



Lessard-Sams Outdoor Heritage Council

DNR Stream Habitat - Phase II
Laws of Minnesota 2017 Final Report

General Information

Date: 10/10/2022

Project Title: DNR Stream Habitat - Phase II

Funds Recommended: \$2,166,000

Legislative Citation: ML 2017, Ch. 91, Art. 1, Sec. 2, subd. 5(e)

Appropriation Language: \$2,166,000 in the first year is to the commissioner of natural resources to restore and enhance habitat in degraded streams, critical aquatic species habitat, and to facilitate fish passage. A list of proposed land restorations and enhancements must be provided as part of the required accomplishment plan.

Manager Information

Manager's Name: Jamison Wendel

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Location Information

County Location(s): Rock, Cook, Otter Tail and Todd.

Eco regions in which work will take place:

- Northern Forest
- Forest / Prairie Transition
- Prairie

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Habitat

Narrative

Summary of Accomplishments

This DNR Aquatic Habitat appropriation used a programmatic approach to achieve prioritized aquatic habitat restoration and enhancement of lakes and streams. DNR modified two dams and replaced five culverts to restore fish passage on six streams. Twenty acres of habitat were restored on two streams and three acres of stream habitat were enhanced with this appropriation. All of these projects will provide excellent opportunities to educate the public on the importance of lake and stream habitat restoration and enhancement.

Process & Methods

Stream projects were prioritized based on the DNR's Stream habitat Priority List, where projects are ranked based on a number of criteria surrounding support and outcomes. This appropriation funded seven stream projects, several of which involved external partners. Individual project details are outlined below.

Hallock Riffles – Construction of the project was finished in fall 2021. A total of 2 riffles were installed to stabilize the grade near the Hallock Dam project. Forty-three fish species will benefit from riffle habitat that is important for spawning. Funding was split between M16 and ML17.

Mound Creek Dam Removal and Channel Restoration – Construction of the project was completed at the end of 2019. After a dam failure in 2016, the Mound Creek dam was removed and replaced with a rock arch rapids. Additionally, the reservoir was restored to a naturally flowing river with a connected floodplain. This is critical habitat for Topeka Shiner and 27 other species of other fish that will benefit not only from passage upstream but from 4200 feet of restored high quality river channel. This project is within the Blue Mounds State Park and is an easily visible example for the public to see the type of restoration efforts going on in the State of Minnesota.

Fredenberg Culverts – Construction finished in spring 2022. Two undersized culverts were identified on Fredenberg Creek as barriers to fish passage. The culverts were replaced to improve fish passage and restore more natural sediment transport. Twenty species of fish have benefited from added passage in the watershed by accessing additional, high-quality habitat. Project partners included the Cook County SWCD. Matching funds for the project included \$100,000 from Save our Great Lakes grant and \$20,000 from Cliffs Foundation.

Hockamin Culverts – Construction on the first Hockamin culvert was completed in 2022; construction on the second culvert is anticipated for 2023. Two undersized culverts were identified as fish barriers on Hockamin Creek. Improving fish passage at the culverts will open up 23 miles of stream for 26 species of fish including brook trout. This project was done in partnership with the Lake County SWCD. Matching funds were provided by Save Our Great Lakes \$337,318 and Crystal Bay Township \$10,000

Carlos Dam Modification – The Lake Carlos project finished construction at the end of 2020. After the dam failed multiple times, a rock arch rapids design was implemented to allow fish passage at the site. There are 38 species of fish that benefit from passage at this site. This project reconnected about 3 miles of stream and 4407 acres of lake habitat. The Glacial Lake Partnership contributed \$30,000 towards the project. Funding was split between ML16 and ML17.

Fish Creek Culvert - This project was completed in fall 2019. DNR worked with Todd County Highway Department to replace a culvert that acted as a fish barrier on CR 47.

Crane Lake Culvert - This project was completed in fall 2018. A culvert immediately downstream of Crane Lake was replaced to restore fish passage.

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?

The Crane Lake project was known to have rare mussel species in the vicinity. This project has the potential to benefit those species by allowing their upstream movement past the barriers. Restoration of fish passage will help to return fish and mussel diversity that was present upstream of dams prior to their construction. Projects with the potential to benefit rare species was one of the criteria by which stream projects are ranked. All projects were searched with the MNDNR's Natural Heritage Database that tracks known locations of rare species or plant communities. Project plans incorporated that information into design so that impacts to rare species were minimized to the greatest extent possible.

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.

MNDNR used a science-based planning model for selection of stream projects. The prioritization incorporated factors known to be important for stream health, as well as measures of stakeholder support and urgency. Evaluation of projects by MNDNR allows assessment of project success, and provides lessons to be used in future projects.

Explain Partners, Supporters, & Opposition

For the Hallock Dam project, DNR partnered with the City of Hallock, Two Rivers Watershed District, Kittson County, and Two Rivers Golf Club.

