Lessard-Sams Outdoor Heritage Council

Shallow Lakes and Wetland Enhancement - Phase 10

Laws of Minnesota 2018 Final Report

General Information

Date: 11/02/2023

Project Title: Shallow Lakes and Wetland Enhancement - Phase 10

Funds Recommended: $2,759,000

Legislative Citation: ML 2018, Ch. 208, Art. 1, Sec. 2, subd 4(e)

Appropriation Language: $2,759,000 the second 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

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Location Information

County Location(s): Kandiyohi, Cottonwood, Yellow Medicine, Lyon, Scott, Kittson, Big Stone, Nicollet, Anoka, Freeborn, Rice, Le Sueur, Aitkin, Todd, St. Louis, Blue Earth, Fillmore, Nobles, Murray, Wright, Polk, Pope, Redwood, Meeker, Stevens, Chippewa, Martin, Watonwan, McLeod, Brown, Stearns, Lincoln and Swift.

Eco regions in which work will take place:

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

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Wetlands

Narrative

Summary of Accomplishments

Funding through this appropriation enhanced 4,745 acres of wetland habitat. Four wetland/shallow lake infrastructure projects were competed that enhanced 1,020 acres and and another project restored 50 acres. Wetland management actions (wild rice seeding, a significant drawdown, and a major large prescribed burn) enhanced 1,997 acres. Work by the Region 3 Roving Habitat Crew enhanced 1,678 wetland acres through work on prescribed burns, drawdowns, herbicide applications, and removal of woody vegetation. Finally, survey and design work on 16 projects gathered information for possible future construction. A new shallow lakes program position was funded in Windom,

Process & Methods

ML18 Shallow Lake and Wetlands Enhancements Phase 10 accomplishments include engineering and construction of individual projects, stand-alone engineering projects, specific management actions leading to wetland enhancement, Roving Habitat Crew work and establishment of a new Shallow Lake Specialist in Windom.

Engineering and Construction Projects - Projects were undertaken to provide shallow lake and wetland enhancement totaling 1,020 acres through the engineering and construction of a water control structure replacement at Albion WMA in Wright County (300 acres) and another water control structure at Carlos Avery WMA Pool 9 (400 acres), a fish barrier at Shakopee Lake in Wright County (200 acres), and work at Lac qui Parle WMA to improve water management at the Killen Moist Soil Unit (120 acres). Fifty acres of wetlands were restored in Cottonwood County.

Stand-alone Engineering - Shallow lake and wetland projects can be complex and require detailed surveys and engineering. Stand-alone engineering projects provide the initial work to guide future construction, establish detailed cost estimates, and identify potential issues. Sixteen projects had stand-alone engineering and ranged from simple feasibility studies to in-depth surveys and plan development. Nine of these projects were in the Prairie Ecosection, 2 in the Forest-Prairie Ecosection, 2 in the Metro Ecosection, 2 in the Northern Forest Ecosection, and 1 in the Southeast Forest Ecosection.

Management Actions - A drawdown of Gilfillan Lake in Blue Earth County enhanced 210 acres. The property manager reported a very positive vegetation response following this drawdown. A large prescribed burn of wetlands at Beaches WMA in Kittson County resulted in 1,766 acres of enhancement. Burns of this size are possible through the use of aerial ignition (lighting fires with helicopters). In Washburn Lake in Aitkin County 21 acres were enhanced through the seeding of 1,064 lbs. of wild rice.

Roving Habitat Crews - Roving Habitat Crews are teams of highly trained staff who are equipped to perform habitat enhancement projects on public lands. Funding from this appropriation was provided to the Region 4 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. Typical wetland enhancement activities undertaken by Roving Habitat Crews include prescribed burns of wetlands, removal of invasive species and trees, and support of shallow lake drawdowns. Work by this Roving Habitat Crew directly impacted 1,678 acres.

Shallow Lakes Program - The Shallow Lakes Program is a high-visibility program that uses single-focused Shallow Lakes Specialists to (1) perform standardized assessments of shallow lakes and (2) to bring about needed management or infrastructure changes where needed to enhance shallow lake habitat. Work by these Specialists guides shallow lake work by both DNR Wildlife staff and NGOs. Funding from this appropriation allowed the addition of a Shallow Lake Specialists at Windom. During the five years funded by this appropriation, this specialist reported working on standardized shallow lake assessments, feasibility studies, updating management plans, survey work with a Trimble, and fish surveys.

