

Lessard-Sams Outdoor Heritage Council

Fiscal Year 2017 / ML 2016 Request for Funding



Date: June 04, 2015

Program or Project Title: Marsh Lake Phase II

Funds Requested: \$2,000,000

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

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

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

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

Total Amount of Request: \$2,000,000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$0	\$0		\$0
Contracts	\$2,000,000	\$3,566,000	Federal - US Army Corps of Engineers	\$5,566,000
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	\$2,000,000	\$3,566,000	-	\$5,566,000

Amount of Request: \$2,000,000
 Amount of Leverage: \$3,566,000
 Leverage as a percent of the Request: 178.30%

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	\$2,000,000	\$0	\$0	\$0	\$2,000,000
Total	\$2,000,000	\$0	\$0	\$0	\$2,000,000

Table 3. Acres within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern 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	Forest/Prairie	SE Forest	Prairie	Northern 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	\$2,000,000	\$0	\$2,000,000
Total	\$0	\$0	\$0	\$2,000,000	\$0	\$2,000,000

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	\$392	\$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	\$392	\$0

Target Lake/Stream/River Feet or Miles

0

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

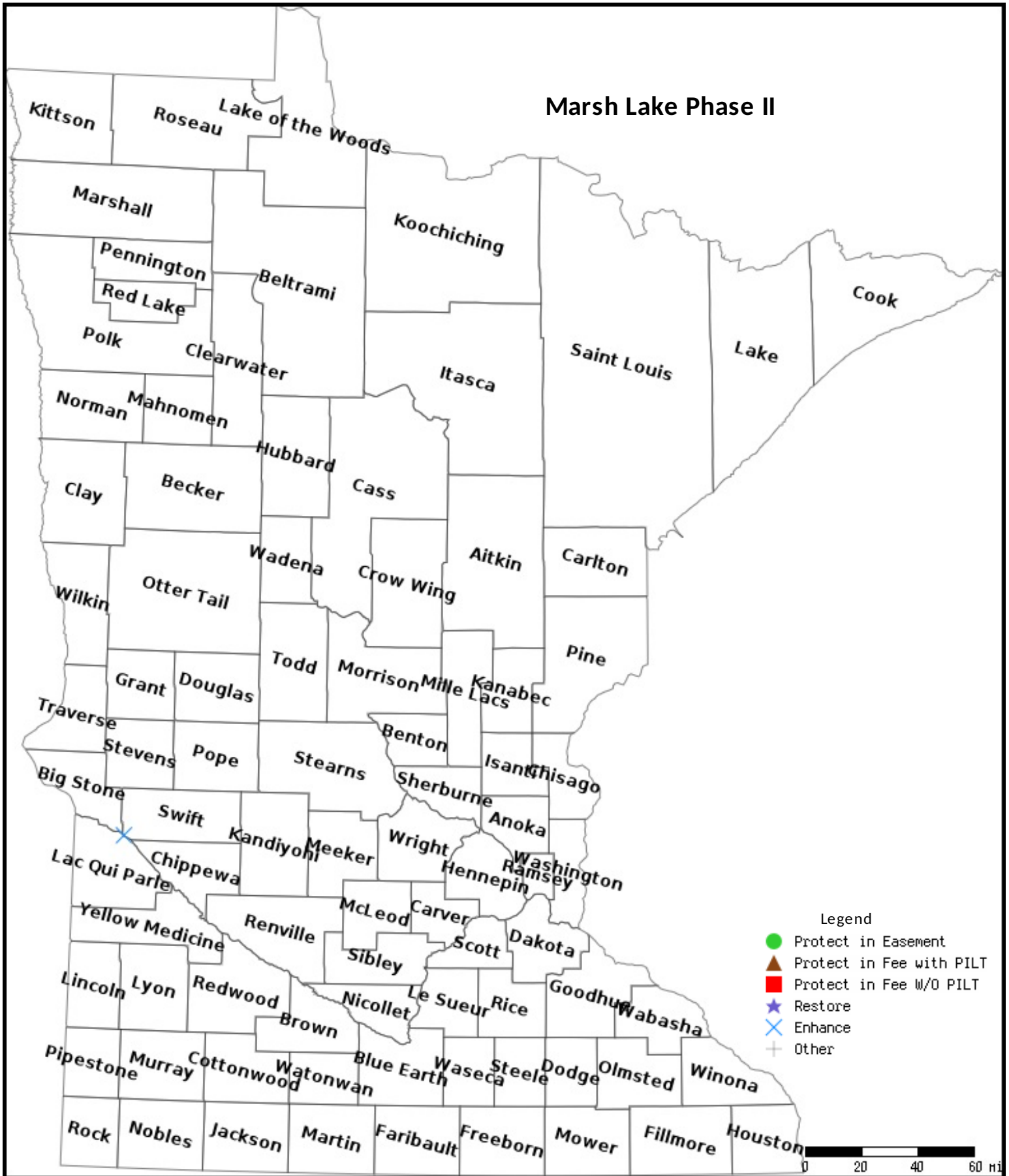
No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

