Lessard-Sams Outdoor Heritage Council

Roseau Lake Rehabilitation

Laws of Minnesota 2016 Accomplishment Plan

General Information

Date: 12/28/2021

Project Title: Roseau Lake Rehabilitation

Funds Recommended: $2,763,000

Legislative Citation: ML 2016, Ch. 172, Art. 1, Sec. 2, Subd. 5(j)

Appropriation Language: $2,763,000 the second year is to the commissioner of natural resources to acquire land in fee and permanent conservation easements for wildlife management purposes in Roseau County under Minnesota Statutes, section 86A.05, subdivision 8, to restore and enhance wildlife habitat. A list of proposed land acquisitions and restorations and enhancements must be provided as part of the required accomplishment plan.

Additional Legislative Changes: ML 2021, First Sp Session, Ch. 1, Art. 1, Sec. 2, Subd. 10 Carryforwards (b) The availability of the appropriations for the following projects is extended to June 30, 2023: (3) Laws 2016, chapter 172, article 1, section 2, subdivision 5, paragraph (j), for Roseau Lake Rehabilitation; EFFECTIVE DATE. Subdivision 10 is effective retroactively from July 1, 2019, for projects funded under Laws 2016, chapter 172. ML 2020, Ch. 104, Art. 1, Sec. 2, Subd. 10. Carryforwards: (a) The availability of the appropriation in Laws 2016, chapter 172, article 1, section 2, subdivision 5, paragraph (j), Roseau Lake Rehabilitation, is extended to June 30, 2022.

Manager Information

Manager's Name: Randy Prachar, Wildlife Area Manager, DNR; Tracy Halstensgard

Roseau River Watershed District
Title:
Organization: MN Department of Natural Resources; Roseau River Watershed District
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Location Information

County Location(s): Roseau.

Eco regions in which work will take place:

- Northern Forest
- Forest / Prairie Transition

Activity types:

- Protect in Easement
- Protect in Fee
- Restore
- Enhance

Priority resources addressed by activity:

- Wetlands
- Habitat

Narrative

Abstract

This multi-purpose project will partially restore a large drained lake, provide water level management capacity to substantially improve wildlife habitat conditions and provide flood damage reduction benefits. The project will also restore flow to 2 channelized streams and contribute to water quality improvements in the Roseau River.

Design and Scope of Work

Roseau Lake was drained in the early 1900s when the Roseau River was channelized and ditch systems were constructed to increase agricultural production in the watershed. Prior to drainage, Roseau Lake provided excellent fish and waterfowl habitat. After drainage, the lake basin was farmed and produced crops in drier times, but production was unreliable in most years. Over time, local landowners recognized that farming the lake bed would always be tenuous, and thus, large portions of the lake basin became part of the Roseau Lake Wildlife Management Area in the 1960s. Interest in a partial restoration of the lake grew in recent years because the DNR, watershed district, local governments, and citizens recognize that there are opportunities to develop a multipurpose project with significant wildlife habitat and flood damage reduction benefits (see attached citizen's advisory report).

Roseau Lake currently fills from overflow from the Roseau River. Habitat benefits for waterfowl are impressive when the basin is flooded. But the benefits are not sustainable because the lake often drains (i.e., via a county ditch) after breeding efforts of waterfowl have been initiated. Conversely, flooding after nest initiation can claim many nests in some years. This project will build in the ability to retain water and/or flood the basin at key times of the year to attract more waterfowl and shorebirds and moderate water level fluctuations within the basin to optimize wildlife production.

In recognition of changes to the surrounding landscape that that drainage for agriculture has caused in local hydrology, the DNR believes that a basin managed with seasonal water will benefit wildlife while allowing flexibility to deal with ecological problems (e.g., invasive species) that may occur. This seasonal approach to water management is compatible with watershed district management for flood damage reduction.

The project has two primary purposes:

1) To improve the quantity and quality of wildlife habitat in and surrounding the Roseau Lake basin area. A key objective of the project is to provide migratory habitat (primarily abundant forage) for waterfowl and shorebirds in spring and fall and to improve the capacity of the basin to produce waterfowl.
2) To use the water storage capacity of the basin to reduce peak flows on the Roseau River downstream of the lake bed by 10% or more compared to current conditions as well as reduce the footprint of the 100-year floodplain.

To achieve wildlife habitat objectives, a system of levees and water control structures will be constructed to provide capacity to actively manage water levels in the basin. This infrastructure will allow for lake levels to be managed seasonally so that food and cover requirements of waterfowl will be met.