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 almost 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 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. Added to this, Minnesota now has an established Wetland Management Program that puts dedicated staff to work evaluating and bring management to wetland complexes. The projects in this proposal were proposed by area wildlife staff and Shallow Lake and Wetland Managment staff, with review provided by regional and program supervisors to ensure that projects are appropriate and meet goals.

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

More than precious appropriations, this program experienced COVID-related challenges. The DNR hiring freeze left vacancies in important spots. Additionally, supply chain issues drove up the price of raw materials, especially those needed for large infrastructure projects such as steel and concrete.

What other dedicated funds may collaborate with or contribute to this program?

- N/A

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

Area Wildlfe staff, along with Shallow Lakes and Wetland Management Program Specialists, will monitor completed projects to ensure effectiveness and longevity. Appropriate funds for maintenance such as state duck stamp dollars will be sought as needed for maintenance.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2024	Game and Fish funds	Monitor, maintain, and manage completed projects	-	-

Budget

Totals

Item	Requested	AP Amount	Spent	Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	$718,000	$582,000	$596,900	-	-	-	$718,000	$596,900
Contracts	$1,094,000	$1,122,000	$851,300	-	-	-	$1,094,000	$851,300
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	$195,000	$176,000	$159,800	-	-	-	$195,000	$159,800
Professional Services	$476,000	$649,000	$609,800	-	-	-	$476,000	$609,800
Direct Support Services	$96,000	$96,000	$105,900	-	-	-	$96,000	$105,900
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	$78,000	$65,000	$70,000	-	-	-	$78,000	$70,000
Other Equipment/Tools	$36,000	$23,000	$23,500	-	-	-	$36,000	$23,500
Supplies/Materials	$66,000	$46,000	$46,000	-	-	-	$66,000	$46,000
DNR IDP	-	-	-	-	-	-	-	-
Grand Total	**$2,759,000**	**$2,759,000**	**$2,463,200**	**-**	**-**	**-**	**$2,759,000**	**$2,463,200**

Personnel

Position	Annual FTE	Years Working	Amount Spent	Leverage	Leverage Source	Total
Roving Habitat Crew - Region 4	2.0	3.0	$345,000	-	-	$345,000
Shallow Lakes Specialist - Windom	1.0	5.0	$251,900	-	-	$251,900

Capital Equipment

Item	Amount Spent	Leverage	Leverage Source	Total
boat/trailer/motor for Shallow Lakes Specialist - Windom	-	-	-	-
UTV (for mounting Trimble survey unit)	-	-	-	-
Trimble survey unit	$70,000	-	-	$70,000

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 is determined by a 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:

The COVID-related supply chain shortages and inflation caused substantial issues. On the plus side, it is extremely valuable to have the ability to add, subtract or change parcels within this appropriation to address challenges and take advantage of opportunities that are presented unexpectedly.

Total Revenue: $0

Revenue Spent: $0

Revenue Balance: $0

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

- E. This is not applicable as there was no revenue generated.

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	73	50	0	0	0	0	0	0	73	50
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	25,224	4,695	0	0	0	0	0	0	25,224	4,695
Total	**25,297**	**4,745**	**0**	**0**	**0**	**0**	**0**	**0**	**25,297**	**4,745**

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	$160,600	$155,100	-	-	-	-	-	-	$160,600	$155,100
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	$2,598,400	$2,308,100	-	-	-	-	-	-	$2,598,400	$2,308,100
Total	**$2,759,000**	**$2,463,200**	**-**	**-**	**-**	**-**	**-**	**-**	**$2,759,000**	**$2,463,200**

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	73	50	0	0	73	50
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	900	918	21,720	1,766	10	0	2,594	1,990	0	21	25,224	4,695
Total	**900**	**918**	**21,720**	**1,766**	**10**	**0**	**2,667**	**2,040**	**0**	**21**	**25,297**	**4,745**

