Lessard-Sams Outdoor Heritage Council
Fiscal Year 2018 / ML 2017 Request for Funding

Date: June 15, 2016

Program or Project Title: Accelerated Shallow Lakes and Wetland Enhancement - Phase IX (WRE01)

Funds Requested: $3,000,000

Manager's Name: Ricky Lien
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County Locations: Freeborn, Freeborn/Rice, Hubbard, Wadena, Itasca, Kandiyohi , Lac Qui Parle, Lyon, Marshall, Mille Lacs, Morrison, Todd, Nicollet, Polk, Red Lake, Pope, Roseau, Scott, Todd, and Wright.

Regions in which work will take place:

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

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Wetlands

Abstract:

This proposal will accomplish shallow lake and wetland habitat work that will otherwise go unfunded. This habitat work will include shallow lake/wetland projects to restore and enhance habitat needed for each life stage of waterfowl. Roving Habitat Crews will be utilized to undertake needed wetland activities on public wildlife lands and habitat projects will be undertaken in critical waterfowl regions, but especially in the prairie portion of Minnesota. This work is called for in the Minnesota Prairie Conservation Plan, Long Range Duck Recovery Plan, and Shallow Lakes plan.

Design and scope of work:

Throughout the state, remaining shallow lakes and wetlands provide critical habitat for each life stage of waterfowl and other wetland wildlife. 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. Throughout the state, remaining shallow lakes and wetlands provide critical habitat for each life stage of waterfowl and other wetland wildlife. Unfortunately these benefits are too often compromised by degraded habitat quality due to excessive runoff and invasive plants and fish. Additionally, wetlands continue to be lost or degraded by ongoing ditching and tiling from agriculture and other forces. The Minnesota PCA has documented that in our remaining wetland habitat, only about one out of five prairie wetlands has good quality vegetation, while just under a third provide good habitat for invertebrates.

There are two components to this proposal, each intended to further shallow lake and wetland restoration and management.

ROVING HABITAT CREW - Numerous plans pertaining to wetlands and shallow lakes call for effective management to provide maximum benefits for wildlife. Past Outdoor Heritage Fund (OHF) moneys were used to establish regional Roving Habitat Crews to address needed upland and wetland habitat management work on state wildlife properties. We have seen remarkable recoveries of both habitat quality and wildlife use of wetlands when we have invested in active management. The funding requested in this proposal will be targeted to continuing the work of the Region 3 Roving Habitat Crew in central Minnesota and will allow them to accomplish wetland habitat work that will include, but not be limited to, managing water levels, maintaining fish barriers and other wetland infrastructure, inducing winterkill of fish, controlling invasive plants and fish, and encouraging native plant assemblages.

SHALLOW LAKES / WETLAND PROJECTS -The habitat quality of the shallow lakes and wetlands still on the landscape can be markedly improved by controlling invasive species and rough fish, installing fish barriers where needed and aggressively managing water levels to meet management objectives. 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 invasive species control and water level manipulation. The shallow lake and wetland projects identified in this proposal for enhancement were proposed and ranked by DNR Area Wildlife Supervisors through their respective Regional Wildlife Managers and were reviewed by the Wetland Habitat Team. Eleven projects will target the management of dense monotypic stands of cattails that are negatively impacting the value of wetland for wildlife, seven projects involve the replacement of failing wetland infrastructures, one project will provide fish control for a 2,222-acre shallow lake, a 22-acre wetland restoration will be undertaken, and, finally, one moist soil project will be constructed.

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
- Minnesota Prairie Conservation Plan

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

The Minnesota Long Range Duck Recovery Plan, simply put, calls for the restoration, protection, and management of 2,000,000 additional acres to provide for a spring breeding population of of 1 million ducks. Thirty percent of the 2,000,000 acres are to be wetland habitat acres. Work done though this proposal will directly support the Duck Recovery Plan objectives. The Minnesota Prairie Conservation Plan (PCP) is as much about wetlands as it is about uplands. In fact, the word wetland occurs 233 times throughout the document. The PCP establishes goals for protection, restoration, and enhancement. Restoration goals for both uplands and wetlands on protected lands total 516,000 acres. Enhancement goals, again for both uplands and wetlands on protected lands, total 224,000 acres. Work done though this proposal will direct support the Minnesota PRP.

