



Lessard-Sams Outdoor Heritage Council

Roseau River Habitat Restoration
Laws of Minnesota 2020 Accomplishment Plan

General Information

Date: 05/25/2023

Project Title: Roseau River Habitat Restoration

Funds Recommended: \$3,036,000

Legislative Citation: ML 2020, Ch. 104, Art. 1, Sec. 2, subd 5(o)

Appropriation Language: \$3,036,000 the second year is to the commissioner of natural resources for an agreement with the Roseau River Watershed District to restore and enhance riverine habitat in the Roseau River and the Roseau River Wildlife Management Area.

Manager Information

Manager's Name: Tracy Halstensgard

Title: Administrator

Organization: Roseau River Watershed District

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Website: www.roseauriverwd.com

Location Information

County Location(s): Roseau.

Eco regions in which work will take place:

- Forest / Prairie Transition

Activity types:

- Restore

Priority resources addressed by activity:

- Habitat

Narrative

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 approximately 5 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 plan address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species?

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 how the plan uses science-based targeting that leverages or expands corridors and complexes, reduces fragmentation or protects areas identified in the MN County Biological Survey:

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 two sections of the Minnesota Statewide Conservation and Preservation Plan are most applicable to this project?

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

Which two 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

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.*

Does this program include leveraged funding?

No

Per MS 97A.056, Subd. 24, Please explain 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.

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.

Actions 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

Requirements

If funded, this program 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 restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program?

Yes

Where does the activity take place?

- WMA

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program?

No

Timeline

Activity Name	Estimated Completion Date
Finalize Restoration and Construction Plans	Summer 2021
Begin Construction	Fall 2021
Complete Construction	Summer 2023

Date of Final Report Submission: 11/01/2025

Availability of Appropriation: Subd. 7. Availability of Appropriation

Money appropriated in this section may not be spent on activities unless they are directly related to and necessary for a specific appropriation and are specified in the accomplishment plan approved by the Lessard-Sams Outdoor Heritage Council. Money appropriated in this section must not be spent on indirect costs or other institutional overhead charges that are not directly related to and necessary for a specific appropriation. Unless otherwise provided, the amounts in this section are available until June 30, 2023. For acquisition of real property, the amounts in this section are available until June 30, 2024, if a binding agreement with a landowner or purchase agreement is entered into by June 30, 2023, and closed no later than June 30, 2024. Funds for restoration or enhancement are available until June 30, 2025, or five years after acquisition, whichever is later, in order to complete initial restoration or enhancement work. If a project receives at least 15 percent of its funding from federal funds, the time of the appropriation may be extended to equal the availability of federal funding to a maximum of six years if the federal funding was confirmed and included in the original approved draft accomplishment plan. Funds appropriated for fee title acquisition of land may be used to restore, enhance, and provide for public use of the land acquired with the appropriation. Public-use facilities must have a minimal impact on habitat in acquired lands.

Budget

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

Totals

Item	Funding Request	Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	\$2,150,000	-	-	\$2,150,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	\$886,000	-	-	\$886,000
Direct Support Services	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	\$3,036,000	-	-	\$3,036,000

Amount of Request: \$3,036,000

Amount of Leverage: -

Leverage as a percent of the Request: 0.0%

DSS + Personnel: -

As a % of the total request: 0.0%

Easement Stewardship: -

As a % of the Easement Acquisition: -

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 approximately 5 miles for phase 1.

Contracts

What is included in the contracts line?

All contract work is for river habitat restoration and enhancement.

Federal Funds

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

Output Tables**Acres by Resource Type (Table 1)**

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	0	168	168
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	168	168

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	\$3,036,000	\$3,036,000
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	-
Total	-	-	-	\$3,036,000	\$3,036,000

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	168	0	0	0	168
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	168	0	0	0	168

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	\$3,036,000	-	-	-	\$3,036,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	-	-	-	-
Total	-	\$3,036,000	-	-	-	\$3,036,000

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	\$18,071
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	-

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	\$18,071	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	-

Target Lake/Stream/River Feet or Miles

12

Parcels

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.

Parcel Information

Sign-up Criteria?

