

# Lessard-Sams Outdoor Heritage Council

## Fiscal Year 2022 / ML 2021 Request for Funding



**Date:** May 27, 2020

**Program or Project Title:** Accelerated Shallow Lakes and Wetland Enhancements Phase 13 (w/o Roving Habitat Crew) (WRE01b)

**Funds Requested:** \$4,256,000

**Manager's Name:** Ricky Lien  
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**County Locations:** Aitkin, Jackson, Kandiyohi, Lac Qui Parle, Lyon, Meeker, Mille Lacs, Murray, Roseau, St. Louis, Todd, and Yellow Medicine.

### **Eco regions in which work will take place:**

- Northern Forest
- Forest / Prairie Transition
- Prairie
- Metro / Urban

### **Activity types:**

- Enhance

### **Priority resources addressed by activity:**

- Wetlands

### **Abstract:**

This proposal will accomplish shallow lake and wetland enhancement and restoration work throughout Minnesota, with a focus on the prairie region. Over 11,300 acres of wetland habitat will be impacted. The proposal is comprised of two components - (1) projects to engineer and implement shallow lake and wetland enhancement activities; (2) an expansion of the Wetland Management Program to increase its work to identify and implement needed management work for small wetlands in the prairie region. Work would be focused on wetland complexes most valuable to waterfowl.

### **Design and scope of work:**

Minnesota wetlands, besides being invaluable for waterfowl, also provide other desirable functions and values - habitat for a wide range of species, groundwater recharge, water purification, flood water storage, shoreline protection, and economic benefits. An estimated 90% of Minnesota's prairie wetlands have been lost, more than 50% of our statewide wetland resource. In remaining wetlands, benefits are too often compromised by degraded habitat quality. This proposal will accomplish needed wetland habitat work throughout Minnesota, with a focus on the prairie region.

**SHALLOW LAKES / WETLAND PROJECTS** - This proposal seeks to engineer and construct wetland infrastructure such as dikes, water control structures, and fish barriers, and to implement management techniques such as water level manipulation and sediment removal. The shallow lake and wetland projects identified in this proposal for enhancement were proposed and reviewed by DNR Area and Regional supervisors. Projects, as shown in the accompanying parcel list, include engineering feasibility and design work, replacement/renovation of wetland infrastructure to bring about habitat enhancement, and direct wetland management activities. The

parcel list includes 10 projects that will improve or replace infrastructure or provide direct management of shallow lake and wetlands. These 10 projects will provide 2,170 acres of wetland enhancement. Another 9 projects are seeking funding for needed survey and engineering services to prepare for future implementation of wetland enhancement projects. Finally, requested funding will continue the DNR's efforts to spray dense stands of monotypic hybrid cattails for three field seasons. 2,300 acres will be treated annually on parcels that will be identified by wildlife staff each season and listed in the Final Report.

WETLAND MANAGEMENT PROGRAM (WMP) - Numerous plans pertaining to wetlands and shallow lakes call for effective management of existing habitat to provide maximum benefits for wildlife. The 2020 Minnesota Duck Action Plan notes the need to expand the WMP in Minnesota. The WMP assesses wetlands and brings about management required to produce quality wetland wildlife habitat. The WMP addresses management needed for smaller wetlands that are often overlooked on the landscape. The requested funding will allow the program to expand in the prairie region of Minnesota. Management work to be accomplished includes water levels manipulation, removal of undesirable fish and controlling invasive plants and fish, and will be focused in areas of wetland complexes. It is conservatively estimated that each Natural Resource Specialist working in the WMP impacts 1,125 acres of small wetlands over the life of an appropriation.

Parcels may be added, modified, or deleted from the proposal's parcel list to accommodate engineering feasibility results, provide resources to new opportunities, or to address the challenges associated with complex shallow lake and wetland projects.

To improve efficiency and meet mutual goals, projects may be done in cooperation with Duck Unlimited.

