



## Lessard-Sams Outdoor Heritage Council

Accelerated Shallow Lakes and Wetland Enhancement - Phase IX  
Laws of Minnesota 2017 Final Report

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### General Information

**Date:** 11/03/2022

**Project Title:** Accelerated Shallow Lakes and Wetland Enhancement - Phase IX

**Funds Recommended:** \$1,755,000

**Legislative Citation:** ML 2017, Ch. 91, Art. 1, Sec. 2, subd. 4(e)

**Appropriation Language:** \$1,755,000 in the first year is to the commissioner of natural resources to enhance and restore shallow lakes and wetland habitat statewide. A list of proposed land restorations and enhancements must be provided as part of the required accomplishment plan.

### Manager Information

**Manager's Name:** Ricky Lien

**Title:** Wetland Habitat Team Supervisor

**Organization:** MN DNR

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### Location Information

**County Location(s):** Pine, Wilkin, Washington, Mille Lacs, Meeker, McLeod, Kandiyohi, Aitkin, Stearns, Morrison, Anoka, Winona, Wright, Nicollet, Nobles, Murray, Le Sueur, Sibley, Blue Earth, Chippewa, Renville, Wabasha, Todd, Cass, Wadena, Marshall, Pennington, Roseau, Grant, Lyon, Scott and Pope.

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

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

### Activity types:

- Enhance
- Other : Survey and engineering of wetland infrastructure projects.

**Priority resources addressed by activity:**

- Wetlands

**Narrative**

**Summary of Accomplishments**

Funding provided through this appropriation enhanced 5,024 acres of wetland habitat. Eight wetland and shallow lake infrastructure projects were completed that enhanced 1,643 acres of wetland. Cattail spraying using a helicopter outfitted with an OHF-purchased spray unit and impacted impacted 1,762 acres. Work by the Region 3 Roving Habitat Crew enhanced 1,619 acres of wetland. Finally, survey and design work was initiated on four projects to prepare for future construction.

**Process & Methods**

ML2016 Accelerated Shallow Lakes and Wetland Enhancement Phase 8 entailed multiple components.

\* Engineering and Construction and Shallow Lake/Wetland Infrastructure Projects - Eight individual projects were undertaken with funding from this appropriation. One project, Moose/Willow in Aitkin County, entailed extensive cleanout of an outlet channels, plus a new water control structure leading to better water level management. Downstream channel work is necessary outlets become clogged with sediment and vegetation and water levels in shallow lakes become abnormally high. Specialized equipment known as a Cookie Cutter removed accumulated sediments and other obstructions to surveyed levels. The shallow lake returned to a lower levels with resulting habitat benefits. Seven projects - Plum Creek (Murray County), Gopher Ridge (Kandiyohi County), Sedan Pond (Pope County), Bradshaw Lake (Scott County), Rum River and Jones Pool (both at Mille Lacs WMA, Mille Lacs County), and Amiret WMA (Lyon County) - were completed and involved engineering and construction of wetland/shallow lake infrastructure such as dikes and water control structures. In all of these projects, engineering was done in-house (i.e. DNR engineers) and private contractors were used for the construction. Finally, four infrastructure projects were engineered only, with construction planned for the future. Doing this initial engineering allows us to determine project feasibility, identify construction obstacles, and obtain accurate cost estimates for materials and construction. These engineering-only projects were accomplished with in-house (i.e., DNR) engineers.

\*Cattail Spraying - A DNR helicopter has been equipped with an OHF-funded spray unit and avionics to allow it to spray invasive cattails - one of the most significant problems that impact wetlands statewide. Utilizing this helicopter, in conjunction with Roving Habitat Crew members working as ground support, significant acres of invasive cattail can be sprayed annually. Funding from this appropriation was used to purchase herbicide and pay helicopter expenses. 1,762 acres were enhanced. This operation is highly coordinated with project solicitation in late winter. Activities that have to occur before actual spraying occurs include landing site selection and mowing, ground crew (i.e. roving habitat crew members) training, herbicide purchase, coordination with DNR Law Enforcement (who have oversight of the helicopter and for whom the pilot works), permit applications, and public notice publication.