Which LSOHC section priorities are addressed in this proposal:

Prairie:

- Protect, enhance, and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success

Forest / Prairie Transition:

- Protect, enhance, and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success

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 from long-term or permanent endangerment from invasive species

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:

Not Listed

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:

Shallow lakes in Minnesota are monitored and evaluated by area wildlife staff and dedicated shallow lake specialists who both identify shallow lakes needing management action and monitors the lakes post-management to assess effectiveness. The projects in this proposal were proposed by area wildlife and reviewed by regional and program specialists.

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:

Minnesota has lost almost half of its original presettlement wetlands, with some regions of the state having lost more than 90% of their original wetlands. A statewide review of Species of Greatest Conservation Need (SGCN) found that wetlands are one of the three habitat types (along with prairies and rivers) most used by these species. This request includes wetland management actions identified to support SGCN: prevention of wetland degradation, wetland restoration, and control of invasives. In the Minnesota County Biological Survey description of the marsh community, special attention is given to two issues faced in Minnesota marshes - stable high water levels that reduce species diversity, often to a point at which a monotypic system evolves, and the "invasion of marshes by the non-native species narrow-leaved cattail" and its hybrids. Both of these issues will be addressed by projects named within this proposal. Nationwide, 43% of threatened or endangered plants and animals live in or depend on wetlands.

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 (UMRGLRJV) – use the mallard as a focal species. The biological model used in the UMRGLRJV 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 readily 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.

The 10,170 acres of wetland habitat that will result from this proposal would support 4,117 pairs of mallards and 203 pairs of trumpeter swans.

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:

- Protected habitats will hold wetlands and shallow lakes open to public recreation and hunting *Intensive wetland management and habitat infrastructure 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.

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

The management of enhanced wetlands and shallow lakes once 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, 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.

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

Year	Source of Funds	Step 1	Step 2	Step 3
Ongoing	Various Game and Fish funding	Area wildlife staff and shallow lake specialists will review completed projects and and management activities to determine level of success and need for any followup actions.	Standardized shallow lake assessments will be conducted on appropriate shallow lakes to document physical results of projects or management activities.	

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

Wetland restoration, along with effective management and maintenance of existing wetlands and shallow lakes is critical to provide habitat for wetland wildlife, plus the other benefits that accrue for healthy wetland ecosystems. These projects implement work identified in numerous conservation plans, including the recently produced Minnesota Prairie Conservation Plan.

How does this proposal include leverage in funds or other effort to supplement any OHF appropriation:

NA

Relationship to other funds:

- Not Listed

Describe the relationship of the funds:

Not Listed

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

Not Listed

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 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)**

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**

Accomplishment Timeline

Activity	Approximate Date Completed
Cattail control	September 30, 2020
Construction moist soil unit	June 30, 2022
Design and construct shallow lakes/wetland infrastructure	June 30, 2021
Roving Habitat Crew wetland enhancement work	June 30, 2021
Freeborn Lake fish treatment	December 31, 2020

Budget Spreadsheet

Total Amount of Request: $3,000,000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	$515,000	$0		$515,000
Contracts	$1,595,000	$0		$1,595,000
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	$160,000	$0		$160,000
Professional Services	$265,000	$0		$265,000
Direct Support Services	$85,000	$0		$85,000
DNR Land Acquisition Costs	$0	$0		$0
Capital Equipment	$160,000	$0		$160,000
Other Equipment/Tools	$0	$0		$0
Supplies/Materials	$220,000	$0		$220,000
DNR IDP	$0	$0		$0
Total	$3,000,000	$0	-	$3,000,000

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Two Natural Resources Specialists (Roving Habitat Crew)	2.00	4.00	$515,000	$0		$515,000
Total	2.00	4.00	$515,000	$0	-	$515,000

Capital Equipment

Item Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
MarshTracker	$160,000	$0		$160,000
Total	$160,000	$0	-	$160,000

Amount of Request:	$3,000,000
Amount of Leverage:	$0
Leverage as a percent of the Request:	0.00%
DSS + Personnel:	$600,000
As a % of the total request:	20.00%
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:

DNR calculates direct support services costs that are directly related to and necessary for each request based on the type of work being done and which division it's being done by.