Note that parcels may be added or subtracted from the Parcel List as needed to address program needs. All changes shall be in keeping with the scope of the project and will be fully reported in the Final Report.

## **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:**

Roughly 50% of all federally endangered animal are wetland-related. As a measure of the importance of wetlands to Minnesota Species of Greatest Conservation Need (SGCN), the word 'wetland' appears 127 times in Minnesota's Wildlife Action Plan 2015-2025 (WAP). Conservation Focus Areas are priority areas for working with partners to identify, design, and implement conservation actions and report on the effectiveness toward achieving the goals and objectives defined in the Wildlife Action Plan. Target Habitat Complexes within Conservation Focus Areas commonly include Prairie Wetland Complexes and other wetland community types.

The protection and management of wetlands and wetland/grassland complexes are listed extensively in the discussion of Conservation Focus Area Target, Conservation Issues and Approaches. Specific management actions mentioned include reed canary grass and invasive cattail control, "natural disturbance management" (i.e. water level management, prescribed fire, woody vegetation removal). Target Habitat Complexes within Conservation Focus Areas commonly include Prairie Wetland Complexes and other wetland community types.

As noted in the WAP, wet meadows and fens typically provide optimal habitat for sedge wrens, yellow rails, Nelson's sharp-tailed sparrows and numerous other SGCN. Wetland Management Options to support SGCN include prevention of wetland degradation, restoration of wetland complexes, and management of invasives.

For shallow lakes, examples of SGCN include lesser scaup, northern pintail, common moorhen, least bitterns, American bitterns, marsh wrens, and Virginia rails. Shallow lake management actions to benefit SGCN include the restoration of large complexes of shallow lakes and wetlands, with attention to the habitat features required by SGCN, management for a natural water regime in shallow lakes, and management of invasives.

See a list of SGCN associated with wetlands included as an attachment to this proposal.

Management of wetlands and shallow lakes as noted above will be accomplished through the work described in this proposal.

## **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 Status and Trends of Wetlands in Minnesota: Depressional Wetland Quality Assessment (2007 - 2012), produced by the Minnesota Pollution Control Agency, noted that in the central and former prairie regions of the state degraded vegetation communities dominate. Vegetation communities in more than half of these depressional wetlands are in poor condition (56% ), with only 17% in good condition, similar to the quality of all wetland types in the central hardwood and former prairie regions. Non-native invasive plants are having the greatest impact. In other words, not only have most wetlands been lost in much of the prairie and forest-transition areas of Minnesota, what remains are degraded and need management action to produce quality habitat. Work as described in this proposal will provide needed habitat, while also provide the other benefits found in healthy wetlands - water quality, floodwater storage, places to hunt and recreate, etc.

## 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 Minnesota Duck Recovery Plan goals include boosting the state's breeding duck population. The most productive prairie waterfowl 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, including wild rice lakes.

The Minnesota Prairie Conservation Plan, which is a plan for both uplands and wetlands in the prairie region of Minnesota, 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 Prairie Wetland Initiative component of this OHF proposal would contribute to these identified Core Areas and Habitat Complexes by working to actively manage and improve small wetlands on public lands, especially on those lands contributing to the Minnesota Comprehensive Prairie Plan. The Status and Trends of Wetlands in Minnesota: Depressional Wetland Quality Assessment (2007 - 2012), produced by the Minnesota Pollution Control Agency, noted that while most wetlands in northern Minnesota are in good condition, the opposite is true in the central and former prairie regions of the state, where degraded vegetation communities are predominant. Vegetation communities in more than half of these depressional wetlands are in poor condition (56% ), with only 17% in good condition, similar to the quality of all wetland types in the central hardwood and former prairie regions. Non-native invasive plants are having the greatest impact.

The projects and initiatives called for in this OHF proposal will directly contribute to expanded and healthy wetland complexes and increased shallow lakes work. Work will renovate existing wetland infrastructure and establish new management, especially in the critical prairie region of Minnesota. More specifically, the work done by the Wetland Management Program is targeted to identify key wetland complexes in the prairie region and bring management actions to the wetlands of those complexes.

