

Main Request for Funding Form
Lessard-Sams Outdoor Heritage Council
Fiscal Year 2013

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Program or Project Title: Marsh Lake Enhancement

Funds Requested: \$ 3,264,000

Manager's Name: Ray Norrgard
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County Location: Big Stone, Lac Qui Parle, and Swift Counties

Ecological Planning Regions:

Northern Forest Forest/Prairie Transition Southeast Forest

X Prairie Metro/Urban

Activity Type:

Protect - Fee Protect - Easement Protect - Other

Restore X Enhance

Priority Resources addressed by activity:

X Wetlands Forests Prairie Habitat

Project Abstract

The final construction will be completed for the enhancement of Marsh Lake, Lac qui Parle Wildlife Management Area, for fish and wildlife.

Project Narrative

Design and scope of work

The over 31,000 acre Lac qui Parle Wildlife Management Area (WMA) includes a mixture of grasslands, seasonal and permanent wetlands, and scattered croplands managed for waterfowl and upland game birds. The WMA is a critical stopover for both ducks and geese. Peak numbers of 150,000 Canada geese and 20,000 mallards are recorded. A portion of Lac qui Parle Lake (6,400 acres) is managed as a waterfowl refuge while immediately upstream a portion of Marsh Lake (5,100 acres) is managed as a Migratory Feeding and Resting Area. These two lakes also provide angling opportunities for walleye, northern pike and other species.

Statewide, the quality of shallow lakes and wetlands providing wildlife habitat has declined markedly due to landscape changes, increased runoff carrying sediment and nutrients, and invasive plant and fish species. Marsh Lake's quality reflects this statewide trend. In 1938 the Pomme de Terre River, carrying the runoff from a watershed nearly 560,000 acres in size, was re-routed from its historic outlet into Lac qui Parle Lake to empty instead into Marsh Lake. Since that time, over 80% of the Pomme de Terre watershed has been developed for agriculture. A fixed crest dam built at the same time kept the lake from naturally occurring fluctuations in depth. A robust population of common carp added to the turbidity that is aggravated by wave action due to the lake's shallow depth (maximum 3 feet), large size and northwest to southeast orientation. This combination of factors has resulted in increased sedimentation and sediment suspension through wave action, severely degrading the habitat within the lake.

The Army Corps of Engineers (COE) recommended in the December 2004 Minnesota River Reconnaissance study that a Marsh Lake Feasibility Study be completed (approved January 13, 2005). The study was authorized by a May 10, 1962 resolution of the House Committee on Public Works. Federal (Corps of Engineers) interest in Marsh Lake is based on the potential benefits of aquatic ecosystem restoration and the fact that the existing Marsh Lake Dam is owned and operated by the Corps of Engineers.

The planning objectives of the study were to restore aquatic and riparian habitat in Marsh Lake by restoring the natural function and processes to the lake which will reduce sedimentation, minimize sediment suspension, and increase the habitat suitability for fish and waterfowl. This will be accomplished primarily through modification of the dam at Marsh Lake and return of the historic outlet of the Pomme de Terre River to Lac qui Parle Lake. The dam disrupted natural flood plain functions and processes. The lack of natural flooding and drying cycles combined with increased

sedimentation from the large, developed watershed caused a decline in plant quantity and diversity leading to a decline in associated fish and wildlife benefits.

The proposed final design will include upgrading the existing outlet structure, converting the existing emergency spillway to a variable crest drawdown structure and fish passage spillway, restoring the outlet of the Pomme de Terre River to Lac qui Parle Lake, and the creation of three breakwater islands to reduce wind fetch in Marsh Lake. Alteration of the dam will enable lake managers to periodically drawdown lake levels to consolidate bottom sediments and minimize winter refuge for common carp. In addition, the re-routed Pomme de Terre will reduce sedimentation into Marsh Lake as well as provide a spawning area for game fish such as northern pike and walleye. Construction of breakwater structures will reduce the amount of sediment resuspension resulting from wind and wave action, but will also enable deeper light penetration and promote growth of submerged aquatic plants within the lake. Aquatic plant growth will serve as both a food source to migrating waterfowl as well as a stabilizing measure for bottom sediments within the lake.