\* Roving Habitat Crews - Roving Habitat Crews are teams of DNR staff who are equipped and trained to perform habitat enhancement projects on public lands. Funding from this appropriation was provided to the Region 3 Roving Habitat Crew to enable it to perform wetland enhancement activities through the addition of two roving crew members and their associated costs for three fiscal years (FY18-FY20). Typical wetland enhancement

activities undertaken by Roving Habitat Crews include prescribed burns of wetlands, removal of invasive species and trees from wetlands, and support of shallow lake drawdowns.

### **How did the program address habitats of significant value for wildlife species of greatest conservation need, threatened or endangered species, and/or list targeted species?**

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. The 5,000 acres of wetland enhancement will provide wetland management actions identified to support SGCN, including reversal of wetland degradation 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 were directly addressed by the major cattail control activities involving the Roving Habitat Crew, along with water level management undertaken through channel cleanouts or that will now be possible through because of newly installed wetland infrastructure projects.

### **How did the program use science-based targeting that leveraged or expanded corridors and complexes, reduced fragmentation, or protected areas 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.

### **Explain Partners, Supporters, & Opposition**

Ducks Unlimited is a valuable partner undertaking wetland habitat work in Minnesota. Prior to OHF proposal submission, DNR and DU staff confer to review projects to ensure project coordination and that the partner best suited to bringing about success is working on each project.

### **Exceptional challenges, expectations, failures, opportunities, or unique aspects of program**

As has been previously stated, wetland habitat projects are some of the mostly challenging to work on due to engineering challenges, the time that may be involved, permits, and expense. A continuing challenge is the ability to obtain timely engineering assistance from DNR engineers. We will continue to explore options for our engineering needs.

Additional challenges that have arisen include rising costs of raw materials needed for infrastructure projects and, of course, the hurdles brought about by the pandemic (DNR hiring freeze and work restrictions).

### **What other fund may contribute to this program?**

- Other : Prairie Pothole Joint Venture

### **How were the funds used to advance the program?**

The Prairie Pothole Joint Venture (PPJV) contacted the Minnesota DNR about available funds for wetland work in the prairie portion of Minnesota. We were granted \$60,000, which was used in conjunction with \$100,000 of OHF money from this appropriation at the Gopher Ridge project in Kandiyohi County.

**What is the plan to sustain and/or maintain this work after the Outdoor Heritage Funds are expended?**

DNR property managers are tasked with evaluating their properties and determining ongoing and future maintenance work. DNR Shallow Lakes Program staff perform standardized assessments to evaluate the effectiveness of shallow lake projects and document their findings to compare habitat quality over time. Additionally, the DNR is initiating a major research project to evaluate ongoing cattail control.

**Actions to Maintain Project Outcomes**

<b>Year</b>	<b>Source of Funds</b>	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>
2023	Game and Fish	Area and Shallow Lakes staff monitor project effectiveness.	-	-

## Budget

### Totals

Item	Requested	AP Amount	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$385,000	\$278,000	\$277,700	-	-	-	\$385,000	\$277,700
Contracts	\$1,137,700	\$845,700	\$812,000	-	\$60,000	PPJV	\$1,137,700	\$872,000
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	\$120,000	\$47,000	\$47,400	-	-	-	\$120,000	\$47,400
Professional Services	-	\$465,000	\$434,100	-	-	-	-	\$434,100
Direct Support Services	\$63,000	\$45,000	\$44,300	-	-	-	\$63,000	\$44,300
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	-	\$4,000	\$3,500	-	-	-	-	\$3,500
Supplies/Materials	\$49,300	\$70,300	\$78,900	-	-	-	\$49,300	\$78,900
DNR IDP	-	-	-	-	-	-	-	-
<b>Grand Total</b>	<b>\$1,755,000</b>	<b>\$1,755,000</b>	<b>\$1,697,900</b>	<b>-</b>	<b>\$60,000</b>	<b>-</b>	<b>\$1,755,000</b>	<b>\$1,757,900</b>

### Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Natural Resource Specialist for Roving Habitat Crew	2.0	3.0	\$277,700	-	-	\$277,700

### Direct Support Services

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

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

**Explain any budget challenges or successes:**

Flexibility is helpful in dealing with complex programmatic appropriations focused on wetlands and shallow lakes. The ability to add and subtract parcels and then obtain needed budget amendments make it possible to navigate the challenges posed by complex wetland projects.

Recent inflation of construction materials, pandemic work restrictions and the DNR hiring freeze added to the complexity of work done with this appropriation.

**Total Revenue:** \$0

**Revenue Spent:** \$0

**Revenue Balance:** \$0

**Of the money disclosed above, what are the appropriate uses of the money:**



## Output Tables

### Acres by Resource Type (Table 1)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Acres (AP)	Total Acres (Final)
Restore	0	0	0	0	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0
Enhance	5,135	5,024	0	0	0	0	0	0	5,135	5,024
<b>Total</b>	<b>5,135</b>	<b>5,024</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,135</b>	<b>5,024</b>

### Total Requested Funding by Resource Type (Table 2)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Funding (AP)	Total Funding (Final)
Restore	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	\$1,755,000	\$1,697,900	-	-	-	-	-	-	\$1,755,000	\$1,697,900
<b>Total</b>	<b>\$1,755,000</b>	<b>\$1,697,900</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$1,755,000</b>	<b>\$1,697,900</b>

### Acres within each Ecological Section (Table 3)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0	0	0
Enhance	797	448	778	442	0	557	1,965	1,376	1,595	2,201	5,135	5,024
<b>Total</b>	<b>797</b>	<b>448</b>	<b>778</b>	<b>442</b>	<b>0</b>	<b>557</b>	<b>1,965</b>	<b>1,376</b>	<b>1,595</b>	<b>2,201</b>	<b>5,135</b>	<b>5,024</b>

## Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/ Urban (AP)	Metro/ Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Fore st (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liabilit y	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liabilit y	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easeme nt	-	-	-	-	-	-	-	-	-	-	-	-
Enhanc e	\$403,600	\$175,500	\$202,400	\$46,400	-	\$147,400	\$637,700	\$578,000	\$511,300	\$750,600	\$1,755,000	\$1,697,900
<b>Total</b>	<b>\$403,600</b>	<b>\$175,500</b>	<b>\$202,400</b>	<b>\$46,400</b>	<b>-</b>	<b>\$147,400</b>	<b>\$637,700</b>	<b>\$578,000</b>	<b>\$511,300</b>	<b>\$750,600</b>	<b>\$1,755,000</b>	<b>\$1,697,900</b>

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

## Outcomes

### Programs in forest-prairie transition region:

- Improved aquatic habitat indicators ~ 442 acres of shallow lakes/wetlands in the forest-prairie transition region were enhanced with this appropriation. Cattail control, improved water level management provided by upgraded infrastructure, and the other implemented management actions should benefit waterfowl and other wetland wildlife. Besides just the additional acreage of wetlands being impacted, annual waterfowl surveys may show an impact in waterfowl numbers. Surveys of waterfowl hunters may show an improvement in hunter satisfaction as they find improved wetlands to hunt and, hopefully, more ducks.
- Wetland and upland complexes will consist of native prairies, restored prairies, quality grasslands, and restored shallow lakes and wetlands ~ 442 acres of shallow lakes/wetlands in the forest-prairie transition region were enhanced with this appropriation. Cattail control, improved water level management provided by upgraded infrastructure, and the other implemented management actions should benefit waterfowl and other wetland wildlife. Besides just the additional acreage of wetlands being impacted, annual waterfowl surveys may show an impact in waterfowl numbers. Surveys of waterfowl hunters may show an improvement in hunter satisfaction as they find improved wetlands to hunt and, hopefully, more ducks.