## 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

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

Work described in this proposal will provided enhanced shallow lakes and wetlands through infrastructure establishment and implementation of active management activities that will benefit wetland wildlife populations and provide recreational opportunities and the other benefits associated with healthy wetland ecosystems.

## Which LSOHC section priorities are addressed in this proposal:

### Prairie:

- Protect, enhance, or restore existing wetland/upland complexes, or convert agricultural lands to new wetland/upland habitat complexes

### Forest / Prairie Transition:

- Protect, enhance, and restore wild rice wetlands, shallow lakes, wetland/grassland complexes, aspen parklands, and shoreland that provide critical habitat for game and nongame wildlife

### Northern Forest:

- Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas

### Metro / Urban:

- Protect, enhance, and restore remnant native prairie, Big Woods forests, and oak savanna with an emphasis on areas with high

biological diversity

## **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:**

Three elements relate to this proposal's ability to produce a significant and permanent conservation legacy.

First, the scale of this proposal is significant, exceeding 4,000 wetland acres. Projects of this size are able to produce results locally and statewide.

Second, the infrastructure (water control structures, dikes, fish barriers) projects proposed for construction or renovation will be worked on by DNR engineers who will design and oversee construction and renovation to achieve long-lasting results. A typical goal is to have constructed water control structures, dikes and fish barriers with a life expectancy of last a minimum of 30-40 years. These projects will be on public waters or publicly-owned or eased lands. Roving habitat crews have become a key component to maintaining quality on state lands.

Third, the type of work being done through this proposal, Shallow lake enhancement and wetland restoration, are key components of all significant conservation plans for Minnesota affecting Minnesota. The work is needed to restore wetlands, 90% of which have been lost in the prairies and many of the remaining ones are degraded. Key state conservation plans such as Minnesota's Prairie Conservation Plan, Duck Recovery Plan, and Shallow Lake Plan call for the active management of shallow lakes and the restoration/management of wetlands to Minnesota's landscape.

## **Relationship to other funds:**

- Not Listed

## **Describe the relationship of the funds:**

Not Listed

## **Does this program include leverage in funds:**

No

## **Per MS 97A.056, Subd. 24, Any state agency or organization requesting a direct appropriation from the OHF must inform the LSOHC at the time of the request for funding is made, 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:**

This request is an acceleration of the Minnesota DNR's Section of Wildlife wetland habitat work to a level not attainable but for the appropriation.

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

Not Listed

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

DNR engineers, or private engineers contracted to work with oversight of DNR engineers, will design and oversee construction and renovation of infrastructure to achieve long-lasting results. A typical goal is to have water control structures, dikes and fish barriers last a minimum of 30-40 years. The management of completed infrastructure projects will fall on existing staff of the Department of Natural Resources. Periodic enhancements such as invasive species removal, supplemental vegetation planting, or water control structure installation, 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, the Outdoor Heritage Fund, and federal sources such as North American Wetlands Conservation Act grants. Wetland enhancement projects such as cattail control, prescribed burns, rough fish management and the like are implemented to achieve quality, long-lasting habitat benefits lasting benefits, realistically they have variable lifespans due to conditions imposed by climate, physical factors, etc. Monitoring by area wildlife staff and shallow lakes specialists will ensure that followup management is employed as needed.

