

# Lessard-Sams Outdoor Heritage Council

## Laws of Minnesota 2020 Accomplishment Plan



**Date:** December 18, 2019

**Program or Project Title:** Roseau River Habitat Restoration

**Funds Recommended:** \$ 3,542,000

**Manager's Name:** Tracy Halstengard

**Title:** Administrator

**Organization:** Roseau River Watershed District

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**Legislative Citation:** ML 2020, Ch. X, Art. 1, Sec. 2, subd XX

**Appropriation Language:**

**County Locations:** Roseau

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

- Forest / Prairie Transition

**Activity types:**

- Restore

**Priority resources addressed by activity:**

- Habitat

### Abstract:

Over a century ago, the Roseau River in the northwestern corner of Roseau County was channelized by the State with the establishment of State Ditch 51. The Roseau River Watershed District and Minnesota DNR, through multiple phases, will cooperatively restore a total of 13.6 miles of river channel, adding 366 acres of high-quality large river habitat within the Roseau River WMA and enhancing the river's riparian habitat corridor. This project is the first phase and will begin progress towards restoring the Roseau River.

### Design and scope of work:

The Roseau River is currently classified as Minnesota State Ditch 51 starting at the Canadian border and continuing 45 miles upstream to County Road 28. This reach of the river was channelized in the early 1900s causing habitat degradation of the river and its riparian corridor. The increased slope of the river has led to entrenchment, disconnected oxbows, high bank erosion, reduced access to floodplain and loss of critical habitat. Altered hydrology affects turbidity and water temperature leading to reduced biodiversity and vulnerability to climate change. The Roseau River Watershed District (RRWD) and Minnesota Department of Natural Resources (MN DNR) are leading implementation of a plan to restore this reach of the Roseau River. The project will restore degraded habitat, increase the resilience of the ecosystem surrounding the river, reestablish natural levels of connectivity between the river and its floodplain, strengthen biodiversity, and restore overall watershed hydrology to the area.

When all phases are completed, the project reconnects 13.6 miles of the Roseau River for a total restoration of 22.5 miles of river, floodplain and associated riparian habitat located almost entirely within the Roseau River Wildlife Management Area (RRWMA).

Estimated restoration length for phase 1 is 5-6 miles. Restoration will include rehabilitation of natural river habitat, and enhancement of wetland and prairie plant communities in both form and function. The river restoration will be based on the principles of natural channel design with an understanding of the hydrology and fluvial geomorphology at the site. The restored river and associated riparian wetlands and prairie will improve habitat for several species of greatest conservation need (SGCN) such as Black sandshell, Yellow rail and Nelson's sparrow, as well as game fish such as Lake sturgeon, walleye, Northern pike and Channel catfish.

The restoration is located within the MN DNR's Aspen Parklands Conservation Focus Area (CFA) identified in the Minnesota Wildlife Action Plan 2015 - 2025 (WAP) as well as the Kittson-Roseau Aspen Parkland Prairie Core Area identified in the Minnesota Prairie Conservation Plan. The Roseau River and its riparian corridor is considered a key habitat for SGCN and received a high score (high priority for restoration) in the Wildlife Action Network. Almost all of the land required for restoration is already part of the RRWMA, eliminating the need for major land acquisition and bypassing one of the most difficult steps in conservation projects.

Outdoor recreation within the WMA already includes hunting, fishing and birding. The MN DNR constructed three large waterfowl pools located approximately 1 mile north of the project area. These pools are a rich source of wildlife habitat and are part of the Pine to Prairie Birding Trail. Outdoor recreation will benefit from the restoration by expanding opportunities to enjoy wildlife through improved kayaking and canoeing along the river as well as other activities compatible with the WMA's conservation mission. The restored river would be an excellent candidate for the MN Water Trail.

### **How does the request address MN habitats that have: historical value to fish and wildlife, wildlife species of greatest conservation need, MN County Biological Survey data, and/or rare, threatened and endangered species inventories:**

The restoration location has already been identified as a priority conservation area in multiple conservation plans including the Minnesota Prairie Conservation Plan and the MN DNR's Wildlife Action Network. The conservation plans used scientific assessments to rank this area as having quality terrestrial and aquatic habitat that is significant in preventing population declines of SGCN and threatened or endangered species.

Oxbows and backwaters are unique habitats of large rivers providing habitat for diverse fish and aquatic organism communities. Oxbows provide important refuge, spawning and foraging habitat for fish. Currently, due to spoil banks and entrenchment, the oxbows have been largely disconnected from the river and are only accessible during high flow.