If easements are purchased with OHF monies, they will be permanent easements that require installation and maintenance of permanent vegetative cover that provides habitat appropriate for the area. These tracts are entirely within the basin, adjacent to existing WMA, and/or in key locations relative to project infrastructure (e.g., contain a portion of the planned levee for the project). 500 acres of private lands are targeted for acquisition/easement by the watershed district. These acres tend to occur on the periphery of the basin. Fee title acquisition of the parcels cited is desirable, but easements may need to be used if landowners would prefer not to sell their land. If easements are used, they will be conservation easements held by the watershed district. Non-OHF funds will be used for conservation easements.

Operation of the project will be governed by a mutually-agreed upon plan between the DNR & watershed district. The plan will specify seasonal water levels that will increase waterfowl and shorebird use of the basin. Spring and fall water levels will be managed to create an abundance of shallow water which provides abundant forage for migratory waterfowl and shorebirds. In addition, shallow water management during summer will enhance the relative value of surrounding grass cover for nesting and provide brood-rearing cover for waterfowl and other waterbirds. Benefits to aquatic invertebrates, amphibians, reptiles, and aquatic mammals will accrue whenever water is present. Improvements in in-stream habitat, water quality, hydrologic conditions, and riparian habitat along the Roseau River and Pine Creek will result in better fish habitat.

The wildlife benefits of the project will be achieved in a number of ways. First, water level management in the basin will be timed to coincide with life history requirements of waterfowl and shorebirds. For instance, the basin will be flooded with water from the Roseau River and Pine Creek during spring and fall migration to provide shallow foraging habitat for waterfowl and shorebirds. Known arrival dates of various species will inform the operation plan of when to flood the basin. Similarly, invertebrate-rich shallow water for waterfowl brood-rearing will be provided adjacent to dense nesting cover during summer. Second, by reducing the flood peak downstream of the project, habitat improvements for plants and animals in the Big Swamp will be achieved.

Project infrastructure will also provide the capability to manipulate timing of flood flows on the river to optimize water storage capacity of the basin for flood damage reduction. Currently, Roseau Lake floods early in a given event such that flood storage is unavailable when the flood peak passes through the area. Flood damage reduction benefits will be achieved by altering the timing of water storage in the lake basin so available storage is more effectively used to reduce peak flows downstream. Habitat downstream of the project in the Big Swamp has been degraded due to excessive depths, duration, and frequency of flooding. Thus, a reduction in peak flows downstream provides additional natural resources benefits that include improved hydrologic conditions in the Roseau River which, in turn, will contribute to improved habitat. Rare plant communities in the Big Swamp will also benefit from a reduction in peak flows. Siting of project infrastructure will be guided by water management considerations/constraints as well as the presence of cultural resources and existing wetlands.

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?

Roseau Lake was historically an important wildlife lake providing a diversity of habitats for many aquatic mammals, birds, amphibians, and reptiles. The basin area is now inundated on a nearly annual basis and there are large water level fluctuations which create degraded habitat conditions and minimal shallow lake functions for wildlife. The flashy nature of flooding in the basin has greatly diminished habitat quality and wildlife production (e.g., ground nesting by birds) in and near the basin.

Since the project will reduce downstream peak flows, it will also benefit habitat in the Big Swamp area in western Roseau County. This vast area is characterized by a mosaic of shallow wetlands, wet meadows, lowland brush, and aspen. Over the last few decades, native vegetation in this area has been degraded by excessive duration, frequency, and depth of flooding. Because of this flooding, the MN Biological Survey has rated the portion of the Big Swamp near the river as having only moderate biodiversity. Reed canary grass and hybrid cattail have invaded the Big Swamp, thus reducing habitat quality over a few thousand acres. Moderating flooding will reduce impacts to existing native plant and animal populations and allow restoration of native vegetation.

Describe the science based planning and evaluation model used:

DNR Wildlife has identified this project as a regional priority. This project is identified in the Roseau River Watershed Comprehensive plan. The RRWMB Distributed Detention Study has identified this project as the most effective place to store water in the RRWD.

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

- H4 Restore and protect shallow lakes
- H7 Keep water on the landscape

Which two other plans are addressed in this program?

- Long Range Duck Recovery Plan
- North American Waterfowl Management Plan

Which LSOHC section priorities are addressed in this program?

Forest / Prairie Transition

- Protect, enhance, and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success

Northern Forest

- Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas

Does this program include leveraged funding?

-

Non-OHF Appropriations

Year	Source	Amount
FY 15 & 16	Mdtn Wk Grp & RRWD	$128,000

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

The MN DNR and Roseau River Watershed District will be primarily responsible for all future maintenance of this project's infrastructure under a joint agreement between the 2 entities. The Watershed District is authorized by law to complete long-term maintenance of this project (Minnesota Statutes 103D).
Habitat enhancements within the rehabilitated lake basin will be the responsibility of the MN DNR Section of Wildlife as part of ongoing habitat maintenance on the Wildlife Management Area.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2020-2025 Monitoring	Local RRWD Levy & DNR	Monitor & Act as Needed	-	-

Activity Details

Requirements

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

Will local government approval be sought prior to acquisition?
Yes

Is the land you plan to acquire (fee title) free of any other permanent protection?
Yes

Is the land you plan to acquire (easement) free of any other permanent protection?
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?
Yes

Where does the activity take place?