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

Year	Source of Funds	Step 1	Step 2	Step 3
10-12 months post-completion of engineered infrastructure	DNR	DNR engineers conduct warranty inspection of project.		
1 year post-implementation of management action	DNR	Shallow Lakes Program, Wetland Management Program, and property managers evaluate management effectiveness		

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

Mallards are a commonly used indicator species for numerous waterfowl plans due to (1) extensive research that has occurred with this species on many aspects of its life history, habitat requirement and response to management, and (2) the fact that it is representative of the “typical” upland nesting duck. Both Joint Venture waterfowl plans that cover Minnesota – the Prairie Pothole Joint Venture and the Upper Mississippi River and Great Lakes Region Joint Venture (UMRG LRJV) – use the mallard as a focal species. The biological model used in the UMRG LRJV to estimate habitat needs to support mallard population growth uses a simple but accepted rate of 1 mallard pair per hectare (1 pair per 2.47 acres) of wetland habitat (noting that upland habitat for nesting is also obviously needed). Trumpeter swans could also be used as an indicator species relative to assessing wetland habitat work. Trumpeter swans are a recognizable feature on wetlands and their restoration is a modern wildlife management success story. Trumpeter swans are strictly territorial on their breeding areas with shoreline complexity and food availability being factors in defining the area being defended. Though reported territories can range in size from 1.5 - >100 hectares, a reasonable expectation is that one additional trumpeter swan pair would be supported by each 50 acres of wetlands protected, restored, or enhanced.

## 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 (WMA, WPA, Permanently Protected Conservation Easements County/Municipal, Refuge Lands, Public Waters, State Forests)**

Do you anticipate federal funds as a match for this program - **No**

### Land Use:

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

### Land Use:

Have you received OHF dollars in the past through LSOHC? - **Yes**

## Past appropriations and spending to date:

Apprp Year	Approp Amount Received	Approp Amount Spent to Date	Leverage as Reported in AP/th>	Leverage Realized to Date	Total Acres Affected in AP	Total Acres Affected to Date	Program Complete and Final Report Approved?
2011	936000	808000			6400	7262	Yes
2012	3870000	3644000			1982	10085	Yes
2013	1790000	1766600			15355	13811	Yes
2014	1050000	877700			6788	19365	Yes
2015	2130000	1475100			8756		No
2016	2167000	1531700			9425		No
2017	1755000	674800			5135		No
2018	2759000	358600			25297		No
2019	3541000				3616		No
2020	1675000				4190		No

## Accomplishment Timeline

Activity	Approximate Date Completed
Survey and engineering-only projects	2026
Construction of infrastructure projects	2026
Assessment of small wetlands and implementation of management activities	2026
Aerial spraying of hybrid cattails	2025

# Budget Spreadsheet

**Total Amount of Request: \$4,256,000**

## Budget and Cash Leverage

BudgetName	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$1,258,000	\$0		\$1,258,000
Contracts	\$1,540,000	\$0		\$1,540,000
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	\$75,000	\$0		\$75,000
Professional Services	\$1,005,000	\$0		\$1,005,000
Direct Support Services	\$123,000	\$0		\$123,000
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$45,000	\$0		\$45,000
Supplies/Materials	\$210,000	\$0		\$210,000
DNR IDP	\$0	\$0		\$0
Total	\$4,256,000	\$0	-	\$4,256,000

## Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Wetland Management Program	3.00	5.00	\$1,258,000	\$0		\$1,258,000
Total	3.00	5.00	\$1,258,000	\$0	-	\$1,258,000

Amount of Request: \$4,256,000  
 Amount of Leverage: \$0  
 Leverage as a percent of the Request: 0.00%  
 DSS + Personnel: \$1,381,000  
 As a % of the total request: 32.45%  
 Easement Stewardship: \$0  
 As a % of the Easement Acquisition: -%

**How did you determine which portions of the Direct Support Services of your shared support services is direct to this program:**

Direct Support Services is determined by a standard DNR process taking into account the amount of funding and the number of allocations made with that funding.

**What is included in the contracts line?**

Contract funding will be used to obtain needed construction, engineering, and/or management services to construct shallow lake and wetland infrastructure projects or to implement wetland management activities.