Reconnecting the historic oxbows will reestablish the natural meandering pattern and riffle-pool-run sequence which is essential to an ecologically functional and productive river system. While Lake sturgeon (a MN species of concern and a SGCN) seek out riffles for spawning habitats, nursery habitat for the recently hatched fry and young Lake sturgeon is often the limiting factor. Runs, bends and sand/gravel bars are often sought out by juvenile Lake sturgeon. The restored meanders will provide better access to these diverse geomorphic river features that are superior to the existing inaccessible oxbows. Natural channel restoration will support and strengthen the reestablishment of Lake sturgeon within the Red River Basin. Other fish game species that will benefit include Northern pike, walleye, and Channel catfish.

In addition to restoring the oxbows, wetlands located within the river's restored riparian corridor will also provide valuable wildlife habitat. Reestablishing the natural hydrology to the area will allow these wetlands to return to their natural inundation and drawdown pattern, supporting native plant communities and suppressing invasive monocultures such as Reed Canary Grass. Recharging the wetlands with essential nutrients will support biodiversity and provide high-quality habitat for species such as Nelson's sparrow, Yellow rail, Wilson's phalarope, American bittern, Northern harriers, Least weasel, Sandhill crane, and Least bittern.

### **Describe the science based planning and evaluation model used:**

The MN DNR's Wildlife Action Network (WAN) is a map of quality terrestrial and aquatic habitats throughout the state. This reach of the Roseau River received High and Medium High rankings in the WAN which indicates that it should be prioritized for implementing conservation actions that address habitat degradation. The WAN is comprised of several indicators of quality habitat in which the Roseau River scored High for viable population of SGCN, and Moderate for biodiversity significance and stream index of biological integrity. The MN Biological Survey (MBS) ranking of Moderate for biodiversity significance indicates that this area contains rare species and a strong potential for recovery of moderately disturbed native plant communities.

Additionally, a full fisheries stream survey was conducted on the Roseau River in 2015. The Roseau River was assessed for stream health in the areas of Hydrology, Water Quality, Geomorphology, Biology and Connectivity. This assessment identified several stressors leading to degraded habitat within the river and its riparian corridor. Extensive channel survey, water quality monitoring, fish sampling (including game species), and aquatic plant assessment was used to complete this study. Conclusions indicate that altered hydrology, i.e river channelization, is a significant driver of habitat degradation for several reasons; increased flows impact the behavior mechanisms of aquatic organisms that depend on a natural flow regime for survival, entrenchment disconnects the main channel from floodplain habitat and reduces access to meanders that provide critical habitat for fish and aquatic macroinvertebrate, and bank erosion increases turbidity levels within the river. Reconnecting the historic oxbows and restoring the natural hydrology to the area will

enhance in-stream and floodplain habitat and ensure resilience of this ecosystem. Channel survey work and coordination with the MN DNR stream ecology program will be utilized to design and restore the natural channel geomorphology based on stream classification and channel evolution principles. Because this area is permanently protected by the RRWMA, the river restoration will build upon existing remnant habitat and develop a conservation corridor between existing and restored habitats.

### **Which sections of the Minnesota Statewide Conservation and Preservation Plan are applicable to this program:**

- H2 Protect critical shoreland of streams and lakes
- H6 Protect and restore critical in-water habitat of lakes and streams

### **Which other plans are addressed in this program:**

- Northern Tallgrass Prairie Ecoregion: A River and Stream Conservation Portfolio
- Red River of the North Fisheries Management Plan

### **Which LSOHC section priorities are addressed in this program:**

#### **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

### **Relationship to other 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 funding request is not supplanting or a substitution for any previous funding.

### **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:**

The restoration project will follow natural channel design principles which create habitat conditions that are self-sustaining. Significant long-term maintenance costs are not expected. The MN DNR currently maintains the RRWMA, however the RRWD will work with the MN DNR to put together a formal agreement for future maintenance of the project to ensure that the project endures over time. The RRWD and MN DNR have a strong history of project partnership. Their partnership has so far seen two projects to completion (Palmville Fen Restoration and RRWMA Pool 3 Outlet Project). A third project (Roseau Lake Rehabilitation) is well into the planning phase. All three projects have used a collaborative project team approach to planning. The Roseau River habitat restoration is another opportunity for the RRWD and MN DNR to partner on a project that is mutually beneficial and a step towards meeting the habitat and water management goals of each agency. It is anticipated that maintenance funding will be available through the MN DNR and through funds raised locally by the Watershed District.