The planned prescription for alterations to Marsh Lake was developed by an interdisciplinary planning team of MN DNR and COE staff. The proposal was endorsed by the Lac qui Parle WMA Supervisor and the DNR Regional Wildlife Manager. The proposal elements reflect the strategies of the DNR 2006 Duck Recovery Plan and 2010 Shallow Lake Plan. These plans underwent substantial review by nearly all the major wildlife conservation groups in Minnesota. Stakeholders have been supportive of the strategies outlined in the plan, although some have expressed frustration with the long timeline.

Planning

Several recent statewide Minnesota planning efforts have called attention to the dramatic loss in both quantity and quality of shallow lake habitat over the last century and a half. *Minnesota Statewide Conservation and Preservation Plan, A Fifty-Year Vision – Minnesota Campaign for Conservation, Tomorrow's Habitat for the Wild and Rare*, and *MN DNR Duck Recovery Plan* all emphasize the importance of shallow lakes in creating viable wetland habitat complexes that are necessary for improvements in wetland wildlife populations.

The *Minnesota Statewide Conservation and Preservation Plan* identifies habitat loss and degradation as the number one driver of change for wildlife in Minnesota. This Plan specifically recommends fee acquisition for WMAs, protection of shallow lake shoreline, and restoring shallow lakes, wetlands, and wetland associated watersheds as important strategies. *Tomorrow's Habitat for the Wild and Rare - Minnesota's Comprehensive Wildlife Conservation Strategy* for species in greatest conservation need has identified significant loss and degradation of habitat as the number one management challenge and one of the principle strategies is to provide protection through selective acquisition of key habitats in each Ecological Section. Over 30 species that rely on shallow lakes

and wetlands are listed as species of special concern including white pelicans that have an active breeding colony (one of only two in MN) on Marsh Lake.

Minnesota's *Long Range Duck Recovery Plan* lists the objective of restoring a breeding population of 1 million ducks by 2056. The primary strategy is the protection and restoration of 2 million additional acres of habitat including the restoration of 64,000 wetlands and actively managing 1,800 shallow lakes. In addition, LSOHC specifically recognizes the importance of shallow lakes in the Prairie ecological section.

This proposal is largely based on the objectives and strategies of the Department of Natural Resources 2006 Duck Recovery Plan and 2010 Shallow Lake Plan. The 2006 Duck Recovery Plan is similar to the Strategic Habitat Conservation model adopted by the US Fish and Wildlife Service in that it establishes a statewide duck population goal, identifies the challenges to be met in achieving that goal, proposes specific strategies and objectives for habitat restoration and protection, and selects specific metrics for evaluating progress.

The LSOHC specifically recognizes the importance of shallow lakes in the Forest, Forest Prairie Transition, and Prairie ecological sections. In addition, wetland complexes and improving wildlife habitat on WMAs were noted as important strategies within the Forest Prairie Transition, and Prairie ecological sections.

Relationship to Other Constitutional Funds

This proposal targets the enhancement of wetland wildlife habitat on shallow lakes and associated wetlands that contribute to wetland habitat complexes. These are basins are managed by wildlife agencies explicitly for high quality wildlife habitat. The DNR will consult and coordinate with partners to ensure that strategic conservation actions are prioritized within L-SOHC planning sections and that the allocation of available resources is optimized with all available funding sources. Although this work will compliment the goals of other Constitutional Funding, the selection of specific projects is prioritized based on the potential benefits to wildlife rather than consideration of other goals.

Relationship to Current Organizational Budget

Current DNR Division of Fish and Wildlife expenditures for wetland and shallow lake work for wildlife habitat total approximately \$2.36 million out of a total Division budget of \$90.3 million. The total DNR annual budget approximates \$456 million. The cost of this proposal exceeds the current funding available for wetland and shallow lake management. Additional funding is necessary to accelerate shallow lake management including the enhancement of this critically important 5100 acre lake.

Sustainability and Maintenance

The management of Marsh Lake once the construction is completed will fall on existing staff of the Department of Natural Resources. These staff are funded through license fees and legislative appropriations. Periodic enhancements such as invasive species removal, supplemental vegetation planting or water control structure installation and replacements 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 Environment and Natural Resources Trust Fund, the Outdoor Heritage Fund, and federal sources such as North American Wetland Conservation Act grants.