**Does the amount in the travel line include equipment/vehicle rental? - Yes**

**Explain the amount in the travel line outside of traditional travel costs of mileage, food, and lodging:**

\$75,000 is shown in the Travel line of the budget. In addition to traditional travel costs of mileage, food, and lodging, this funding will be used to cover DNR fleet costs associated with equipment used by DNR staff funded through this appropriation. Such equipment could include ATV's, UTV's, MarshMasters, tractors, trailers, and other equipment needed for critical habitat management activities

**I understand and agree that lodging, meals, and mileage must comply with the current MMB Commissioner Plan: - Yes**

**Describe and explain leverage source and confirmation of funds:**

Not applicable.

**Does this proposal have the ability to be scalable? - Yes**

**Tell us how this project would be scaled and how administrative costs are affected, describe the "economy of scale" and how outputs would change with reduced funding, if applicable:**

If less the proposal's requested funding is made available, the proposal's projects and management activities would be ranked and the funding used to implement work identified as priority.

**Has funding for these positions been requested in the past? - No**



## 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	11,321	0	0	0	11,321
Total	11,321	0	0	0	11,321

**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	\$4,256,000	\$0	\$0	\$0	\$4,256,000
Total	\$4,256,000	\$0	\$0	\$0	\$4,256,000

**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	10	3,639	0	5,814	1,858	11,321
Total	10	3,639	0	5,814	1,858	11,321

**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	\$133,900	\$605,000	\$0	\$2,415,300	\$1,101,800	\$4,256,000
Total	\$133,900	\$605,000	\$0	\$2,415,300	\$1,101,800	\$4,256,000

**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	\$376	\$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	\$13,390	\$166	\$0	\$415	\$593

*Automatic system calculation / not entered by managers*

**Target Lake/Stream/River Feet or Miles**

0

I have read and understand Section 15 of the Constitution of the State of Minnesota, Minnesota Statute 97A.056, and the Call for Funding Request. I certify I am authorized to submit this proposal and to the best of my knowledge the information provided is true and accurate.

# Outcomes

## **Programs in the northern forest region:**

- Improved availability and improved condition of habitats that have experienced substantial decline *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

## **Programs in forest-prairie transition region:**

- Wetland and upland complexes will consist of native prairies, restored prairies, quality grasslands, and restored shallow lakes and wetlands *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

## **Programs in metropolitan urbanizing region:**

- Enhancement of wetland resources improves a degraded habitat type and provides both needed resources for waterfowl and other wetland wildlife and the multiple benefits associated with healthy wetlands. *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

## **Programs in prairie region:**

- Protected, restored, and enhanced shallow lakes and wetlands *Intensive wetland management and habitat infrastructure maintenance will provide the wetland base called for in numerous prairie, shallow lake and waterfowl plans. Area wildlife staff and/or shallow lakes staff will monitor completed projects to determine success of implementation and to assess the need for future management and/or maintenance.*

## Parcel List

### Explain the process used to select, rank and prioritize the parcels:

Individual projects are proposed by Minnesota DNR Area Wildlife staff or Shallow Lakes Program specialists. Projects are reviewed at both the regional and central office level for suitability and ability to contribute to strategic plans and Department Priorities.

Note that parcels may be added or subtracted from the Parcel List by the appropriation manager. The final report must show the final list of parcels that were completed with this proposal.

### Section 1 - Restore / Enhance Parcel List

#### Aitkin

Name	TRDS	Acres	Est Cost	Existing Protection?
Grayling Marsh WMA WCS/dike Engineering	04823210	0	\$40,000	Yes
Kimberly WMA 2 WCS - Upper Pool	04724212	314	\$370,000	Yes

#### Jackson

Name	TRDS	Acres	Est Cost	Existing Protection?
Timber Lake Engineering	10436218	0	\$40,000	Yes

#### Kandiyohi

Name	TRDS	Acres	Est Cost	Existing Protection?
Gopher Ridge WMA WCS Engineering	12233231	0	\$40,000	Yes
RIM Memorial WMA WCS	12036226	11	\$60,000	Yes

