

## Lessard-Sams Outdoor Heritage Council

### Laws of Minnesota 2012 Accomplishment Plan

**Date: October 24, 2011**

**Program Title: Marsh Lake Enhancement**

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**Funds Recommended: \$ 2,630,000**

**Legislative Citation: ML 2012, Ch. X, Art. X, Sec. X, Subd. 4 (f):** *(to be completed when signed by Governor)*

#### **Abstract:**

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

#### **Program 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.

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 Army Corps of Engineers (COE) recommended in the December 2004 Minnesota River Reconnaissance study that a Marsh Lake Feasibility Study be initiated. This study was completed and approved in January 13, 2005. The 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.

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. These actions will increase aquatic plant growth that will serve as both a food source to migrating waterfowl as well as a stabilizing measure for bottom sediments within the lake.

This planned prescription for alterations to Marsh Lake was developed by an interdisciplinary planning team of MN DNR and COE staff. It received unanimous unconditional approval by the federal Civil Works Review Board in October, 2011. In addition, the proposal is 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 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 leading to ecological functional integrity. Waterfowl, shorebird and water bird use of Marsh Lake will increase, especially during migration. Improved hunting and viewing opportunities will follow the increased bird use of Marsh Lake.

### Accomplishment Timeline

Activity	Milestone	Date completed
Design	Final Engineering Design	July 2013
Construction	Dam Replacement	July 2015

**Table B-2. Other Outcome Table**

*(This table should be used instead of attachment B for activities that are not counted in acres, miles etc. If you use attachment B you can delete this table from the accomplishment plan.)*

Goal 1	Activity – P/R/E	Measure	Impact	Ecological Type
Goal 2				

Attachments *(on spreadsheet workbook – 3 separate tabs)*:

- A. Budget
- B. Proposed Outcome Tables
- C. Parcel List

*No Map is needed for the accomplishment plan*

**Attachment A. Budget Spreadsheet**

<b>Name of Proposal:</b>	Marsh Lake Enhancement
<b>Legislative Citation:</b>	
<b>Date:</b>	10/24/2011

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

**Total Amount of Request**      \$ 2,630,000 *From page 1 on the funding form.*

**Personnel**

Position breakdown here	FTE	Over # of years	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
	<i>Manager of Programs</i>	0.5				\$
<i>Admin Asst</i>	0.15				\$	-
<i>position 3</i>					\$	-
<i>position 4</i>					\$	-
<i>position 5</i>					\$	-
<i>position 6</i>					\$	-
<i>position 7</i>					\$	-
<b>Total</b>	0.65		\$ -	\$ -	\$ -	\$ -

**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 Leverage	Cash Leverage Source	Total
	Personnel - <i>auto entered from above</i>	\$ -	\$ -	\$ -
Contracts	\$ 2,630,000	\$ 6,000,000	Federal	\$ 8,630,000
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				\$ -
Other				\$ -
Capital Equipment <i>(auto entered from below)</i>				\$ -
Other Equipment/Tools				\$ -
Supplies/Materials				\$ -
	\$ 2,630,000	\$ 6,000,000	\$ -	\$ 8,630,000

**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>		
<b>Total</b>	-	-

## Attachment B. Output Tables

<b>Name of Proposal:</b>	Marsh Lake Enhancement
<b>Legislative Citation:</b>	
<b>Date:</b>	10/24/2011

*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
<b>Total</b>	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	\$ 2,630,000				\$ 2,630,000
<b>Total</b>	\$ 2,630,000	\$ -	\$ -	\$ -	-

Total Dollars (sum of Total column)  
Total Dollars (sum of Total row)  
Check to make sure this amount is the same as the Funding Request Amount on page 1 of Main Funding Form.

\$ 2,630,000  
\$ 2,630,000

*These two cells should be the same figure.*

**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
<b>Total</b>	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				\$ 2,630,000		\$ 2,630,000
<b>Total</b>	\$ -	\$ -	\$ -	\$ 2,630,000	\$ -	

Total Dollars (sum of Total column)

\$ 2,630,000

*These two cells should be the same figure.*

Total Dollars (sum of Total row)

\$ 2,630,000

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>PILT Liability</i> <b>NO State</b>					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					\$ -	<i>FYI: should match total in budget table that is auto entered below</i>	
Acquired in Fee w/o State PILT Liability					\$ -		\$ -
Permanent Easement <i>PILT Liability</i> <b>NO State</b>					\$ -		
	\$ -	\$ -	\$ -	\$ -			



**Attachment C. Parcel List**

Name of Proposal: Marsh Lake Enhancement

Legislative Citation:

Date: 10/24/2011

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)
<b>Parcel Name</b>												
Marsh Lake - LQP WMA	Big Stone, Lac	120	43	2	30	12043230	5100	2630000	Design and Construction	E	Yes	Yes

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