### Programs in metropolitan urbanizing region:

- Protected habitats will hold wetlands and shallow lakes open to public recreation and hunting ~ 448 acres of shallow lakes/wetlands in the metropolitan urbanizing region were enhanced with this appropriation. Cattail control, improved water level management provided by upgraded infrastructure, and the other implemented management actions should benefit waterfowl and other wetland wildlife. Besides just the additional acreage of wetlands being impacted, annual waterfowl surveys may show an impact in waterfowl



*numbers. Surveys of waterfowl hunters may show an improvement in hunter satisfaction as they find improved wetlands to hunt and, hopefully, more ducks.*

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

- *Improved availability and improved condition of habitats that have experienced substantial decline ~ 2,201 acres of shallow lakes/wetlands in the forest-prairie transition region were enhanced with this appropriation. Cattail control, improved water level management provided by upgraded infrastructure, and the other implemented management actions should benefit waterfowl and other wetland wildlife. Besides just the additional acreage of wetlands being impacted, annual waterfowl surveys may show an impact in waterfowl numbers. Surveys of waterfowl hunters may show an improvement in hunter satisfaction as they find improved wetlands to hunt and, hopefully, more ducks.*

#### **Programs in prairie region:**

- *Protected, restored, and enhanced shallow lakes and wetlands ~ 1,376 acres of shallow lakes/wetlands in the prairie region were enhanced with this appropriation. Cattail control, improved water level management provided by upgraded infrastructure, and the other implemented management actions should benefit waterfowl and other wetland wildlife. Besides just the additional acreage of wetlands being impacted, annual waterfowl surveys may show an impact in waterfowl numbers. Surveys of waterfowl hunters may show an improvement in hunter satisfaction as they find improved wetlands to hunt and, hopefully, more ducks.*