#### Lac Qui Parle

Name	TRDS	Acres	Est Cost	Existing Protection?
Avelsgard Dike Repair and Structure Engineering	11943210	0	\$40,000	Yes
Marsh Lake Fish Pond Structure Repair and Pumping	12043230	13	\$30,000	Yes

#### Lyon

Name	TRDS	Acres	Est Cost	Existing Protection?
Browns Slough WCS Engineering	11042226	0	\$40,000	Yes
Lake Marshall WCS Engineering	11141236	0	\$40,000	Yes
Lines WCS outlet pipe	11340213	45	\$50,000	Yes

#### Meeker

Name	TRDS	Acres	Est Cost	Existing Protection?
Powers Lake WCS Engineering	12030236	0	\$40,000	Yes
Rodewald East WCS Engineering	11832220	0	\$40,000	Yes
Teal Scurry WMA WCS design and construction	12131207	10	\$130,000	Yes

#### Mille Lacs

Name	TRDS	Acres	Est Cost	Existing Protection?
Water Control Replacement (2) Mille Lacs	04028234	800	\$260,000	Yes

## Murray

Name	TRDS	Acres	Est Cost	Existing Protection?
Peters WMA	10642209	45	\$130,000	Yes

## Roseau

Name	TRDS	Acres	Est Cost	Existing Protection?
County Line Shallow Wetlands	16344206	55	\$150,000	Yes

## St. Louis

Name	TRDS	Acres	Est Cost	Existing Protection?
Darwin Myers WMA Dike and Water Control Structure Reconstruction - phase 1 construction	06015235	744	\$400,000	Yes

## Todd

Name	TRDS	Acres	Est Cost	Existing Protection?
Grey Eagle WMA	12733209	134	\$235,000	Yes

## Yellow Medicine

Name	TRDS	Acres	Est Cost	Existing Protection?
Oshkosh WMA Engineering	11544223	0	\$40,000	Yes

## Section 2 - Protect Parcel List

No parcels with an activity type protect.