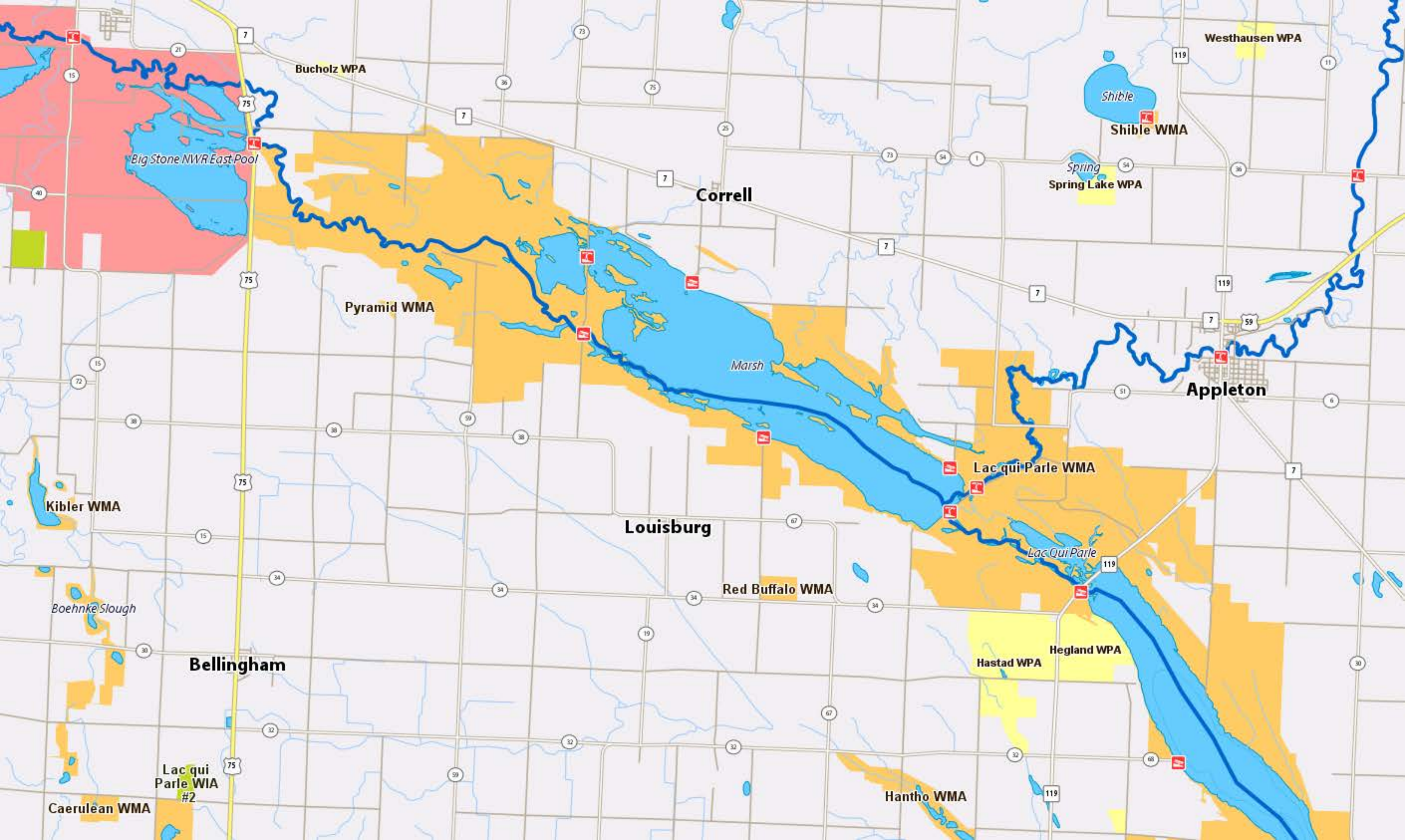
No parcels with an other activity type.