Total Requested Funding within each Ecological Section (Table 4)

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	-	-	-	-	-	-	$160,600	$155,100	-	-	$160,600	$155,100
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	$590,500	$370,700	$246,600	$106,600	$51,800	$4,400	$1,688,800	$1,812,100	$20,700	$14,300	$2,598,400	$2,308,100
Total	**$590,500**	**$370,700**	**$246,600**	**$106,600**	**$51,800**	**$4,400**	**$1,849,400**	**$1,967,200**	**$20,700**	**$14,300**	**$2,759,000**	**$2,463,200**

Target Lake/Stream/River Feet or Miles

Explain the success/shortage of acre goals

The shortage of acres is explained by one project, a prescribed burn of a wetland using aerial ignition (i.e. lighting with a helicopter). Past attempts at this work in far NW Minnesota were successful, but are dependent on a perfect storm of conditions matching up (staff, weather and on-the-ground conditions). The initial proposal anticipated doing two or three of these prescribed wetland burns totaling 20,000 acres. In the end, one burn was successfully pulled off. It enhanced 5800 acres, but only one-third of these acres were attributed to this appropriation, the rest being allocated to the Roving Crew.

Outcomes

Programs in forest-prairie transition region:

- Protected, restored, and enhanced nesting and migratory habitat for waterfowl, upland birds, and species of greatest conservation need ~ *1766 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 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:

- Game lakes are significant contributors of waterfowl, due to efforts to protect uplands adjacent to game lakes ~ *918 acres of shallow lakes/wetlands in the metropolitan region were enhanced with this appropriation. Cattail control, improved water level management provided by upgraded infrastructure, and*

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 ~ *21 acres of shallow lakes/wetlands in the northern forest region were enhanced with this appropriation. Statewide, cattail control, improved water level management provided by upgraded infrastructure, and 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 ~ *2040 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 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 southeast forest region:

- Healthier populations of endangered, threatened, and special concern species as well as more common species ~ *No acres were restored or enhanced in this region. Money spent was for engineering only.*