## Section 2a - Protect Parcel with Bldgs

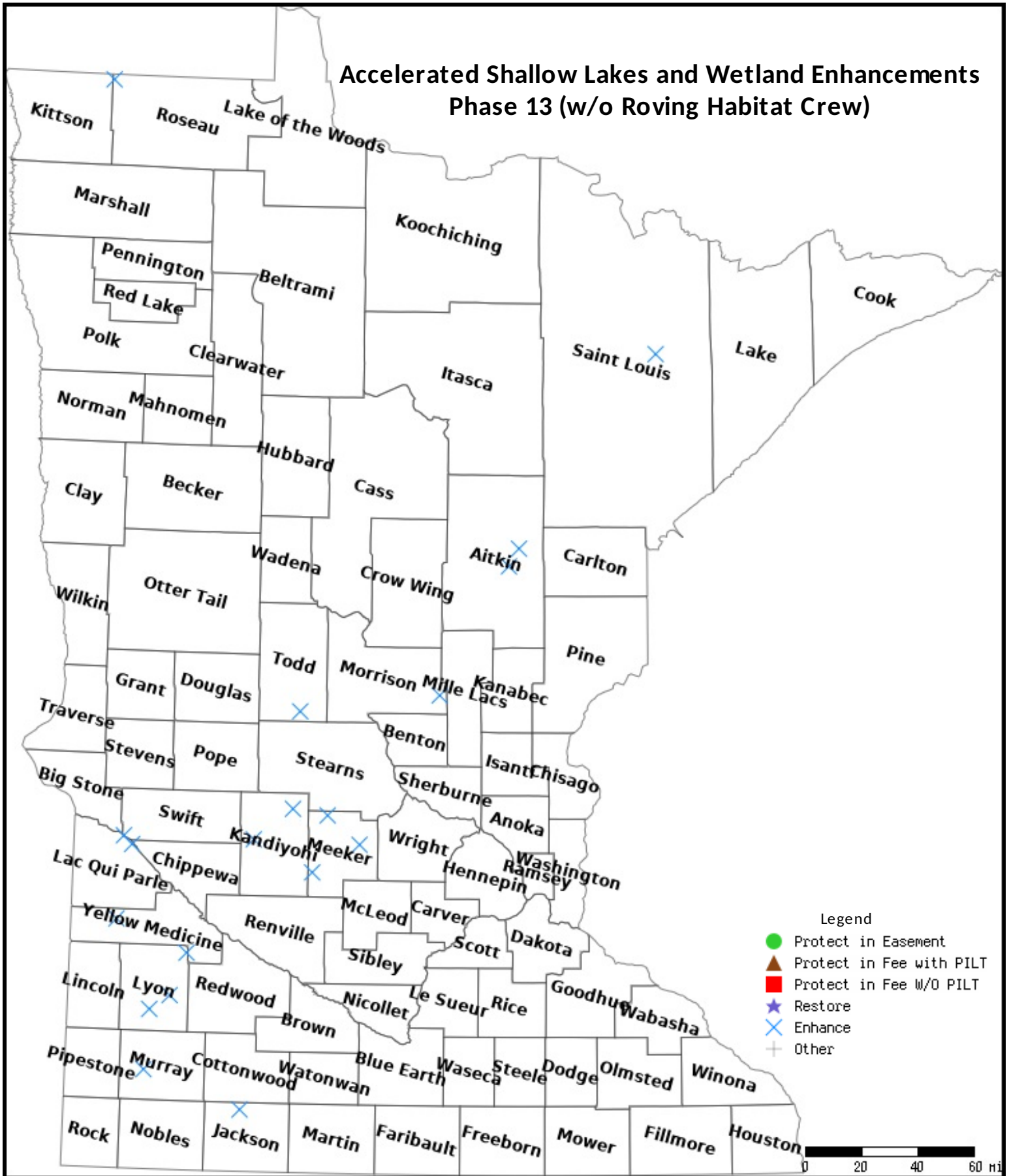
No parcels with an activity type protect and has buildings.

## Section 3 - Other Parcel Activity

No parcels with an other activity type.

# Parcel Map

## Accelerated Shallow Lakes and Wetland Enhancements Phase 13 (w/o Roving Habitat Crew)



Data Generated From Parcel List

# ML21 Shallow Lakes and Wetland Enhancement Phase 13

## 3 Components, 11,300 wetland acres enhanced!

### Component 1: Shallow Lakes / Wetland Projects

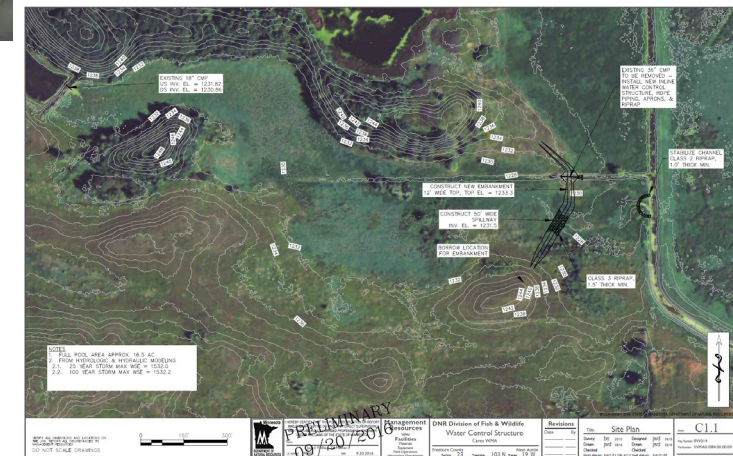
Providing engineering and design work, improving wetland infrastructure, and enhancing wetlands and shallow lakes through active management.



← Infrastructure construction →



Preliminary design plan



## Component 2: Wetland Habitat Program

Bringing needed assessments and active management to wetland complexes in the prairie region of Minnesota through staff entirely focused on wetland habitat work.