Outcomes

Returning the Pomme de Terre River to its natural outlet channel and modifying the outlet of Marsh Lake to allow managed lake level changes that mimic more natural conditions will increase the occurrence of aquatic vegetation and production of invertebrates. Waterfowl use of Marsh Lake will increase, especially during migration. Improved hunting and viewing opportunities will follow the increased bird use of Marsh Lake.

Activity Type Detail

Fee Acquisition Projects

Will local government approval be sought prior to acquisition?

Yes No, please explain X not applicable

If no, please explain here:

Is the land you plan to acquire free of any other permanent protection?

Yes No, please explain X not applicable

If no, please explain here:

Easement Acquisition Projects

Will the eased land be open for public use?

Yes No, please explain X not applicable

If no, please explain here:

Will the conservation easement be permanent?

Yes No, please explain X not applicable

If no, please explain here:

Restoration and Enhancement Projects

Is the activity on permanently protected land and/or public waters?

X Yes No, please explain not applicable

If no, please explain here:

Does the activity take place on an Aquatic Management Area (AMA), Scientific and Natural Area (SNA), Wildlife Management Area (WMA), or State Forests?

X Yes, which ones No, please explain not applicable

If so, please indicate which ones: The Lac qui Parle Wildlife Management Area and public waters.

Past Outdoor Heritage Fund Appropriations Received for this program

ML 2009	ML 2010	ML 2011
\$	\$	\$

Accomplishment Timeline

Activity	Milestone	Date
Secure matching federal funds	COE Cost Share	2013
Construction	Replace Marsh Lake outlet structures	2014
Construction	Reroute Pomme de Terre River	2015

Attachments: *[Attach the spreadsheet to the web application form.]*

- A. Budget**
- B. Proposed Output Tables 1-5**
- C. Parcel List**

Attachment A. Budget Spreadsheet

Name of Proposal:	Marsh Lake Enhancement
Date:	6/29/2011

[Link HERE to definitions of the budget items below.](#)

Total Amount of Request \$ 3,264,000 *From page 1 on the funding form.*

Personnel

Position breakdown here	FTE	Over # of years	LSOHC Request	Anticipated Cash		Total
				Leverage	Cash Leverage Source	
<i>Manager of Programs</i>						\$ -
<i>Admin Asst</i>						\$ -
<i>position 3</i>						\$ -
<i>position 4</i>						\$ -
<i>position 5</i>						\$ -
<i>position 6</i>						\$ -
<i>position 7</i>						\$ -
Total	0		\$ -	\$ -	\$ -	\$ -

Budget and Cash Leverage *(All your LSOHC Request Funds must be direct to and necessary for program outcomes.)*

Please describe how you intend to spend the requested funds.

Budget Item	LSOHC Request	Anticipated Cash		Total
		Leverage	Cash Leverage Source	
Personnel - <i>auto entered from above</i>	\$ -	\$ -	\$ -	\$ -
Contracts	\$ 3,264,000	\$ 5,874,000	Federal-COE	\$ 9,138,000
Fee Acquisition w/ PILT <i>(breakout in table 7)</i>				\$ -
Fee Acquisition w/o PILT <i>(breakout in table 7)</i>				\$ -
Easement Acquisition				\$ -
Easement Stewardship				\$ -
Travel (in-state)				\$ -
Professional Services				\$ -
Direct Support Services				\$ -
DNR Land Acquisition Costs (\$3,500 per acquisition)				\$ -
Other				\$ -
Capital Equipment <i>(auto entered from below)</i>	\$ -	\$ -		\$ -
Other Equipment/Tools				\$ -
Supplies/Materials				\$ -
	\$ 3,264,000	\$ 5,874,000	\$ -	\$ 9,138,000

Capital Equipment *(single items over \$10,000 - auto entered into table above)*

Item Name	LSOHC Request	Leverage
<i>Truck</i>		
<i>Item 2 enter here</i>		
<i>Item 3 enter here</i>		
<i>Item 4 enter here</i>		
<i>Item 5 enter here</i>		
<i>Item 6 enter here</i>		
<i>Item 7 enter here</i>		
<i>Item 8 enter here</i>		
Total	-	-