Parcels

Sign-up Criteria?
No

Restore / Enhance Parcels

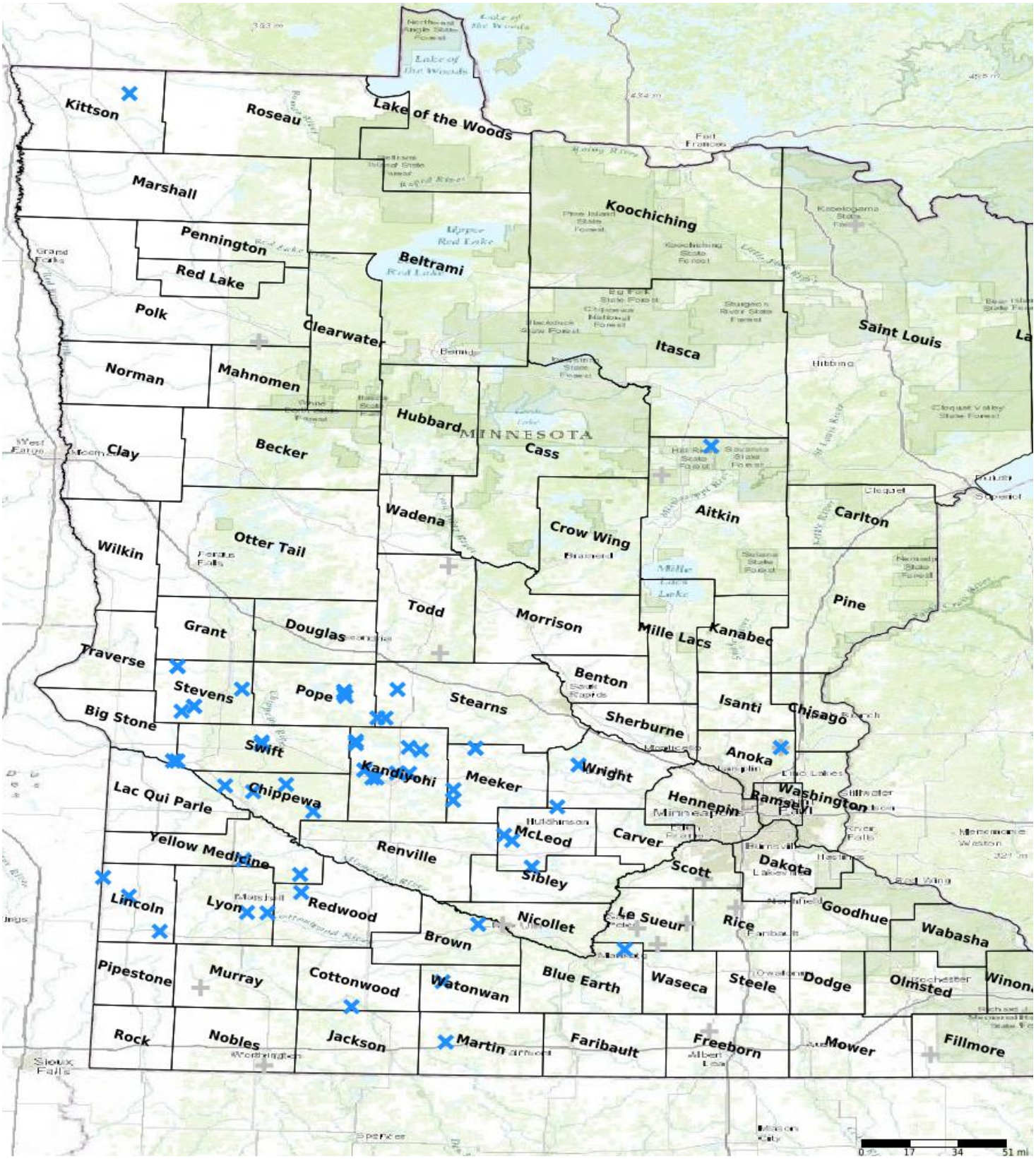
Name	County	TRDS	Acres	Est Cost	Existing Protection
Washburn Wild Rice Seeding	Aitkin	05225224	21	$4,803	Yes
Carlos Avery Pool 9	Anoka	03322228	400	$106,746	Yes
Lac Qui Parle WMA: Killen MSU	Big Stone	12044213	5	$1,401	Yes
Lac Qui Parle WMA: Killen MSU	Big Stone	12044213	37	$10,688	Yes
Killen Moist Soil Unit	Big Stone	12044214	120	$505,370	Yes
Lac Qui Parle WMA: Killen MSU	Big Stone	12044214	39	$11,454	Yes
Gilfilin Drawdown	Blue Earth	10925232	210	$5,000	Yes
Rosenau-Lambrecht WMA	Brown	11031217	25	$7,357	Yes
Byholt Marsh	Chippewa	11840207	28	$8,158	Yes
Lac Qui Parle WMA:Sanboe Subunit	Chippewa	11942236	18	$5,156	Yes
Grace Marshes (south) WMA	Chippewa	11939228	2	$692	Yes
Franko WMA	Chippewa	11738215	1	$291	Yes
String Lakes WMA Tracts 1/11 Wetland Restorations	Cottonwood	10536229	50	$148,392	Yes
Rau Prairie Pothole WMA	Kandiyohi	11935207	3	$994	Yes
Willmar WMA	Kandiyohi	12035236	7	$1,916	Yes
Mamre WMA	Kandiyohi	12036227	2	$586	Yes
Cabinrock WMA	Kandiyohi	12236232	8	$2,331	Yes
Cabinrock WMA: Tract 6	Kandiyohi	12136205	5	$1,457	Yes
New London WMA	Kandiyohi	12134213	1	$291	Yes
Mamre WMA	Kandiyohi	12036227	3	$874	Yes
New London State Fish Hatchery	Kandiyohi	12134209	10	$2,856	Yes
Gopher Ridge WMA	Kandiyohi	11936212	1	$264	Yes
Kandi WMA	Kandiyohi	12034233	3	$947	Yes
Aerial Ignition for Prescribed Wetland Burn (Beaches Lake WMA)	Kittson	16246210	1,766	$16,708	Yes
Sokota WMA	Lincoln	11346231	26	$7,628	Yes
Tyler WMA	Lincoln	10944209	73	$21,201	Yes
Anderson Lake WMA	Lincoln	11145206	260	$75,788	Yes
Meadow Creek WMA	Lyon	11141236	31	$8,920	Yes
SE Clifton WMA	Lyon	11140235	58	$16,906	Yes
Four Corners WMA	Martin	10332231	5	$1,394	Yes
Penn WMA	McLeod	11429228	1	$291	Yes
Ras-Lynn WMA	McLeod	11630229	6	$1,792	Yes
Ras-Lynn WMA	McLeod	11530203	2	$542	Yes
Teal Scurry WMA	Meeker	12131207	2	$524	Yes
Teal Scurry WMA	Meeker	12131207	5	$1,495	Yes
Popular WMA	Meeker	11932232	2	$692	Yes
Rodewald WMA	Meeker	11832220	12	$3,496	Yes
Sedan Pond WMA	Pope	12537226	6	$1,748	Yes
Sedan WMA	Pope	12437202	1	$166	Yes
Sedan Ponds WMA	Pope	12537235	1	$187	Yes
Phylis Voosen WMA	Redwood	11238219	11	$3,205	Yes
Tamarac WMA	Stearns	12335218	1	$206	Yes
Padua WMA	Stearns	12535224	1	$223	Yes
Edward Raymond Mohs WMA	Stearns	12335216	7	$2,106	Yes
Eldorado WMA	Stevens	12644213	13	$3,673	Yes
Eldorado WMA	Stevens	12644213	82	$24,015	Yes
Alberta WMA	Stevens	12443234	1	$291	Yes

