American Wetlands Conservation Act grants. Enhancement projects, such as cattail control, prescribed burns, and the like are implemented to achieve quality, long-lasting habitat benefits. Monitoring by area wildlife staff, shallow lakes specialists, and Watershed District staff will ensure that follow-up management is employed as needed.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3

Proposal #: WRE06

2023	FHM	Construction	-	-
2022-2023	RRWMB	Engineering/Easements/Construction	-	-
2023	OHF	Construction	-	-
2022-2023	MSTRWD	Engineering/Easements/Construction	-	-
2024-2074	DNR	Habitat management	-	-
2024-2074	MSTRWD	Flood management	-	-

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

Nesting and migrating waterfowl and water birds and aquatic vegetation will be the indicator species for this project. The USFWS has determined that Marshall Co. has the ability to host 25-40 breeding duck pairs per square mile, but does not necessarily account for over-water nesting diving ducks or other waterfowl like trumpeter swans. The value of this project to upland nesting waterfowl will be in the brood-rearing habitat provided during the summer months, but also during migration, especially fall when migrating waterfowl are more likely to utilize shallow lake habitats. Nearby Thief Lake is also managed for migratory waterfowl use and typically sees 9,000 – 15,000 ducks during the peak of the migratory season, so it would not be unreasonable to expect 1,000 – 2,000 using Nelson Slough during migration upon completion of this project.

Maintaining good water quality is a goal of this project. Likely due to recent good water quality, common loons have been noted on recent Shallow Lakes surveys and are expected to continue to use the impoundment for nesting and brood-rearing.

Submerged aquatic vegetation (SAV) is important as a food source for nesting and migrating waterfowl and during recent surveys has exceeded 90% coverage. Management of the impoundment will be aimed at maintaining SAV. Shallow lakes surveys will be conducted periodically to monitor trends in SAV coverage. If SAV coverage declines, managers will have the ability to conduct a full-drawdown on the impoundment to reset the system and encourage better growth of SAV.

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

Black, Indigenous, and People of color and diverse communities make up about 20% of the population of Minnesota, but only about 5% of the state park visitors, suggesting that there are barriers to use of public lands by BIPOC.

The Nelson Slough Project is located within East Park WMA in Marshall Co. This is a rural area of the state with low population densities, and a large portion (97% during the last census) of white residents. While as a WMA it is publicly accessible by all residents of Minnesota and visitors to the state, we recognize that most users of the WMA will be likely not come from diverse communities. There are no tribal lands in Marshall Co., though the Red Lake Nation is about 35 miles from East Park WMA, providing reasonable access to those inhabitants.

The Middle Snake Tamarac Watershed District adheres to non-discriminatory practices when awarding contracts for construction. We at the project management level will do all we can to provide equal opportunity and encourage BIPOC to be involved in this project.

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

res

Where does the activity take place?

- WMA
- Public Waters

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? No

Timeline

Activity Name	Estimated Completion Date
Final engineering and permitting	2022
Construction	2023
Operation and Maintenance Starts from	2024

Budget

Totals

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	\$6,192,000	\$743,000	MSTRWD and	\$6,935,000
			RRWMB	
Fee Acquisition w/	-	-	-	-
PILT				
Fee Acquisition w/o	-	-	-	-
PILT				
Easement Acquisition	-	\$21,000	MSTRWD and	\$21,000
			RRWMB	
Easement	-	-	-	-
Stewardship				
Travel	-	-	-	-
Professional Services	-	\$1,860,000	MSTRWD and	\$1,860,000
			RRWMB	
Direct Support	-	\$30,000	MSTRWD and	\$30,000
Services			RRWMB	
DNR Land Acquisition	-	-	-	-
Costs				
Capital Equipment	-	-	-	-
Other	-	-	-	-
Equipment/Tools				
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	\$6,192,000	\$2,654,000	-	\$8,846,000

Amount of Request: \$6,192,000 Amount of Leverage: \$2,654,000 Leverage as a percent of the Request: 42.86% DSS + Personnel: -As a % of the total request: 0.0% Easement Stewardship: -As a % of the Easement Acquisition: -

Describe and explain leverage source and confirmation of funds:

RRWMB and MSTRWD are committed to support the project, their contribution would be \$2,654,000. Addition of the OHF fund of \$6,192,000 will enable the project to move forward to construction. FHM application submitted; since not sure if will be awarded, not included here.

Does this proposal have the ability to be scalable?

No

Please explain why this project can NOT be scaled:

At the time of this proposal, No! The proposal represents the full amount of money to complete the one and done and can't be broke down. However, we are expecting money from State FHM and once that is confirmed (June 2022), the request can be reduced based on that award.

Contracts

What is included in the contracts line?

Construction!

Including Mobilization, Clearing and preparation of site, Flood mitigation and Structural elements (Concrete outlet, levee and steel structures including gates and catwalk)

Engineer's opinion of probable cost breakdown can be provided upon request.