- WMA
- Permanently Protected Conservation Easements
- Public Waters
- Other : Roseau River Watershed District fee title lands within the project footprint

Land Use

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

Is this land currently open for hunting and fishing?
Yes

Describe any variation from the State of Minnesota regulations:
All state lands (WMA) within the project footprint are open for public hunting. The Roseau River is open to fishing; boat accesses are provided.

Will the land be open for hunting and fishing after completion?
Yes

Describe any variation from the State of Minnesota regulations:
Most state lands in the project footprint will likely remain open to public hunting. A portion of the lake basin and some associated uplands may be designated as a waterfowl refuge for feeding and resting to enhance overall opportunities for recreational hunting and bird watching on lands within the area which are open to public hunting. All lands acquired for the project in fee title will be open for hunting and fishing where applicable. All private lands secured though easements will be open at the discretion of the landowner.

Will the eased land be open for public use?
Yes

Describe the expected public use:
Only if permitted by the landowner.

Are there currently trails or roads on any of the proposed acquisitions?
No

Will new trails or roads be developed or improved as a result of the OHF acquisition?
No

Timeline

Activity Name	Estimated Completion Date
Preliminary Engineering	2016
Environmental review and permitting	2021 (EAW) and 2022 (permitting)
Final Engineering	2019
Operating plan	2021
Hearings	2020
Construction phase 1	2021-22
Construction phase 2	2023-24
Post Construction Monitoring	through 2029
Acquisition	2021-22

Date of Final Report Submission: 11/01/2023

Budget

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

Totals

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	$1,900,000	$3,000,000	RRWD and State of Minnesota capital bonding	$4,900,000
Fee Acquisition w/ PILT	$255,000	-	-	$255,000
Fee Acquisition w/o PILT	-	$500,000	RRWD and State of Minnesota capital bonding	$500,000
Easement Acquisition	-	$500,000	RRWD and State of Minnesota capital bonding	$500,000
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	$585,000	-	-	$585,000
Direct Support Services	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	$23,000	-	-	$23,000
DNR IDP	-	-	-	-
Grand Total	**$2,763,000**	**$4,000,000**	**-**	**$6,763,000**

Amount of Request: $2,763,000
Amount of Leverage: $4,000,000
Leverage as a percent of the Request: 144.77%
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 program will accommodate the reduced appropriation by working with the Roseau River Watershed District to secure additional funds needed to complete the project and use the reduced appropriation to acquire needed lands and construct some of the infrastructure needed for the early phases of the project.

Federal Funds

Do you anticipate federal funds as a match for this program?
No

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	255	255
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	1,700	0	0	1,300	3,000
Total	**1,700**	**0**	**0**	**1,555**	**3,255**

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	$298,000	$298,000
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	$1,397,000	-	-	$1,068,000	$2,465,000
Total	**$1,397,000**	**-**	**-**	**$1,366,000**	**$2,763,000**

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	255	255
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	3,000	3,000
Total	**0**	**0**	**0**	**0**	**3,255**	**3,255**

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	$298,000	$298,000
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	$1,397,000	-	-	$1,068,000	$2,465,000
Total	**-**	**$1,397,000**	**-**	**-**	**$1,366,000**	**$2,763,000**

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	$1,168
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	$821	-	-	$821

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	$1,168

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	$356

Target Lake/Stream/River Feet or Miles

4

Outcomes

Programs in forest-prairie transition region:

- Increased waterfowl and upland bird migratory and breeding success ~ *DNR staff does ongoing annual surveys of waterfowl breeding pairs and brood numbers on Roseau Lake. In addition, annual invertebrate and vegetation surveys will be undertaken once sustainable shallow water habitat is created by the project. All parameters listed above will be measured against current conditions to assess progress in meeting project goals.*

Programs in the northern forest region:

- Improved availability and improved condition of habitats that have experienced substantial decline ~ *The site will be monitored through a joint 5 year monitoring plan between the RRWD and DNR. Monitoring will include an evaluation of bird species use; plant community condition; maintenance of in-stream habitat connectivity on the Roseau River and Pine Creek; water quality; water quantity as measured against project outcomes and current conditions.*

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:

Protect Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Private Parcels - WMA acquisition	Roseau	16341225	255	$255,000	No
Private Parcels - WD Acquisition/easements	Roseau	1634020	1,000	$0	No

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

Parcel Map
Roseau Lake Rehabilitation
(Data Generated From Parcel List)