



Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2016 Accomplishment Plan

Date: October 14, 2015

Program or Project Title: Marsh Lake Phase II

Funds Recommended: \$ 1,691,000

Manager's Name: Ricky Lien
Title: Wetland Habitat Team Supervisor
Organization: MN DNR Div. of Fish and Wildlife
Address: 500 Lafayette Road
City: St. Paul, MN 55155
Office Number: 651-259-5227
Email: ricky.lien@state.mn.us

Legislative Citation:

Appropriation Language:

County Locations: Lac qui Parle

Regions in which work will take place:

- Prairie

Activity types:

- Enhance

Priority resources addressed by activity:

- Wetlands

Abstract:

The dam for the 5100-acre Marsh Lake will be modified to allow for improved habitat management and the Pomme de Terre will be rerouted to its original outlet to reduce sedimentation coming into the shallow lake.

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 having naturally occurring fluctuations in depth. Construction of the Marsh Lake Dam was intended to serve as a flood damage reduction measure as well as a recreational feature to the region, primarily through the creation of a static pool on the river. The intended flood damage reduction benefits provided by the Marsh Lake dam are minor due to effectiveness of the Lac qui Parle Dam downstream. As with many projects constructed at the time, a full understanding of the ecology of the system was not of primary concern (US Army Corps of Engineers Feasibility Study and

Environmental Assessment). The Feasibility Report goes on to note that since impoundment, "Marsh Lake has undergone significant degradation of aquatic habitat due to a number of stressors including high sediment and nutrient loading, a fixed crest dam that prevents low seasonal water levels, high turbidity from wind-driven sediment resuspension, and abundant common carp that increase turbidity and graze off submersed aquatic vegetation and macroinvertebrates. Although Marsh Lake provides an open water area for migratory waterfowl to rest and islands for nesting colonial waterbirds, degradation of the aquatic ecosystem there limits habitat suitability for many species of fish and wildlife." 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 objectives of the project are to enhance 5100 acres of 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.

Previously obtained Outdoor Heritage Funding is being used for engineering, design and other preliminary project work. As was previously anticipated, the Minnesota DNR is requesting further funding through this current proposal and would provide this funding to the Upper Minnesota River Watershed District (UMRWD) via a Joint Powers Agreement to allow them to be a sole source non-federal partner with the ACOE for design and construction work on this project. In accordance with the appropriation language, reasonable amounts may be advanced to the UMRWD to leverage federal funding dedicated to the project. The ACOE was approved to work on Marsh Lake as one of only four federally approved construction projects in the United States. Federal appropriations to complete this work will be sought as needed.

NOTE: Acres reported in this proposal are the same acres reported in the previous OHF grant for Marsh Lake.

Crops:

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

How does the request address MN habitats that have: historical value to fish and wildlife, wildlife species of greatest conservation need, MN County Biological Survey data, and/or rare, threatened and endangered species inventories:

Minnesota Statewide Conservation and Preservation Plan 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 concerns.

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.

The Minnesota Prairie Comprehensive Management Plan identifies the need for wetland protection and management. Marsh Lake is within one of the eleven Prairie Core Focus Area identified in this plan for intensive focus of resources.

In addition, LSOHC specifically recognizes the importance of shallow lakes in the Prairie ecological section.

What is the nature of urgency and why it is necessary to spend public money for this work as soon as possible:

Marsh Lake is one of only four projects approved for construction by the US Army Corps of Engineers. Federal funding has been appropriated for this project, but requires 35% nonfederal match. Previous funding allowed for engineering and design, funding is now sought to follow through on this prior commitment.

Describe the science based planning and evaluation model used:

This proposal is largely based on the MN DNR Duck Recovery Plan and Shallow Lake Plan. The 2006 Duck Recovery Plan is similar to the Strategic Habitat Conservation model adopted by the USFWS. In July 2011 the USACOE completed the Feasibility Report and Environmental Assessment Marsh Lake Ecosystem Restoration Project.

