

Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2012 Accomplishment Plan



Date: December 27, 2016

Program or Project Title: Accelerated Shallow Lakes and Wetlands Enhancement , Phase IV

Funds Recommended: \$ 3,870,000

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Legislative Citation: ML 2012, Ch. 264, Art. 1, Sec. 2, Subd. 4(e)

Appropriation Language: \$3,870,000 in the second year is to the commissioner of natural resources to develop engineering designs and complete construction to enhance shallow lakes and wetlands. A list of proposed restorations and enhancements must be provided as part of the required accomplishment plan. Work must be completed within three years of the effective date of this article.

County Locations: Aitkin, Benton, Freeborn, Isanti, Itasca, Lac qui Parle, Lincoln, Lyon, Marshall, Mille Lacs, Roseau, Todd, Wilkin, and Yellow Medicine.

Regions in which work will take place:

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

Activity types:

- Enhance

Priority resources addressed by activity:

- Wetlands

Abstract:

This proposal will enhance the habitat quality of more than 20,000 acres of wetlands and shallow lakes by focusing on pre-design, design, construction and intensive management of basins.

Design and scope of work:

Design and Scope of Work

Approximately 30 species of waterfowl are regular migrants through Minnesota. More than a dozen breed and nest in Minnesota. While each of these species has its own particular habitat needs the common bond is a dependence on wetland habitat for survival. Meeting the needs of these waterfowl requires a complex of wetland sizes and types ranging from temporary and seasonal wetlands to large permanent shallow lakes.

Minnesota's breeding waterfowl go through five life stages in our state: Breeding, Nesting, Brood Rearing, Molting, and Migration. Each life

stage has its own characteristic habitat needs.

For example, for most species, especially dabbling ducks, the number of breeding pairs in the spring is driven by the number of small wetlands. The small size helps reduce disturbance by other ducks and the abundant wetland invertebrates they provide are critical to providing the fat, protein, and calcium needed by hens as they prepare for egg laying.

Nesting dabbling duck hens and some diver species require adequate upland cover for actual nesting but are dependent on nearby wetlands for continuing nutrition throughout the egg laying and incubation period. High quality shallow lakes and wetlands fill this need. Seasonal wetlands are particularly critical for dabbling ducks. Over water nesting species depend on wetlands and shallow lakes with a good interspersed of emergent vegetation for nesting sites and nesting material.

Food is critical for the survival of growing ducklings and molting hens. Seasonal wetlands fill this critical role during wet years while semi-permanent wetlands and shallow lakes increase in importance as the summer progresses. Regardless of the wetland type, poor plant and invertebrate quality due to invasive fish and nutrient loading can negate the expected benefits.

Food and protection from disturbance are the critical elements needed to attract and hold waterfowl during fall migration. Wetland quality and depth are critical drivers of wetland based food resources. Large basins provide more inherent protection from disturbance although wetland and shallow lake based refuges are very important.

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 the 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.

High quality shallow lakes and wetlands have clear water and abundant rooted aquatic vegetation. Emergent aquatic plants such as rushes and wild rice provide protective cover from weather and predators as well as over-water nesting habitat. Submergent aquatic plants provide food in the form of seeds and tubers and critical habitat for aquatic invertebrates. Very shallow seasonal wetlands can be critical sources of invertebrates and nutritious plant seeds during spring, early summer and fall, particularly for dabbling ducks.

The quality of shallow lakes and wetlands providing wildlife habitat has declined markedly due to landscape changes, increased runoff carrying sediment and nutrients, and invasive plant and fish species. Only about one prairie wetland in five exhibits good quality vegetation while just under a third provide good habitat for invertebrates. While wetlands in the forest-prairie transition fare better with a little fewer than half providing good habitat for invertebrates they actually do a bit worse for aquatic plants due to invasive species.

The habitat quality of these shallow lakes and wetlands can be markedly improved by installing fish barriers where needed and aggressively managing water levels to meet management objectives. This proposal applies scientific assessment to diagnose specific habitat problems and recommend treatments (Pre-design), engineering design of dikes, water control structures, and fish barriers (Design), installing the design elements (Construction), and intensifying the application of management techniques (Management).

The shallow lakes and wetlands identified in this proposal for enhancement were proposed and ranked by DNR Area Wildlife Supervisors through their respective Regional Wildlife Managers. The proposals were reviewed by the Wetland Wildlife Program Consultant and the Wildlife Operations Manager prior to inclusion in this proposal.

Pre-design assessment will be conducted on 200 basins annually for four years. 28 wetland and shallow lake basins have been identified for

final engineering design to upgrade dikes, water level control structures, and fish barriers with 16 of these designs moving to construction. Intensive management will be applied to approximately 20 basins annually for four years. This management will include, but not be limited to, managing water levels, maintaining fish barriers, inducing winterkill of fish, controlling invasive plants and fish, and encouraging native plant assemblages.