Parcel Map

Marsh Lake Phase II



Data Generated From Parcel List



From: [Dianne Radermacher](#)
To: [Trauba, David R \(DNR\)](#)
Cc: [Lien, Ricky \(DNR\)](#)
Subject: RE: Scoping Worksheet
Date: Wednesday, June 03, 2015 2:39:28 PM

Hi Ricky,

I just wanted to let you know that the Upper Minnesota River Watershed District is committed to working with the DNR on the Marsh Lake Ecosystem Restoration Project. As the local sponsor for the project we are willing to enter into another JPA with the DNR and be the recipients of the remaining funds needed to complete the project.

Dianne Radermacher

Administrator

Upper Minnesota River Watershed District

211 2nd Street SE

Ortonville, MN 56278

Dianne.radermacher@midconetwork.com

From: Trauba, David R (DNR) [<mailto:David.Trauba@state.mn.us>]
Sent: Tuesday, May 12, 2015 7:50 AM
To: Dianne Radermacher
Cc: Lien, Ricky (DNR)
Subject: RE: Scoping Worksheet

Morning Dianne – the DNR is putting together a scoping worksheet to begin the process to seek additional funding from the LS OHC to complete construction – see attached draft. Ricky Lien, project manager and cc'd here, is looking for a short paragraph from the Watershed showing your willingness to once again enter into another JPA once all the funding comes together.

Thank you. DT

From: Lien, Ricky (DNR)
Sent: Monday, May 11, 2015 12:56 PM
To: Trauba, David R (DNR)
Subject: Scoping Worksheet

Could you glance at this scoping worksheet for the OHF money we want to request for Marsh Lake? Note that I have inventively named it, Marsh Lake II. I suppose I could call it Marsh Lake Implementation Phase or Marsh Lake Construction.

Oh yeah, would you be able to ask the watershed if we could get a five sentence message from them saying they're planning on being the recipients of the funding through a Joint Powers Agreement with us?

Thanks.



US Army Corps of Engineers

BUILDING STRONG®

Corps of Engineers, sponsor sign Marsh Lake restoration agreement

Posted 9/10/2014

Release no. 14-084

Contact

Public Affairs

ST. PAUL, Minn. – The U.S. Army Corps of Engineers, St. Paul District accomplished a major milestone on the Marsh Lake ecosystem restoration project today, Sept. 10.

The St. Paul District and the Upper Minnesota River Watershed District officially completed the design agreement for the project. The Corps and the sponsor will now work together to design the ecosystem restoration project.