Which sections of the Minnesota Statewide Conservation and Preservation Plan are applicable to this project:

- H4 Restore and protect shallow lakes
- H5 Restore land, wetlands and wetland-associated watersheds

Which other plans are addressed in this proposal:

- Long Range Duck Recovery Plan
- Managing Minnesota's Shallow Lakes for Waterfowl and Wildlife

Which LSOHC section priorities are addressed in this proposal:

Prairie:

- Protect, restore, and enhance shallow lakes

Relationship to other funds:

- Federal - US Army Corps of Engineers

Federal funding has come to this project through appropriations expended by the US Army Corps of Engineers. The total project cost is capped at \$13 million. Federal funding will provide 65% of this amount; non-federal funding must provide 35%. A previous OHF grant provided an initial \$2.63 million for engineering/design work and some construction funds. This current OHF proposal seeks the remaining funds needed to provide the full 35% non-federal match.

How does this proposal accelerate or supplement your current efforts in this area:

The Marsh Lake project contributes to the work called for in multiple strategic habitat plans - The Minnesota Duck Recovery Plan, the Minnesota Shallow Lakes Plan, and the Minnesota Prairie Conservation Plan. All of these plans speak to the need for wetland/shallow lake work to counter long-term habitat loss and the degradation of remaining habitat, especially in the prairie portion of the state.

Describe the source and amount of non-OHF money spent for this work in the past:

Appropriation Year	Source	Amount
FY15	Federal - US Army Corps of Engineers	

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

Minnesota DNR and federal staff will evaluate the infrastructure and resulting habitat change resulting from this project. Future maintenance and enhancement will be undertaken by DNR staff as needed using annual funding requests to available DNR sources. Specific monitoring identified in the Marsh Lake feasibility report and environmental assessment are based on nine project ecosystem objectives and associated monitoring activities and will be conducted in the 10 year period following construction.

Explain the things you will do in the future to maintain project outcomes:

Year	Source of Funds	Step 1	Step 2	Step 3
Annual	USACOE	Water level monitoring		
Years 1, 5, 10 post-construction	DNR	Vegetation cover from aerial photography	Stream electrofishing survey	
Years 5, 10 post-construction	DNR	Submerged aquatic rake surveys		
Years 1-10 post-construction	DNR	Weekly secchi disk, fall waterfowl, fish & waterbird colony surveys,		
Post drawdown years	DNR	Late summer shorebird surveys, Fall fish surveys		

Activity Details:

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 activity on permanently protected land per 97A.056, subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 - **Yes (WMA, Public Waters, federal)**

Accomplishment Timeline:

Activity	Approximate Date Completed
Construction project at Marsh Lake	June 2020

Date of Final Report Submission: 11/1/2021

Federal Funding:

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

Are the funds confirmed - **Yes**

Documentation

What are the types of funds?

Cash Match - \$3566000

In-Kind Match - \$

Other -

Outcomes:

Programs in prairie region:

- Protected, restored, and enhanced shallow lakes and wetlands *Specific monitoring identified in the Marsh Lake feasibility report and environmental assessment are based on nine project ecosystem objectives and associated monitoring activities. Monitoring activities would be conducted in the first 10 years following project construction and include water level monitoring, vegetation cover estimates, secchi disk depth determination, submerged aquatic plant surveys, fall waterfowl surveys, shorebird surveys, colonial waterbird surveys, fall fish surveys, and stream electrofishing surveys.*

Budget Spreadsheet

Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan

How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount

Not Listed

Total Amount of Request: \$ 1691000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$0	\$0		\$0
Contracts	\$1,691,000	\$0		\$1,691,000
Fee Acquisition w/ PILT	\$0	\$0		\$0
Fee Acquisition w/o PILT	\$0	\$0		\$0
Easement Acquisition	\$0	\$0		\$0
Easement Stewardship	\$0	\$0		\$0
Travel	\$0	\$0		\$0
Professional Services	\$0	\$0		\$0
Direct Support Services	\$0	\$0		\$0
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$0	\$0		\$0
Supplies/Materials	\$0	\$0		\$0
DNR IDP	\$0	\$0		\$0
Total	\$1,691,000	\$0		\$1,691,000