Program managers may add, delete, and substitute projects on the approved parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.

This proposal reflects the strategies of the 2006 DNR Duck Recovery Plan and 2010 Shallow Lake Plan. These plans underwent substantial review by nearly all the major wetland wildlife conservation groups in Minnesota. Stakeholders have been supportive of the strategies outlined in the plans, although some have expressed frustration with the long timeline.

Planning

Several recent statewide Minnesota planning efforts have called attention to the dramatic loss in both quantity and quality of shallow lake habitat over the last century and a half. Minnesota Statewide Conservation and Preservation Plan, A Fifty-Year Vision – Minnesota Campaign for Conservation, Tomorrow’s Habitat for the Wild and Rare, and MN DNR Duck Recovery Plan all emphasize the importance of shallow lakes in creating viable wetland habitat complexes that are necessary for improvements in wetland wildlife populations.

The Minnesota Statewide Conservation and Preservation Plan identifies habitat loss and degradation as the number one driver of change for wildlife in Minnesota. This Plan specifically recommends fee acquisition for WMAs, protection of shallow lake shoreline, and restoring shallow lakes, wetlands, and wetland associated watersheds as important strategies. Tomorrow’s Habitat for the Wild and Rare - Minnesota’s Comprehensive Wildlife Conservation Strategy for species in greatest conservation need has identified significant loss and degradation of habitat as the number one management challenge and one of the principle strategies is to provide protection through selective acquisition of key habitats in each Ecological Section. Over 30 species that rely on shallow lakes and wetlands are listed as species of special concern.

Minnesota’s Long Range Duck Recovery Plan lists the objective of restoring a breeding population of 1 million ducks by 2056. The primary strategy is the protection and restoration of 2 million additional acres of habitat including the restoration of 64,000 wetlands and actively managing 1,800 shallow lakes. In addition,

This proposal is largely based on the objectives and strategies of the Department of Natural Resources 2006 Duck Recovery Plan and 2010 Shallow Lake Plan. The 2006 Duck Recovery Plan is similar to the Strategic Habitat Conservation model adopted by the US Fish and Wildlife Service in that it establishes a statewide duck population goal, identifies the challenges to be met in achieving that goal, proposes specific strategies and objectives for habitat restoration and protection, and selects specific metrics for evaluating progress.

The LSOHC specifically recognizes the importance of shallow lakes in the Forest, Forest Prairie Transition, and Prairie ecological sections. In addition, wetland complexes and improving wildlife habitat on WMAs were noted as important strategies within the Forest Prairie Transition, and Prairie ecological sections.

Which sections of the Minnesota Statewide Conservation and Preservation Plan are applicable to this

program:

- H1 Protect priority land habitats
- H4 Restore and protect shallow lakes
- H5 Restore land, wetlands and wetland-associated watersheds

Which other plans are addressed in this program:

- Long Range Duck Recovery Plan
- Minnesota's Wildlife Management Area Acquisition - The Next 50 Years
- Tomorrow's Habitat for the Wild and Rare

Which LSOHC state-wide priorities are addressed in this program:

- Not Listed

Which LSOHC section priorities are addressed in this program:

Forest / Prairie Transition:

- Not Listed

Metro / Urban:

- Not Listed

Northern Forest:

- Not Listed

Prairie:

- Not Listed

Relationship to other funds:

- Not Listed

Describe the relationship of the funds:

Not Listed

How does this program accelerate or supplement your current efforts in this area:

Current DNR Division of Fish and Wildlife expenditures for wetland and shallow lake work for wildlife habitat total approximately \$2.36 million out of a total Division budget of \$90.3 million. The total DNR annual budget approximates \$456 million. The cost of this proposal exceeds the current funding available for wetland and shallow lake management. Additional funding is necessary to accelerate wetland and shallow lake management.

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 the 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 and replacements 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 Environment and Natural Resources Trust Fund, the Outdoor Heritage Fund, and federal sources such as North American Wetland Conservation Act grants.