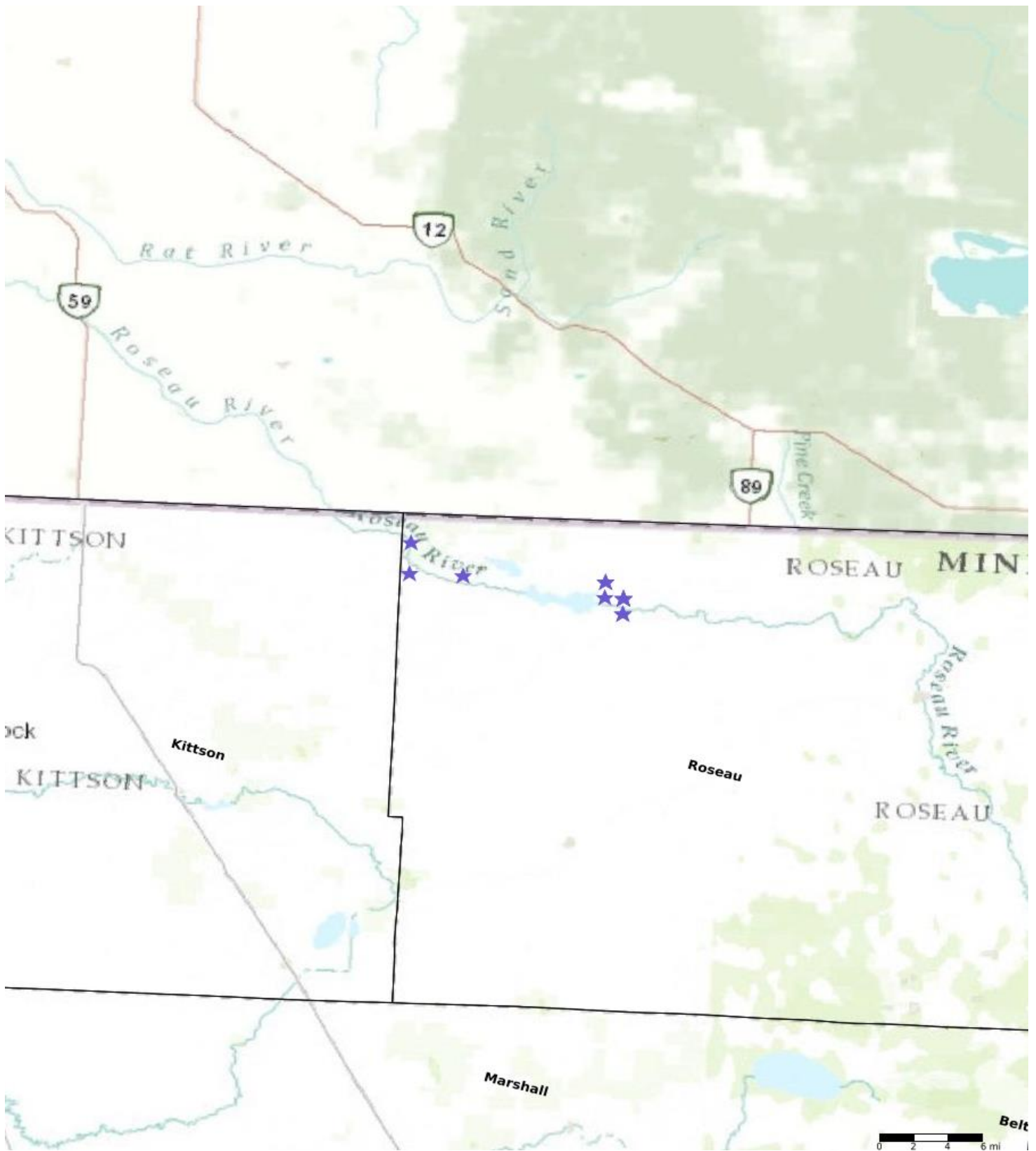
No

Explain the process used to identify, prioritize, and select the parcels on your list:

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
STATE LAND-ACQUIRED & DNR BUREAU OF RE MANAGEMENT	Roseau	16342219	6	\$8,200	Yes
ROSEAU RIVER WATERSHED DIST	Roseau	16342230	5	\$7,300	No
STATE LAND-ACQUIRED & DNR BUREAU OF RE MANAGEMENT	Roseau	16343224	174	\$882,100	Yes
ROSEAU RIVER WATERSHED DIST	Roseau	16342219	9	\$13,500	No
STATE LAND-ACQUIRED & DNR BUREAU OF RE MANAGEMENT	Roseau	16342219	6	\$9,100	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF RE MANAGEMENT	Roseau	16343213	4	\$6,200	Yes
TAX FORFEITED	Roseau	16344218	2	\$35,900	No
STATE LAND-ACQUIRED & DNR BUREAU OF RE MANAGEMENT	Roseau	16344206	40	\$621,000	Yes
STATE LAND-ACQUIRED & DNR BUREAU OF RE MANAGEMENT	Roseau	16343213	22	\$31,600	Yes
THORBUS RUBEN S	Roseau	16342230	1	\$1,600	No
MICHAELSOHN ANGELA	Roseau	16342219	6	\$9,200	No
STATE LAND-ACQUIRED & DNR BUREAU OF RE MANAGEMENT	Roseau	16344215	91	\$1,410,300	Yes

Parcel Map



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