Selk WMA	Stevens	12541227	95	$27,709	Yes
Eul WMA	Stevens	12343207	111	$32,385	Yes
Alberta WMA: South east unit	Stevens	12443234	93	$27,078	Yes
Danvers WMA	Swift	12140209	74	$21,488	Yes
Danvers WMA: East Unit	Swift	12140204	487	$141,913	Yes
Ewy Lake WMA	Watonwan	10633201	2	$627	Yes
Shakopee Lake Fish Barrier Lake Enhancement	Wright	11828233	200	$120,002	Yes
Albion WMA Willima Lake Water Control Structure Enhancement	Wright	12027208	300	$98,684	Yes
Curtis Lake WMA	Yellow Medicine	11338218	8	$2,337	Yes
Spellman Lake WMA	Yellow Medicine	11441223	4	$1,291	Yes

Other Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
White Elk Lake engineering	Aitkin	05027213	0	$6,966	Yes
Carlos Avery Diamond Structure Engineering	Anoka	03322228	0	$6,192	Yes
Water Control Structure - Upper Iowa River WMA - feasibility	Fillmore	10213223	0	$4,163	Yes
Manchester WMA Water Control Structure Engineering	Freeborn	10322202	0	$862	Yes
Dora Lake Feasibility	Le Sueur	11023211	0	$2,168	Yes
Scotch Lake Feasibility and Design	Le Sueur	11025223	0	$20,321	Yes
Earl Swain WMA engineering	Le Sueur	10924222	0	$64,955	Yes
Chandler WMA Moon Slough Water Control Feasibility Slayton	Murray	10642230	0	$1,962	Yes
Fritsche Creek Engineering	Nicollet	11030217	0	$25,542	Yes
Wachter WMA Wetland Enhancement Feasibility Slayton	Nobles	10140223	0	$17,736	Yes
Kroening Marsh Engineering	Polk	14741225	0	$21,638	Yes
Paulson Marsh Water Control Structure Engineering	Rice	11121211	0	$10,919	Yes
Bradshaw Lake WMA Dike engineering	Scott	11322216	0	$17,951	-
Pat Zakovitch - engineering	St. Louis	06618218	0	$1,871	Yes
Gray Eagle Upper Impoundment Design	Todd	12733210	0	$35,107	Yes
Staples Dike Rehab Design	Todd	13333225	0	$50,304	Yes

Parcel Map



- Protect in Easement
- Protect in Fee with PILT
- Protect in Fee W/O PILT
- Restore
- Enhance
- Other