Activity Details:

Will there be planting of corn or any crop on OHF land purchased or restored in this program - **Not Listed**

Is the activity on permanently protected land per 97A.056, subd 13(f) and/or public waters per MS 103G.005, Subd. 15 - **Yes**

Accomplishment Timeline:

Activity	Approximate Date Completed
Design - 22 Final Engineering Design	July 2014
Construction - 12 New or Upgraded Replacement Structures	June 2016

Date of Final Report Submission: 12/30/2016

Federal Funding:

Do you anticipate federal funds as a match for this program - **Not Listed**

Outcomes:

Programs in the northern forest region:

- Not Listed

Programs in forest-prairie transition region:

- Not Listed

Programs in metropolitan urbanizing region:

- Not Listed

Programs in prairie region:

- Reducing invasive species will increase the occurrence of aquatic vegetation and improve the production of invertebrates in wetlands and shallow lakes. This will lead to the ecological functional integrity of wetland complexes. Waterfowl, shorebird and other wetland wildlife use of these wetland and shallow lakes will increase, especially during migration. Improved hunting and viewing opportunities will follow the increased wildlife use.

Budget Spreadsheet

Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan

How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount

Not Listed

Total Amount of Request: \$ 3870000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$1,096,000	\$0		\$1,096,000
Contracts	\$1,911,000	\$0		\$1,911,000
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	\$287,000	\$0		\$287,000
Professional Services	\$373,000	\$0		\$373,000
Direct Support Services	\$129,000	\$0		\$129,000
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$0	\$0		\$0
Supplies/Materials	\$74,000	\$0		\$74,000
DNR IDP	\$0	\$0		\$0
Total	\$3,870,000	\$0		\$3,870,000

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Assessment Seasonal Interns	3.00	4.00	\$270,000	\$0		\$270,000
Shallow Lake NR Specialists	3.00	4.00	\$370,000	\$0		\$370,000
Wetlands NR Specialists	3.00	4.00	\$456,000	\$0		\$456,000
Total	9.00	12.00	\$1,096,000	\$0		\$1,096,000

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

Not Listed

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	1,982	0	0	0	1,982
Total	1,982	0	0	0	1,982

Table 2. Total 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	\$3,870,000	\$0	\$0	\$0	\$3,870,000
Total	\$3,870,000	\$0	\$0	\$0	\$3,870,000

Table 3. Acres within each Ecological Section

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N 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	12	547	0	971	452	1,982
Total	12	547	0	971	452	1,982

Table 4. Total Funding within each Ecological Section

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N 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	\$83,000	\$1,660,000	\$0	\$1,281,000	\$846,000	\$3,870,000
Total	\$83,000	\$1,660,000	\$0	\$1,281,000	\$846,000	\$3,870,000

Target Lake/Stream/River Feet or Miles

0

Parcel List

For restoration and enhancement programs ONLY: Managers may add, delete, and substitute projects on this parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.

Section 1 - Restore / Enhance Parcel List

Aitkin

Name	TRDS	Acres	Est Cost	Existing Protection?
Cornish Flowage - WCS	05123223	0	\$12,000	Yes

Benton

Name	TRDS	Acres	Est Cost	Existing Protection?
Graham WMA - Dike	03830202	0	\$15,000	Yes

Freeborn

Name	TRDS	Acres	Est Cost	Existing Protection?
Carex Slough WMA - WCS	10319214	25	\$165,000	Yes

Isanti

Name	TRDS	Acres	Est Cost	Existing Protection?
Dalbo WMA - MSU	03725209	310	\$370,000	Yes

Itasca

Name	TRDS	Acres	Est Cost	Existing Protection?
Morph Meadows WMA - WCS	14729208	0	\$12,000	Yes

Lac qui Parle

Name	TRDS	Acres	Est Cost	Existing Protection?
LQP WMA - Killen MSU	11842203	160	\$312,000	Yes

Lincoln

Name	TRDS	Acres	Est Cost	Existing Protection?
Anderson Lake WMA - WCS	11145206	15	\$165,000	Yes
Clare Johnson WMA - WCS	11345209	52	\$85,000	Yes
Ivanhoe WMA - WCS	11245232	77	\$165,000	Yes
Thostenson WMA - WCS	11144220	14	\$72,000	Yes

Lyon

Name	TRDS	Acres	Est Cost	Existing Protection?
Gabrielle Anderson	11340206	80	\$0	Yes
Lions WMA - Mahlke WCS	11042234	0	\$15,000	Yes
Sodus WMA - WCS	10942201	20	\$52,000	Yes

Marshall

Name	TRDS	Acres	Est Cost	Existing Protection?
Thief WMA - Moose R. MSU	15841224	0	\$20,000	Yes
Thief WMA - MSU	15841224	0	\$0	Yes

Mille Lacs

Name	TRDS	Acres	Est Cost	Existing Protection?
Mille Lacs WMA - WCS	04125232	0	\$20,000	Yes

Roseau

Name	TRDS	Acres	Est Cost	Existing Protection?
Roseau WMA - Douglas MSU	16343233	0	\$20,000	Yes
Roseau WMA - Pool 1 West W	16343216	0	\$12,000	Yes
Roseau WMA - Pool 3 MSU	16343217	0	\$0	Yes