## Parcels

### Sign-up Criteria?

No

### Restore / Enhance Parcels

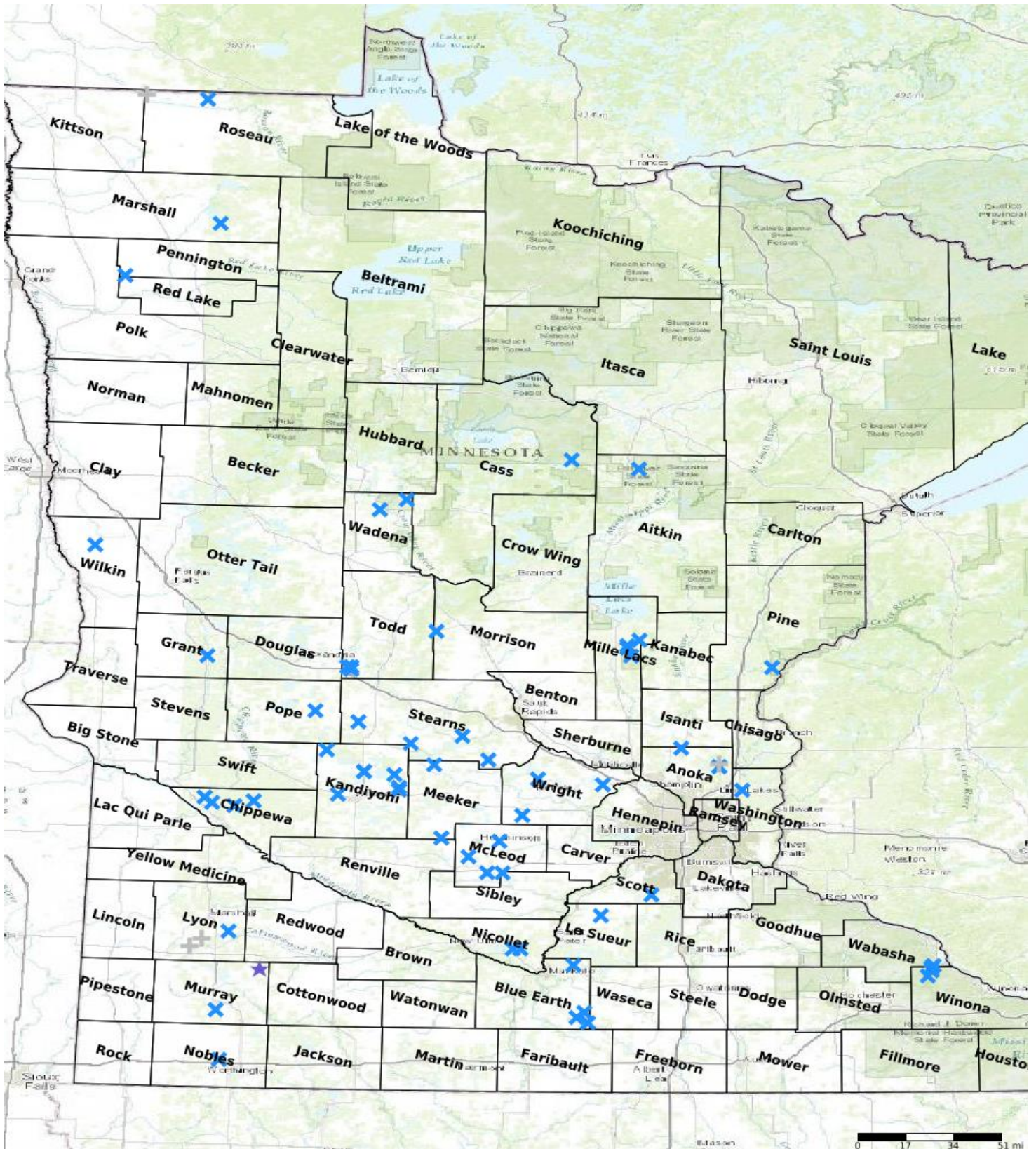
Name	County	TRDS	Acres	Est Cost	Existing Protection
Willow Pool Water Control Structure and Ditch Cleanout	Aitkin	05225232	256	\$198,673	Yes
Carlos Avery WMA: Carlos Avery Unit	Anoka	03322233	243	\$43,033	Yes
Bethel WMA	Anoka	03424226	151	\$26,740	Yes
Carlos Avery WMA: Carlos Avery Unit	Anoka	03322233	1	\$177	Yes
Lembke	Blue Earth	10525224	18	\$1,812	Yes
Gilfillan Lake	Blue Earth	10925232	14	\$1,409	Yes
Lost Marsh	Blue Earth	10625235	98	\$9,863	Yes
Pick	Blue Earth	10525209	40	\$4,026	Yes
Big Rice Lake	Cass	14126225	18	\$1,812	Yes
Benderberg Hwy 40	Chippewa	11941219	27	\$2,717	Yes
Clair T. Rollings Chippewa	Chippewa	11941233	9	\$906	Yes
Numo	Chippewa	11840204	33	\$3,321	Yes
Grace Marshes West	Chippewa	11939229	13	\$1,308	Yes
Barrett	Grant	12841219	28	\$2,818	Yes
Gopher Ridge	Kandiyohi	11936212	17	\$102,677	Yes
North Wheeler bay	Kandiyohi	12033234	4	\$403	Yes
Ringo Nest	Kandiyohi	12134230	5	\$503	Yes
Dietrich Lange South	Kandiyohi	12133233	28	\$2,818	Yes
Hubbard channel	Kandiyohi	12033227	8	\$805	Yes
Oleander North	Kandiyohi	12236216	19	\$1,912	Yes
Ringo Nest	Kandiyohi	12134230	10	\$1,771	Yes
Shea's Lake	Le Sueur	11224228	17	\$1,711	Yes
Amiret WCS	Lyon	11040205	300	\$242,658	Yes
Elm Lake	Marshall	15541204	304	\$30,596	Yes
Ras-Lynn	McLeod	11530203	14	\$1,409	Yes
Kohl's Slough	McLeod	11429204	17	\$1,711	Yes
Halva Marsh	McLeod	11629201	8	\$805	Yes
Teal Scurry	Meeker	12131207	5	\$885	Yes
Mille Lacs - Townhall	Mille Lacs	04026216	102	\$10,266	Yes
Mille Lacs WMA - Wetland Burn	Mille Lacs	04125229	723	\$128,035	Yes
Jones Pool WCS - Mille Lacs	Mille Lacs	04026209	730	\$186,760	Yes
Rum River State Forest WCS	Mille Lacs	04026234	285	\$186,760	Yes
Little Elk WMA	Morrison	13031230	17	\$3,011	Yes
Plum Creek WMA	Murray	10839215	4	\$6,192	Yes
North Badger	Murray	10541202	1	\$101	Yes
Middle Lake 2	Nicollet	11028234	12	\$2,125	Yes
Little Lake	Nicollet	11028236	6	\$1,063	Yes
Herlein-Boote	Nobles	10241212	4	\$403	Yes
Pembina 1	Pennington	15245220	313	\$31,502	Yes
Chengwatana State Forest	Pine	03920223	32	\$5,667	Yes
Sedan Pond Structure, Tree Removal, Cattail Spraying	Pope	12537236	32	\$53,329	Yes
Boon Lake Slough	Renville	11731233	41	\$4,126	Yes
Roseau River WMA	Roseau	16342211	104	\$10,467	Yes
Bradshaw Dike Replacement	Scott	11322215	28	\$88,576	Yes
Bob Gehlen	Sibley	11428206	13	\$1,308	Yes
Discovery 1	Stearns	12330217	4	\$708	Yes
Zion 1	Stearns	12332231	6	\$1,063	Yes