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

Year	Source of Funds	Step 1	Step 2	Step 3
Annual	Watershed District - Local Tax Levy	Monitoring and maintenance of channel restoration		
Annual	MN DNR	Manage recreational access and amenities	Manage terrestrial and wetland habitats adjacent to the river	
Approx. 2025	MN DNR	Fishery Survey and Sampling	Monitor changes in aquatic populations	

### Activity Details:

If funded, this program will meet all applicable criteria set forth in MS 97A.056 - **Yes**

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

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)**

### Accomplishment Timeline:

Activity	Approximate Date Completed
Finalize Restoration and Construction Plans	Summer 2021
Begin Construction	Fall 2021
Complete Construction	Summer 2023

**Date of Final Report Submission:** 11/1/2025

### Federal Funding:

Do you anticipate federal funds as a match for this program - **Yes**

Are the funds confirmed - **No**

What is the approximate date you anticipate receiving confirmation of the federal funds - **Summer 2020**

### Outcomes:

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

- Rivers and streams provide corridors of habitat including intact areas of forest cover in the east and large wetland/upland complexes in the west *This project will restore and enhance in-stream and riparian habitat. Restoration will create a corridor of high-quality aquatic habitat through the RRWMA which will directly improve the population of Lake sturgeon and other fish game species. The benefit to fish populations and macroinvertebrate can be evaluated in future Fishery Stream Surveys which are conducted by the MN DNR approximately every 10 years. This survey will also outline benefits to water quality and connectivity. Additionally, this project will enhance recreational opportunities for paddlers and anglers who will see improvements in quality of fishing and wildlife viewing.*

# 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**

The anticipated restoration is estimated to be reduced to a length of 5-6 miles for phase 1.

**Total Amount of Request: \$ 3542000**

## Budget and Cash Leverage

BudgetName	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$0	\$0		\$0
Contracts	\$3,000,000	\$0		\$3,000,000
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	\$0	\$0		\$0
Professional Services	\$542,000	\$0		\$542,000
Direct Support Services	\$0	\$0		\$0
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$0	\$0		\$0
Supplies/Materials	\$0	\$0		\$0
DNR IDP	\$0	\$0		\$0
Total	\$3,542,000	\$0		\$3,542,000

Amount of Request: \$3,542,000

Amount of Leverage: \$0

Leverage as a percent of the Request: 0.00%

DSS + Personnel: \$0

As a % of the total request: 0.00%

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

All contract work is for river habitat restoration and enhancement.

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

Currently potential leverage sources have been identified and will be pursued by the RRWD, however there are no confirmed funds at this time.

## Output Tables

**Table 1a. Acres by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	178	178
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	0	0	0	0	0
Total	0	0	0	178	178

**Table 2. Total Funding by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	\$0	\$0	\$0	\$3,542,000	\$3,542,000
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	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$3,542,000	\$3,542,000

**Table 3. Acres within each Ecological Section**

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N Forest	Total
Restore	0	178	0	0	0	178
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	0	0	0	0	0	0
Total	0	178	0	0	0	178

**Table 4. Total Funding within each Ecological Section**

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N Forest	Total
Restore	\$0	\$3,542,000	\$0	\$0	\$0	\$3,542,000
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	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$3,542,000	\$0	\$0	\$0	\$3,542,000

**Table 5. Average Cost per Acre by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats
Restore	\$0	\$0	\$0	\$19899
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	\$0	\$0	\$0	\$0

**Table 6. Average Cost per Acre by Ecological Section**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	\$0	\$19899	\$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	\$0	\$0	\$0	\$0	\$0

*Automatic system calculation / not entered by managers*

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

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## 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

Roseau

Name	TRDS	Acres	Est Cost	Existing Protection?
MICHAELSOHN ANGELA	16342219	6	\$9,300	No
ROSEAU RIVER WATERSHED DIST	16342219	9	\$13,600	No
ROSEAU RIVER WATERSHED DIST	16342230	5	\$7,400	No
STATE LAND-ACQUIRED & DNR BUREAU OF R E MANAGEMENT	16342219	6	\$8,300	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF R E MANAGEMENT	16342219	6	\$9,200	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF R E MANAGEMENT	16343213	4	\$6,200	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF R E MANAGEMENT	16343213	22	\$32,000	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF R E MANAGEMENT	16343224	174	\$1,010,600	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF R E MANAGEMENT	16344206	40	\$734,100	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF R E MANAGEMENT	16344215	91	\$1,667,300	Yes
TAX FORFEITED	16344218	2	\$42,400	No
THORBUS RUBEN S	16342230	1	\$1,600	No

### Section 2 - Protect Parcel List

No parcels with an activity type protect.