Todd

Name	TRDS	Acres	Est Cost	Existing Protection?
Hartford WMA - Dike	13033224	0	\$15,000	Yes

Wilkin

Name	TRDS	Acres	Est Cost	Existing Protection?
Manston WMA - MSU	13546219	0	\$20,000	Yes

Yellow Medicine

Name	TRDS	Acres	Est Cost	Existing Protection?
Miller Richter WMA - WCS	11543206	228	\$105,000	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

Section 2a - Protect Parcel with Bldgs

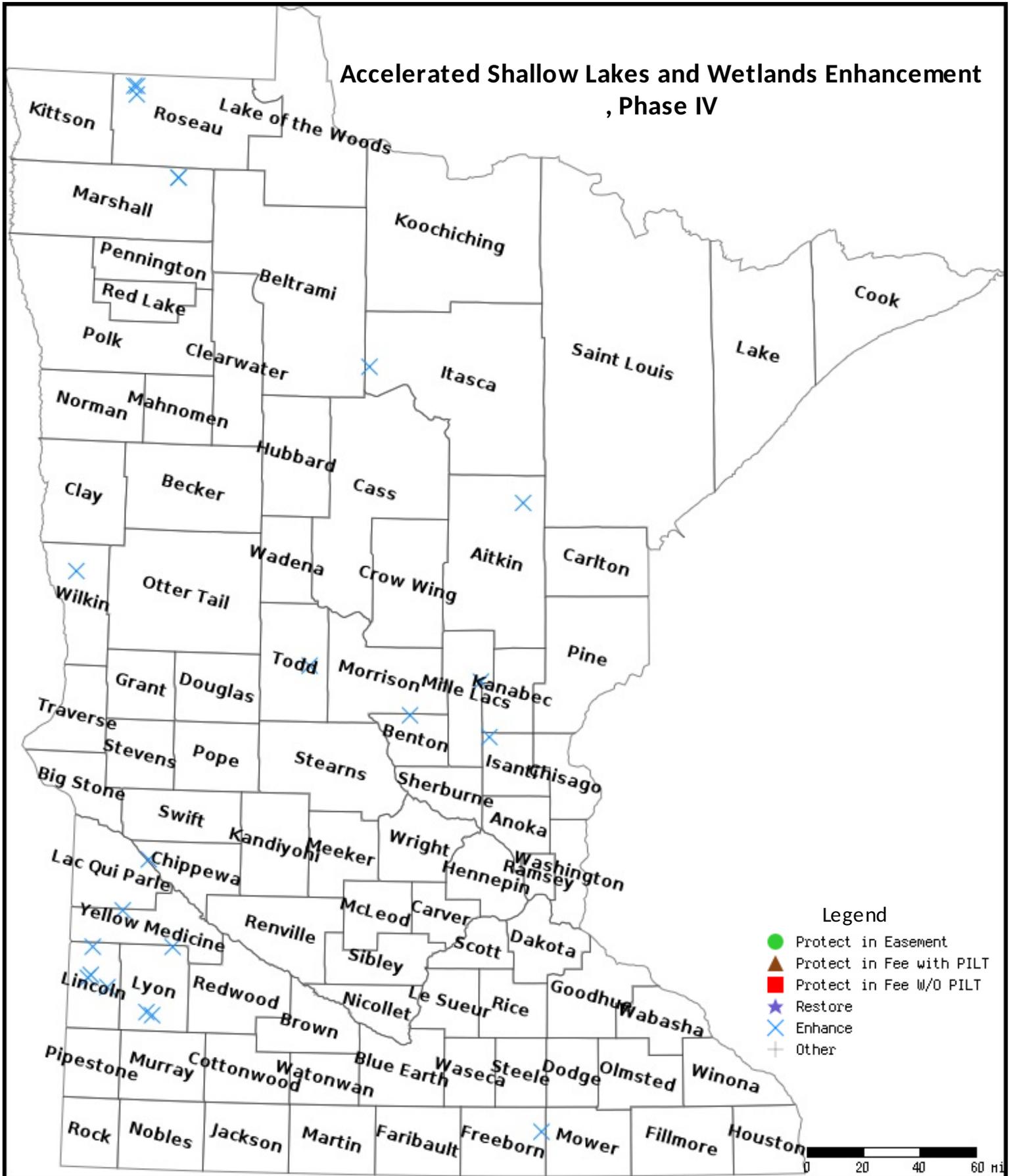
No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

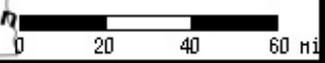
No parcels with an other activity type.

Parcel Map

Accelerated Shallow Lakes and Wetlands Enhancement , Phase IV



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



Data Generated From Parcel List