Amount of Request: \$1,691,000

Amount of Leverage: \$0

Leverage as a percent of the Request: 0.00%

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
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	5,100	0	0	0	5,100
Total	5,100	0	0	0	5,100

Table 2. Total Requested Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
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	\$1,691,000	\$0	\$0	\$0	\$1,691,000
Total	\$1,691,000	\$0	\$0	\$0	\$1,691,000

Table 3. Acres within each Ecological Section

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N Forest	Total
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	0	0	5,100	0	5,100
Total	0	0	0	5,100	0	5,100

Table 4. Total Requested Funding within each Ecological Section

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N Forest	Total
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	\$0	\$0	\$1,691,000	\$0	\$1,691,000
Total	\$0	\$0	\$0	\$1,691,000	\$0	\$1,691,000

Table 5. Average Cost per Acre by Resource Type

Type	Wetlands	Prairies	Forest	Habitats
Restore	\$0	\$0	\$0	\$0
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0
Enhance	\$332	\$0	\$0	\$0

Table 6. Average Cost per Acre by Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
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	\$0	\$0	\$0	\$332	\$0

Target Lake/Stream/River Feet or Miles

0

Parcel List

For restoration and enhancement programs ONLY: Managers may add, delete, and substitute projects on this parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.

Section 1 - Restore / Enhance Parcel List

Lac qui Parle

Name	TRDS	Acres	Est Cost	Existing Protection?
Marsh Lake - Lac qui Parle WMA	12043230	5,100	\$2,000,000	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

Section 2a - Protect Parcel with Bldgs

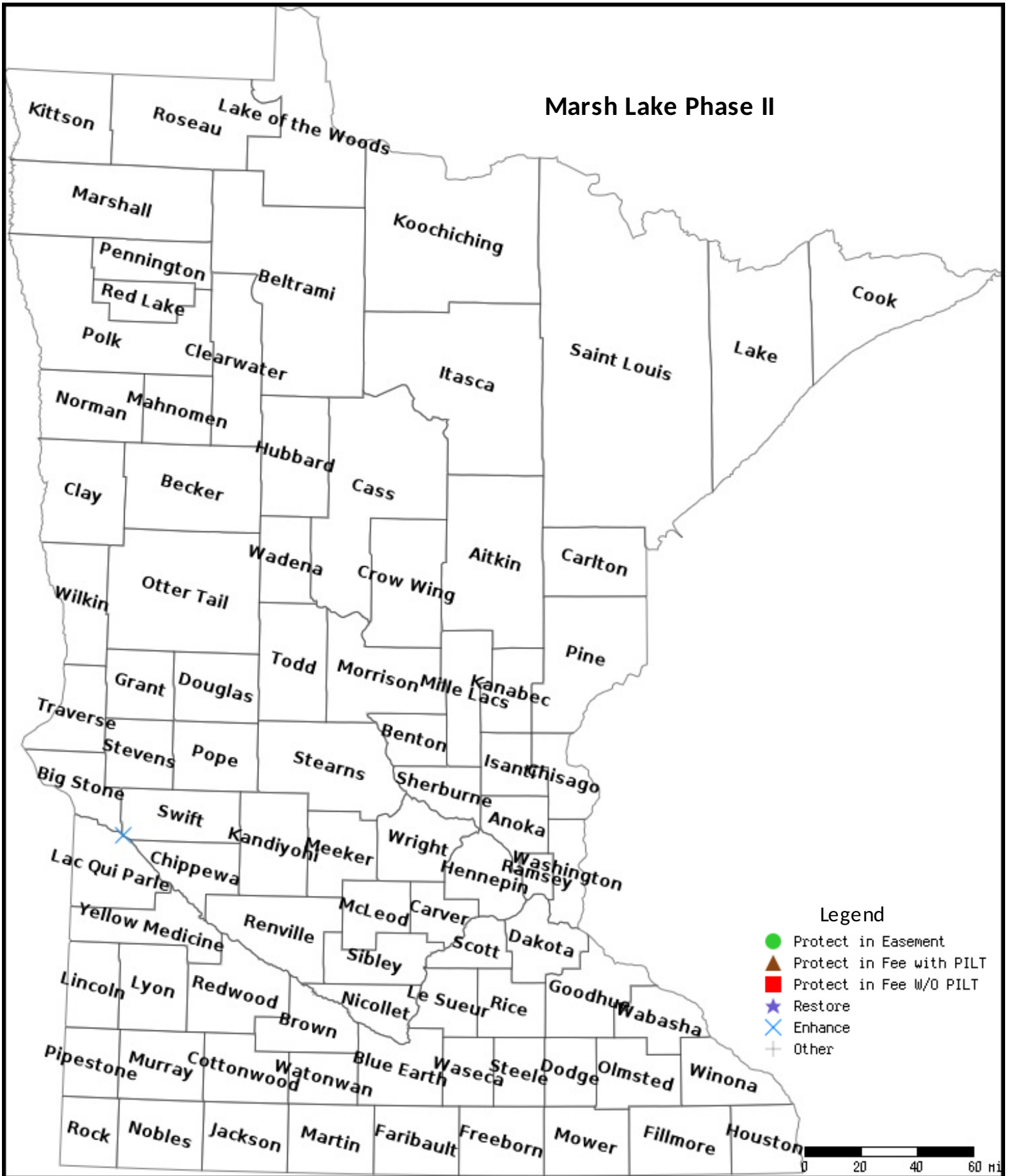
No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.