Alice Hamm 1	Stearns	12229233	4	\$708	Yes
North Fork WMA	Stearns	12435223	22	\$3,896	Yes
Spohn	Todd	12735205	8	\$805	Yes
West Union	Todd	12735209	40	\$4,026	Yes
Quistorff	Todd	12735204	31	\$3,120	Yes
Dorer Pool 1	Wabasha	10910236	177	\$17,814	Yes
Yaeger Lake WMA	Wadena	13734203	7	\$705	Yes
Huntersville WMA	Wadena	13833214	48	\$4,831	Yes
Paul Hugo Farms WMA	Washington	03121216	3	\$531	Yes
Manston MSU	Wilkin	13546230	129	\$12,983	Yes
County Line Pool	Winona	10810201	14	\$1,409	Yes
Whitewater WMA	Winona	10810223	358	\$127,327	Yes
Appleby Pool	Winona	10810212	8	\$805	Yes
Hidden Marsh 1	Wright	12027203	3	\$531	Yes
School Lake	Wright	12024216	4	\$708	Yes
Grass Lake	Wright	11828213	15	\$708	Yes

### Other Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Carlos Avery Pool 1 Design	Anoka	03322228	0	\$12,538	Yes
Jacobson Design	Lyon	11041219	0	\$44,028	Yes
McKay Lake, Lyon WMA design	Lyon	10942203	0	\$20,570	Yes
County Line Phase 2 Engineering	Roseau	16344206	0	\$27,232	Yes

# Parcel Map



- Protect in Easement
- ▲ Protect in Fee with PILT
- Protect in Fee W/O PILT
- ★ Restore
- ✕ Enhance
- ⊕ Other