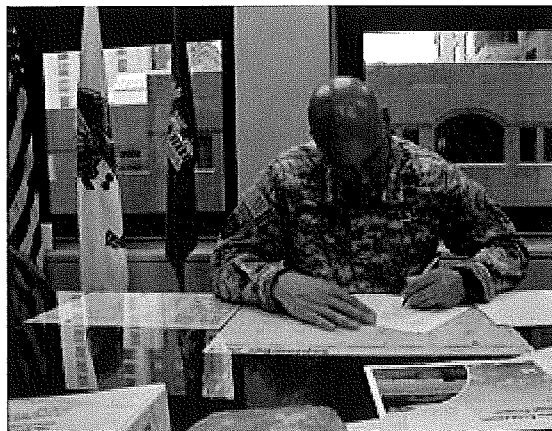
The Marsh Lake project, near Ortonville, Minn., will restore the ecosystem by improving the habitat for waterfowl and aquatic species in the area. The restoration includes rerouting of the Pomme de Terre River to its historic channel, constructing a drawdown structure and a fish passage at the Marsh Lake Dam, and breaching the abandoned fish pond at the dam. At roughly 3 percent of the average cost for a habitat restoration project of this size, the Marsh Lake project is expected to provide a significant return in ecosystem and habitat restoration benefits to the region.

“This project is a great example of the Corps and its partners developing cost-effective solutions to restore the ecosystem and provide much needed habitat for fish, waterfowl and other migratory birds, said Shahin Khazrajafari, St. Paul District project manager. “The investment in this project will benefit the nation’s environment and natural resources for generations.”

The project was authorized when President Barack Obama signed the Water Resource Reform and Development Act of 2014 into law June 10. The project still needs to receive appropriation, or funding. The Corps is also partnering with the Minnesota Department of Natural Resources on this project.

The nearly 650 U.S. Army Corps of Engineers, St. Paul District, employees working at more than 40 sites in five upper-Midwest states serve the American public in the areas of environmental enhancement, navigation, flood damage reduction, water and wetlands regulation, recreation sites and disaster response. Through the Corps’ Fiscal Year 2011 \$175 million budget, nearly 2,800 non-Corps jobs were added to

Photos



SAINT PAUL, Minn. – Col. Dan Koprowski, St. Paul District commander, signs the Marsh Lake ecosystem design agreement between the Corps of Engineers, St. Paul District, and the Upper Minnesota River Watershed District in his office Sept. 10. The restoration project was authorized with the passage of the 2014 Water Resources Reform and Development Act June 10 when President Barack Obama signed the law. (Photo by Patrick Moes)

the regional economy as well as \$271 million to the national economy. For more information, see www.mvp.usace.army.mil.



US Army Corps of Engineers
St. Paul District
Mississippi Valley Division

Feasibility Report and Environmental Assessment

Marsh Lake Ecosystem Restoration Project

Minnesota River

Big Stone, Lac qui Parle, and Swift Counties, Minnesota



Photo by Ron Bolduan

Completed in conjunction with the Minnesota Department of Natural Resources

July 2011

*Note: This 228 page report will be made available upon request

Marsh Lake restoration project poised for federal funds

Cody Nelson · St. Paul, Minn. · May 23, 2014

Environment

A lake in west-central Minnesota has \$6.7 million in federal funds for an environmental restoration project at stake in a bill being considered by Congress.

If passed, the Water Resources Development Act will offer money for several projects aimed at improving the ecosystem of Marsh Lake, which sits on the Minnesota River near Appleton.

Construction of a dam on the Minnesota River near where it intersects with the Pomme de Terre created the 4,500-acre Marsh Lake in the 1930s. Now, it faces high turbidity, among other issues.

The \$10 million project's main facets call for re-routing the Pomme de Terre River to its natural path and modifying a dam on the Minnesota River to allow for fish passage. State officials and the U.S. Army Corps of Engineers began planning the work in 2007.

"We have been waiting for this [bill] for a long time," said Ken Varland, a regional wildlife manager for the Minnesota Department of Natural Resources. "This is kind of a big deal for us."

The plan also would include water control structures to help restore the Minnesota River's natural ecosystem and flooding-drying cycles.

Most of the remaining funds will come from the state. Varland said Minnesota lawmakers have provided about \$2.6 million, helping to round out the project's total cost.

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About the author

Cody Nelson · Contributor

Cody Nelson is a contributing reporter for MPR, a fourth-year journalism student at the University of Minnesota and editor-in-chief at the Minnesota Daily.