Parcel Map

Marsh Lake Phase II



Data Generated From Parcel List

Lessard-Sams Outdoor Heritage Council Comparison Report

Program Title: 2016 - Marsh Lake Phase II
Organization: MN DNR Div. of Fish and Wildlife
Manager: Ricky Lien

Budget

Requested Amount: \$2,000,000
 Appropriated Amount: \$1,691,000
 Percentage: 84.55%

Budget Item	Total Requested		Total Appropriated		Percentage of Request	
	LSOHC Request	Anticipated Leverage	Appropriated Amount	Anticipated Leverage	Percentage of Request	Percentage of Leverage
Personnel	\$0	\$0	\$0	\$0	-	-
Contracts	\$2,000,000	\$3,566,000	\$1,691,000	\$0	84.55%	0.00%
Fee Acquisition w/ PILT	\$0	\$0	\$0	\$0	-	-
Fee Acquisition w/o PILT	\$0	\$0	\$0	\$0	-	-
Easement Acquisition	\$0	\$0	\$0	\$0	-	-
Easement Stewardship	\$0	\$0	\$0	\$0	-	-
Travel	\$0	\$0	\$0	\$0	-	-
Professional Services	\$0	\$0	\$0	\$0	-	-
Direct Support Services	\$0	\$0	\$0	\$0	-	-
DNR Land Acquisition Costs	\$0	\$0	\$0	\$0	-	-
Capital Equipment	\$0	\$0	\$0	\$0	-	-
Other Equipment/Tools	\$0	\$0	\$0	\$0	-	-
Supplies/Materials	\$0	\$0	\$0	\$0	-	-
DNR IDP	\$0	\$0	\$0	\$0	-	-
Total	\$2,000,000	\$3,566,000	\$1,691,000	\$0	84.55%	0.00%

How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount?

Not Listed

Output

Table 1a. Acres by Resource Type

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	0	0	-
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	5,100	5,100	100.00%

Table 2. Total Requested Funding by Resource Type

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	0	0	-
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	2,000,000	1,691,000	84.55%

Table 3. Acres within each Ecological Section

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	0	0	-
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	5,100	5,100	100.00%

Table 4. Total Requested Funding within each Ecological Section

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	0	0	-
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	2,000,000	1,691,000	84.55%