Does the amount in the contract line include R/E work?

100% of the funding in the contract line is for R/E work.

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:

The amount requested in the travel line includes traditional travel costs of mileage, food, and lodging and it also includes funding for specialized equipment used by Roving Habitat Crews such as tracked vehicles, Bobcat-type vehicles, and heavy equipment.

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:

Activities listed in the project represent needed work to enhance/restore wetland work called for by strategic habitat plans. No other funding currently exists to do the work. For a scaled-back proposal we would identify the most critical activities and resubmit cancelled activities in a future OHF proposal.

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	22	0	0	0	22
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	10,148	0	0	0	10,148
Total	10,170	0	0	0	10,170

Table 2. Total Requested Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	$108,100	$0	$0	$0	$108,100
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	$2,891,900	$0	$0	$0	$2,891,900
Total	$3,000,000	$0	$0	$0	$3,000,000

Table 3. Acres within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	0	0	22	0	22
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	1,068	1,596	0	5,809	1,675	10,148
Total	1,068	1,596	0	5,831	1,675	10,170

Table 4. Total Requested Funding within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	$0	$0	$0	$108,100	$0	$108,100
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	$581,500	$790,600	$0	$931,100	$588,700	$2,891,900
Total	$581,500	$790,600	$0	$1,039,200	$588,700	$3,000,000

Table 5. Average Cost per Acre by Resource Type

Type	Wetlands	Prairies	Forest	Habitats
Restore	$4,914	$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	$285	$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	$4,914	$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	$544	$495	$0	$160	$351

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.

Parcel List

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

Parcels were initially evaluated and submitted by area wildlife staff or shallow lake specialists. Submissions were further reviewed by regional and central office wildlife staff.

Section 1 - Restore / Enhance Parcel List

Freeborn

Name	TRDS	Acres	Est Cost	Existing Protection?
Carex Slough Wetland Restoration	10319214	22	$105,000	Yes
Freeborn Lake Reclamation	10323211	2,222	$141,000	Yes

Freeborn/Rice

Name	TRDS	Acres	Est Cost	Existing Protection?
Owatonna Area Water Control Structures	10322202	113	$85,000	Yes

Hubbard, Wadena

Name	TRDS	Acres	Est Cost	Existing Protection?
Park Rapids Area WMA cattail management	13833214	70	$7,000	Yes

Itasca

Name	TRDS	Acres	Est Cost	Existing Protection?
Wawina Lake Enhancement	05322234	90	$60,000	Yes

Kandiyohi

Name	TRDS	Acres	Est Cost	Existing Protection?
New London Area cattail control	12234202	300	$60,000	Yes

Lac Qui Parle

Name	TRDS	Acres	Est Cost	Existing Protection?
Flinks WCS	11642236	170	$135,000	Yes

Lyon

Name	TRDS	Acres	Est Cost	Existing Protection?
Amiret WCS replacement	11040205	300	$240,000	Yes

Marshall

Name	TRDS	Acres	Est Cost	Existing Protection?
Moose River Moist Soil Unit	15840219	26	$385,000	Yes
Thief Lake Cattail Control	15840219	45	$2,000	Yes

Mille Lacs

Name	TRDS	Acres	Est Cost	Existing Protection?
Water Control Replacement-Mille Lacs WMA (Jones)	04026209	730	$145,000	Yes
Water Control Replacement-Rum River State Forest	04026234	285	$145,000	Yes