### Tools:

- Rapid Wetland Assessments
- Water level manipulation
- Vegetation control
- Management of undesirable fish



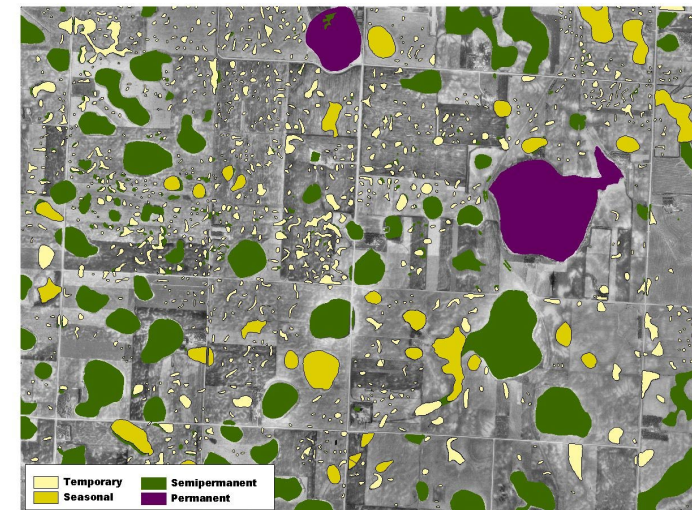
Rapid  
Wetland  
Assessments

Aerial photo,  
wetland complex

Fish removal



Sediment removal





**Minnesota Biological Survey database search for marsh and wet meadow threatened and endangered bird and amphibian species.**

**22 result(s) for** *Habitats:Marsh;Wet Meadow/Carr; amphibian; bird; fish; fungus; insect; mammal; moss; mussel; reptile; snail; spider; federal endangered; federal threatened; federal candidate; minnesota endangered; minnesota threatened; minnesota special concern;*

<u>Common name</u>	<u>Scientific name</u>	<u>Group</u>	<u>Federal status</u>	<u>State status</u>
American White Pelican	<a href="#"><i>Pelecanus erythrorhynchos</i></a>	bird	none	special concern
Bell's Vireo	<a href="#"><i>Vireo bellii</i></a>	bird	none	special concern
Blanchard's Cricket Frog	<a href="#"><i>Acris blanchardi</i></a>	amphibian	none	endangered
Blanding's Turtle	<a href="#"><i>Emydoidea blandingii</i></a>	reptile	none	threatened
Common Gallinule	<a href="#"><i>Gallinula galeata</i></a>	bird	none	special concern
Forster's Tern	<a href="#"><i>Sterna forsteri</i></a>	bird	none	special concern

Four-toed Salamander	<a href="#"><i>Hemidactylium scutatum</i></a>	amphibian	none	special concern
Franklin's Gull	<a href="#"><i>Leucophaeus pipixcan</i></a>	bird	none	special concern
Chilostigman Caddisfly	<a href="#"><i>Chilostigma itascae</i></a>	insect	none	threatened
Horned Grebe	<a href="#"><i>Podiceps auritus</i></a>	bird	none	endangered
King Rail	<a href="#"><i>Rallus elegans</i></a>	bird	none	endangered
Massasauga	<a href="#"><i>Sistrurus catenatus</i></a>	reptile	none	endangered
Nelson's Sparrow	<a href="#"><i>Ammodramus nelsoni</i></a>	bird	none	special concern
Purple Martin	<a href="#"><i>Progne subis</i></a>	bird	none	special concern
Short-eared Owl	<a href="#"><i>Asio flammeus</i></a>	bird	none	special concern
Trumpeter Swan	<a href="#"><i>Cygnus buccinator</i></a>	bird	none	special concern
Wilson's Phalarope	<a href="#"><i>Phalaropus tricolor</i></a>	bird	none	threatened
Yellow Rail	<a href="#"><i>Coturnicops noveboracensis</i></a>	bird	none	special concern