Attachment B. Output Tables

Name of Proposal:	Marsh Lake Enhancement
Date:	29-Jun-11

Table 1 and Table 3 column totals should be the same AND Table 2 and Table 4 column totals should be the same

If your project has lakes or shoreline miles instead of land acres, convert miles to acres for Tables 1 and 3 using the following conversion:

Lakeshore = 6 acres per lakeshore mile / Stream & River Shore = 12 acres per linear mile, if both sides

Table 1. Acres by Resource Type

Describe the scope of the project in acres (use conversion above if needed)

	Wetlands	Prairies	Forest	Habitats	Total
Restore					0
Protect Fee					0
Protect Easement					0
Protect Other					0
Enhance	5100				5100
Total	5100	0	0	0	0

Total Acres (sum of Total column)
Total Acres (sum of Total row)

5100
5100

These two cells should be the same figure.

Table 2. Total Requested Funding by Resource Type

	Wetlands	Prairies	Forest	Habitats	Total
Restore					\$ -
Protect Fee					\$ -
Protect Easement					\$ -
Protect Other					\$ -
Enhance	\$ 3,264,000				\$ 3,264,000
Total	\$ 3,264,000	\$ -	\$ -	\$ -	-

Total Dollars (sum of Total column)
Total Dollars (sum of Total row)

\$ 3,264,000
\$ 3,264,000

These two cells should be the same figure.

Check to make sure this amount is the same as the Funding Request Amount on page 1 of Main Funding Form.

Table 3. Acres within each Ecological Section

	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore						0
Protect Fee						0
Protect Easement						0
Protect Other						0
Enhance				5100		5100
Total	0	0	0	5100	0	0

Total Acres (sum of Total column)
Total Acres (sum of Total row)
Total Acres from Table 1.

5100
5100
5100

These three cells should be the same figure.

Attachment B. Output Tables

Table 4. Total Requested Funding within each Ecological Section

	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore						\$ -
Protect Fee						\$ -
Protect Easement						\$ -
Protect Other						\$ -
Enhance				\$ 3,264,000		\$ 3,264,000
Total	\$ -	\$ -	\$ -	\$ 3,264,000	\$ -	

Total Dollars (sum of Total column) \$ 3,264,000 *These two cells should be the same figure.*
 Total Dollars (sum of Total row) \$ 3,264,000
 Check to make sure these amounts are the same as the Funding Request Amount on page 1 of Main Funding Form.

Table 5. Target Lake/Stream/River Miles

miles of Lakes / Streams / Rivers Shoreline

Table 6. Acquisition by PILT Status (enter information in acres)

	Wetlands	Prairies	Forests	Habitats	Total
Acquired in Fee with State PILT Liability					0
Acquired in Fee w/o State PILT Liability					0
Permanent Easement <i>NO State PILT Liability</i>					0
	0	0	0	0	

Table 7. Estimated Value of Land Acquisition by PILT Status (enter information in dollars)

	Wetlands	Prairies	Forests	Habitats	Total	
Acquired in Fee with State PILT Liability					\$ -	\$ -
Acquired in Fee w/o State PILT Liability					\$ -	\$ -
Permanent Easement <i>NO State PILT Liability</i>					\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -		

FYI: should match total in budget table that is auto entered below

Attachment C. Parcel List

Name of Proposal: Marsh Lake Enhancement
Date: 6/29/2011

County	Township (25-258)	Range (01-51)	Direction most parcels are 2 with the exception of some areas of Cook County which is 1	Section (01 thru 36)	TRDS	# of acres	Budgetary Estimate (includes administrative, restoration or other related costs and do not include matching money contributed or earned by the transaction)	Description	Activity PF=Protect Fee PE=Protect Easement PO=Protect Other R=Restore E=Enhance	If Easement, what is the easement cost as a % of the fee acquisition?	Any existing protection? (yes/no)	Open to hunting and fishing? (yes/no)
Parcel Name												
Marsh Lake - LQP WMA	Lac qui Parle	120	43	2	30	12043230	5100 \$ 3,264,000		P			

Information provided will be used to map project locations. Incomplete or inaccurate information will result in that parcel or program not being mapped.