#### Section 2a - Protect Parcel with Bldgs

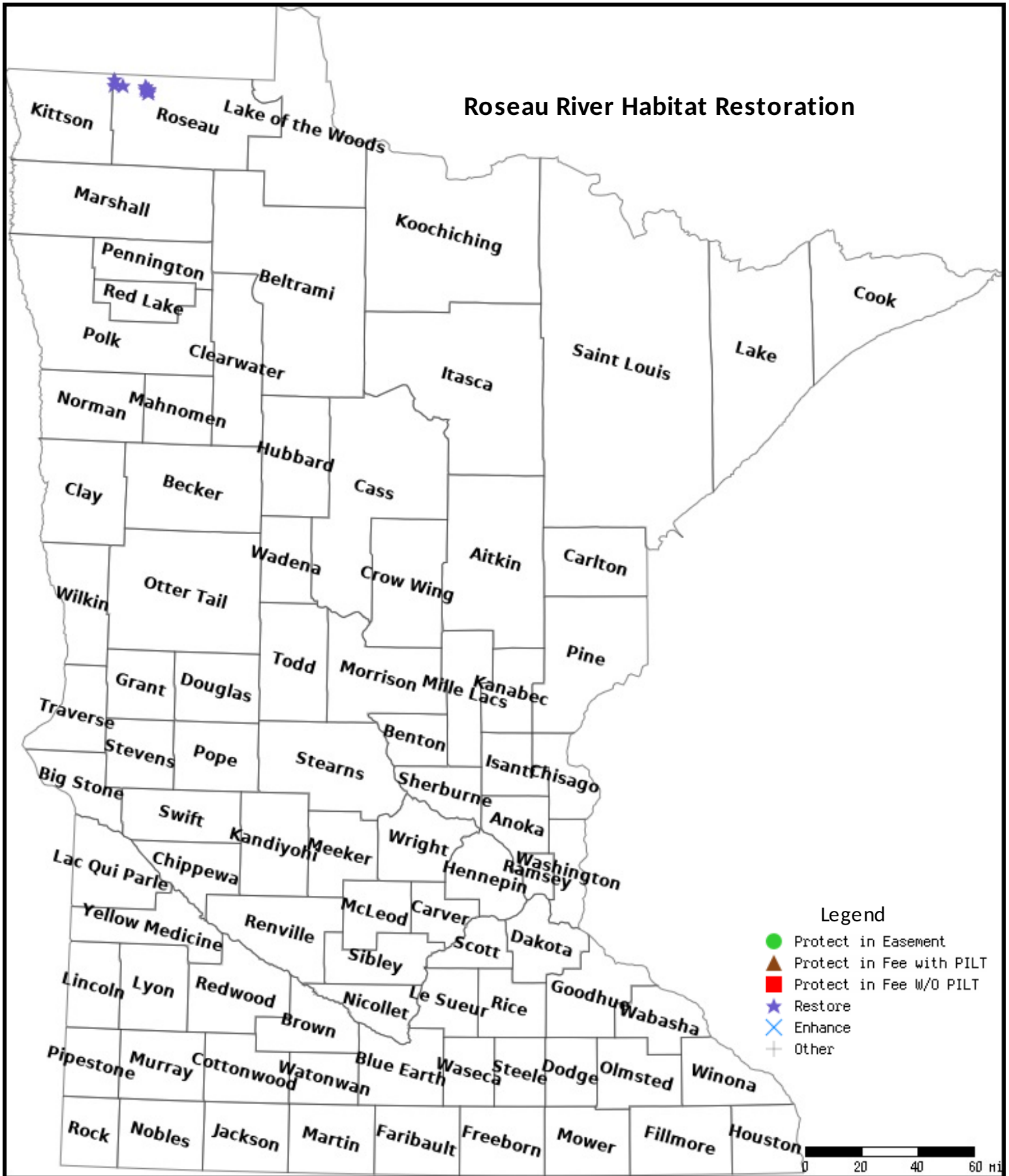
No parcels with an activity type protect and has buildings.

### Section 3 - Other Parcel Activity

No parcels with an other activity type.



# Parcel Map



Data Generated From Parcel List