Morrison, Todd

Name	TRDS	Acres	Est Cost	Existing Protection?
Little Falls Aerial Cattail Control - Transition Zone	13031219	399	$79,800	Yes

Nicollet

Name	TRDS	Acres	Est Cost	Existing Protection?
Swan Lake Area WMA cattail control	11029236	1,200	$114,000	Yes

Polk, Red Lake

Name	TRDS	Acres	Est Cost	Existing Protection?
Crookston Cattail Control	14845211	626	$66,400	Yes

Pope

Name	TRDS	Acres	Est Cost	Existing Protection?
Glenwood Area WMA cattail control	12639222	1,150	$110,000	Yes

Roseau

Name	TRDS	Acres	Est Cost	Existing Protection?
Roseau Pool 2 Cattail Management	16343217	300	$9,000	Yes

Scott

Name	TRDS	Acres	Est Cost	Existing Protection?
Bradshaw Dike Replacement	11322215	28	$127,000	Yes

Todd

Name	TRDS	Acres	Est Cost	Existing Protection?
Grey Eagle WMA structure engineering	12733209	0	$20,000	Yes
Little Falls Cattail Control - Prairie Section	12735204	54	$10,800	Yes

Wright

Name	TRDS	Acres	Est Cost	Existing Protection?
Woodland WMA Cattail Control	11826201	40	$8,000	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