Federal Funds

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

No

Output Tables

Acres by Resource Type (Table 1)

Туре	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	0	0	0
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	1,959	0	0	523	2,482
Total	1,959	0	0	523	2,482

Total Requested Funding by Resource Type (Table 2)

Туре	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	\$3,096,000	-	-	\$3,096,000	\$6,192,000
Total	\$3,096,000	-	-	\$3,096,000	\$6,192,000

Acres within each Ecological Section (Table 3)

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	0	0	0	0
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	2,482	0	0	0	2,482
Total	0	2,482	0	0	0	2,482

Total Requested Funding within each Ecological Section (Table 4)

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	\$6,192,000	-	-	-	\$6,192,000
Total	-	\$6,192,000	-	-	-	\$6,192,000

Average Cost per Acre by Resource Type (Table 5)

Туре	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	\$1,580	-	-	\$5,919

Average Cost per Acre by Ecological Section (Table 6)

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	-
Protect in Fee with State	-	-	-	-	-
PILT Liability					

Proposal #: WRE06

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	\$2,494	-	-	-

Target Lake/Stream/River Feet or Miles

Outcomes

Programs in forest-prairie transition region:

• Improved aquatic habitat vegetation ~ Pre-project submerged aquatic plant conditions have been documented on Nelson Slough by the Shallow Lakes Program of the DNR. We anticipate these surveys to continue. With this data, managers will be able to compare post-project conditions to those from past years to better guide management into the future.

Remote data loggers have been documenting water levels continuously throughout the open-water season for multiple years at Nelson Slough. Since prolonged high water can negatively affect submerged aquatic vegetation (SAV), managers will be able to estimate how the impacts to SAV would have differed without the completion of the project.

Parcels

Sign-up Criteria?

No

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

The parcels identified are those that are within the Nelson Slough footprint within East Park WMA.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
126068004	Marshall	15844214	46	-	Yes
124068001	Marshall	15844214	99	-	Yes
126068002	Marshall	15844215	31	-	Yes
127068003	Marshall	15844216	1	-	Yes
124074001	Marshall	15844220	66	-	Yes
126074004	Marshall	15844220	17	-	Yes
126074002	Marshall	15844221	618	-	Yes
127074002	Marshall	15844222	658	-	Yes
120077000	Marshall	15844223	262	-	Yes
120075000	Marshall	15844223	75	-	Yes
126075001	Marshall	15844223	3	-	Yes
120087000	Marshall	15844226	6	-	Yes
125087002	Marshall	15844227	41	-	Yes
126087201	Marshall	15844227	378	-	Yes
124087202	Marshall	15844227	54	-	Yes
125087301	Marshall	15844228	36	-	Yes
127087003	Marshall	15844228	466	-	Yes
126087004	Marshall	15844229	4	-	Yes

Parcel Map



Restore Enhance Other

Nelson Slough/ JD19

Who? Middle-Snake-Tamarac Rivers Watershed District & DNR

> What? Enhance Wetland/ Shallow Lakes, Waterfowl Habitat

> > Where? NW MN, North Central Marshall County, Nelson Slough

When?

Engineering and Permitting in 2022, Construction in 2023, Operation and capturing benefits 2024-2074

Why?

The existing outlet structure size reduces the facilities ability to operate at normal pool elevation during the nesting season

How?

New outlet structure to manage water levels more efficiently for wildlife habitat and flood damage reduction, Increase levee by approximately 3.5 feet for freeboard as the facility currently doesn't meet today's design standards

STATISTICS OF STATES













DEPARTMENT OF NATURAL RESOURCES

Date: December 22, 2021

To: Parties on the EAW Distribution List/Other Interested Parties

From: Sara Mielke, EAW Project Manager

RE: Nelson Slough Improvement Project, Marshall County – Record of Decision on the Environmental Assessment Worksheet

The Minnesota Department of Natural Resources (DNR), as the Responsible Governmental Unit for environmental review of the Nelson Slough Improvement Project, located in Marshall County, Minnesota, has issued the Record of Decision (ROD) regarding the Need for an Environmental Impact Statement (EIS) for the project. The project's Environmental Assessment Worksheet (EAW) notice was published in the Environmental Quality Board (EQB) Monitor on October 5, 2021 (Vol. 45; No. 40).

Attached to this letter is a copy of the ROD. It is also available online at the DNR webpage for the project (https://www.dnr.state.mn.us/input/environmentalreview/nelson-slough-improvement-project/index.html).

The DNR has concluded that an EIS is not required because the project does not have the potential for significant environmental effects. The justification for this determination is contained in the ROD. The Record also contains the Department's responses to written comments received on the EAW during the public review and comment period.

Issuing the ROD concludes the state environmental review process for this project according to the Minnesota EQB rules, Minnesota Rules, part 4410.1000 to 4410.1700. This project can proceed to permitting and approvals.

Please contact me at environmentalrev.dnr@state.mn.us if you require further information.