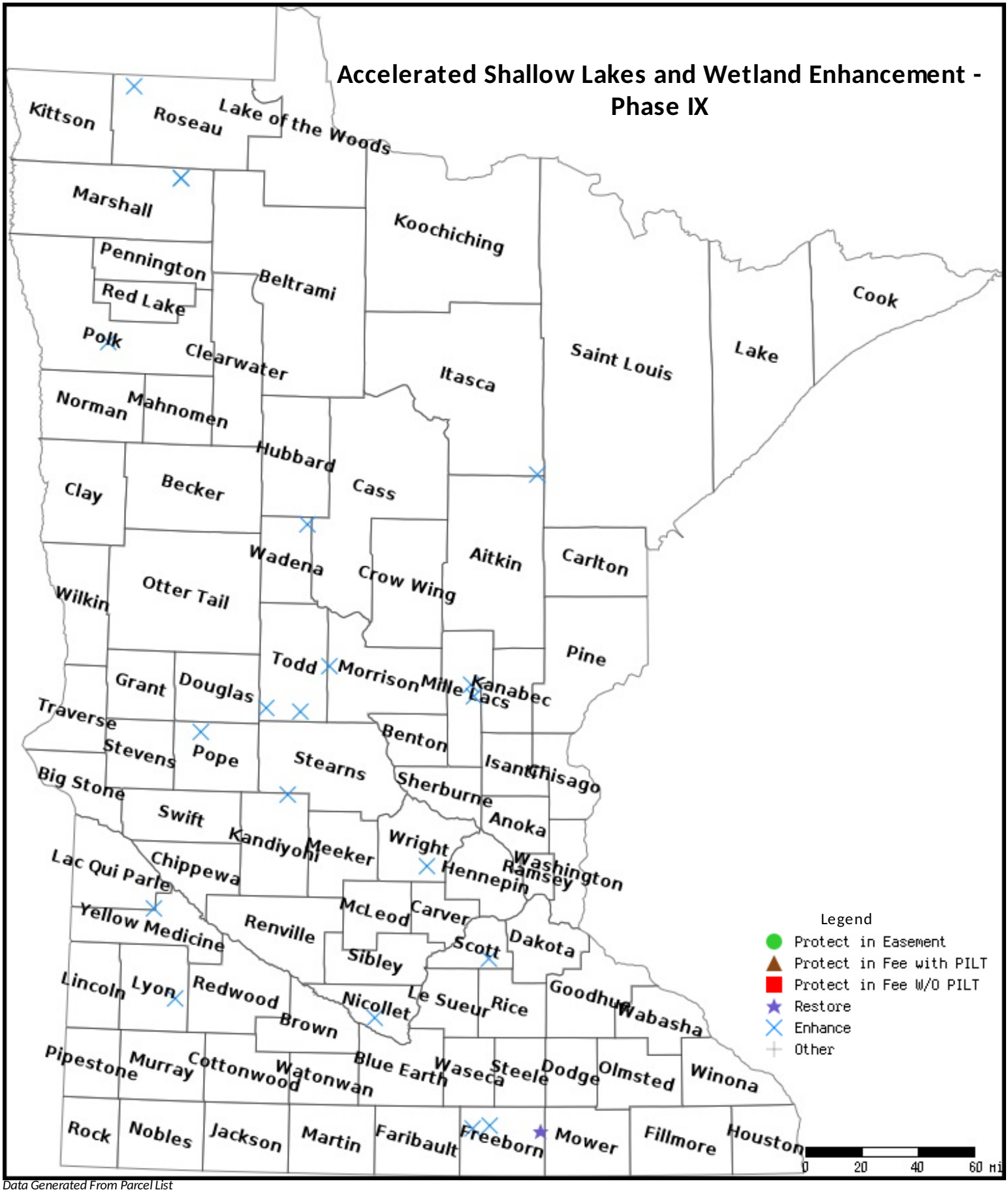
Section 2a - Protect Parcel with Bldgs

No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.

Parcel Map



Data Generated From Parcel List

Highlights from the Minnesota Department of Natural Resources' plan to recover ducks, wetlands and shallow lakes.

One million ducks
Two million acres
Three steps to success

1. Set clear goals

The Minnesota Duck Recovery Plan proposes ambitious goals in collaboration with conservation groups and state and federal agencies.

Boost the state's average breeding duck population from 636,000 to 1 million birds producing a fall population of 1.4 million birds from Minnesota.

Restore hunting opportunities that existed during the 1970s.

The bar has been set high. By 2025, we will add 600,000 acres of habitat. With support and determination, we will make the goal of 2 million acres a reality by 2056.

2. Focus on habitat

The recovery of Minnesota's wetland wildlife requires functioning prairie habitat complexes with minimum thresholds of 4 sq. miles encompassing 1000 acres of grassland and 500 acres of seasonal and permanent wetlands.

Restore long-term protection for 2 million acres of additional habitat including 64,000 wetlands covering 570,000 acres and 1.4 million acres of grassland by 2056. 600, 000 acres by 2025.

Accelerate efforts to restore 1,800 shallow lakes, including wild rice lakes by 2056.

Maximize management of all 200 shallow lakes within state Wildlife Management Areas, federal Waterfowl Production Areas , and National Wildlife Refuges, and all state Designated Wildlife Management Lakes for high quality waterfowl habitat.

Designate 30 additional lakes specifically for wildlife management.

3. Enhance teamwork

The ambitious habitat goals of the Minnesota Duck Recovery Plan calls for a coordinated effort from a diverse public and private partnership. Existing collaborative efforts such a North American Waterfowl Management Plan Joint Ventures and the Minnesota Prairie Plan's Local Technical Teams should be supported to give give strategic, effective focus to habitat implementation efforts.

Outdoor Heritage Funded wetland and shallow activities from previous appropriations

Pictue of a monotypic stand of cattails at Waterbury WMA. Following a summer burn by an OHF-funded Roving Habitat Crew, the Wildlife Managers comments were, ***"The burn at Waterbury last summer provided lots of open water this spring, it's the first time I can remember shorebirds using it, and there was better than usual waterfowl use also."***

Semis arriving with construction materials at Pelican Lake .

OHF-funded structure under construction at Swan Lake.

Pump purchased by Ducks Unlimited and transferred to the Minnesota DNR for use by the OHF-funded Roving Habitat Crews shown in operation at State Line Lake.

Before and after picture of the outlet channel at Smith Lake. Debris and vegetation had clogged the channel and impeded management until it was cleaned out by an OHF-funded Roving Habitat Crew.