Cook County SWCD partnered with DNR on the Fredenberg Creek Culverts project.

For the Hockamin Creek Culverts project, DNR partnered with Lake County SWCD and Crystal Bay Township.

DNR partnered with Todd County Highway Department on the Fish Creek Culvert project.

The Crane Lake Culvert project was done in partnership with the local township, Otter Tail County, and the Midwest Glacial Lakes Fish Habitat Partnership. The latter contributed a \$25,000 grant to the project, which was matched with OHF money.

Exceptional challenges, expectations, failures, opportunities, or unique aspects of program

COVID-19 impacts caused delays in design, permitting, and construction on many projects funded through this appropriation. We were able to complete all of the project within the timeline of the appropriation but construction was often running right up to the end of the funding availability.

The dam modification and stream enhancement of the Two Rivers in Hallock received much local publicity and has motivated nearby cities with similar dams to consider projects to restore fish passage and enhance stream habitat.

What other fund may contribute to this program?

- N/A

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

Once construction is completed and vegetation is established, stream habitat projects generally do not require ongoing maintenance. DNR has multiple sources of funding that could be used for this purpose, should it arise. These funding sources include the Game and Fish Fund, Heritage Enhancement account, and Trout Stamp revenue. For example, the a flood event soon after construction was completed caused some erosion to occur at the Hallock Dam project site. DNR is planning to contribute Game and Fish Funds for the city to use as leverage with FEMA to complete repairs that will ensure the site remains stable and continues to achieve the benefits outlined in the proposal.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
Annual	Combination of DNR Game and fish Funds and OHF	Inspect projects	Monitor for Invasive Species	Make instream adjustments as needed

Budget

Totals

Item	Requested	AP Amount	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$556,900	\$556,900	\$558,000	-	-	-	\$556,900	\$558,000
Contracts	\$1,470,000	\$1,505,400	\$1,513,800	\$1,000,000	\$1,063,000	FEMA, US Fish and Wildlife	\$2,470,000	\$2,576,800
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	\$24,700	\$22,700	\$18,600	-	-	-	\$24,700	\$18,600
Professional Services	\$50,000	\$30,000	\$23,900	-	-	-	\$50,000	\$23,900
Direct Support Services	\$63,400	\$48,000	\$48,000	-	-	-	\$63,400	\$48,000
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	-	-	-	-	-	-	-	-
Supplies/Materials	\$1,000	\$3,000	\$2,000	-	-	-	\$1,000	\$2,000
DNR IDP	-	-	-	-	-	-	-	-
Grand Total	\$2,166,000	\$2,166,000	\$2,164,300	\$1,000,000	\$1,063,000	-	\$3,166,000	\$3,227,300

Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Stream Habitat Specialists	2.0	3.0	\$558,000	-	-	\$558,000

Direct Support Services

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

The DNR uses a formula based on expected departmental expenses incurred as a result of the appropriation.

Explain any budget challenges or successes:

The impacts from COVID delays and recent cost increases with inflation caused us to split funding for projects into multiple appropriations much more often than we typically do.

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	0	0	0	0	0	0	16	22	16	22
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	0	0	0	0	0	0	0	3	0	3
Total	0	0	0	0	0	0	16	25	16	25

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	-	-	-	-	-	-	\$2,166,000	\$648,800	\$2,166,000	\$648,800
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	\$1,515,500	-	\$1,515,500
Total	-	-	-	-	-	-	\$2,166,000	\$2,164,300	\$2,166,000	\$2,164,300

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	3	2	0	0	13	20	0	0	16	22
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	0	0	0	1	0	0	0	0	0	2	0	3
Total	0	0	3	3	0	0	13	20	0	2	16	25

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	-	-	\$500,000	\$119,500	-	-	\$1,666,000	\$529,300	-	-	\$2,166,000	\$648,800
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	\$211,800	-	-	-	-	-	\$1,303,700	-	\$1,515,500
Total	-	-	\$500,000	\$331,300	-	-	\$1,666,000	\$529,300	-	\$1,303,700	\$2,166,000	\$2,164,300

Target Lake/Stream/River Feet or Miles

2.1

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 ~ *For the Lake Carlos, Crane Lake, and Fish Creek fish passage projects, we will use routine fish surveys to gauge changes to the fish community, and compare with pre-project data.*

Programs in the northern forest region:

- Improved aquatic habitat indicators ~ *For the Fredenberg Creek and Hockamin Creek fish passage projects, we will use routine fish surveys to gauge changes to the fish community, and compare with pre-project data*

Programs in prairie region:

- Protected, restored, and enhanced habitat for migratory and unique Minnesota species ~ *For the Hallock Dam and Mounds Creek fish passage and stream restoration and enhancement projects, we will use routine fish surveys to gauge changes to the fish community, and compare with pre-project data.*

Programs in southeast forest region:

- Rivers, streams, and surrounding vegetation provide corridors of habitat ~

Parcels

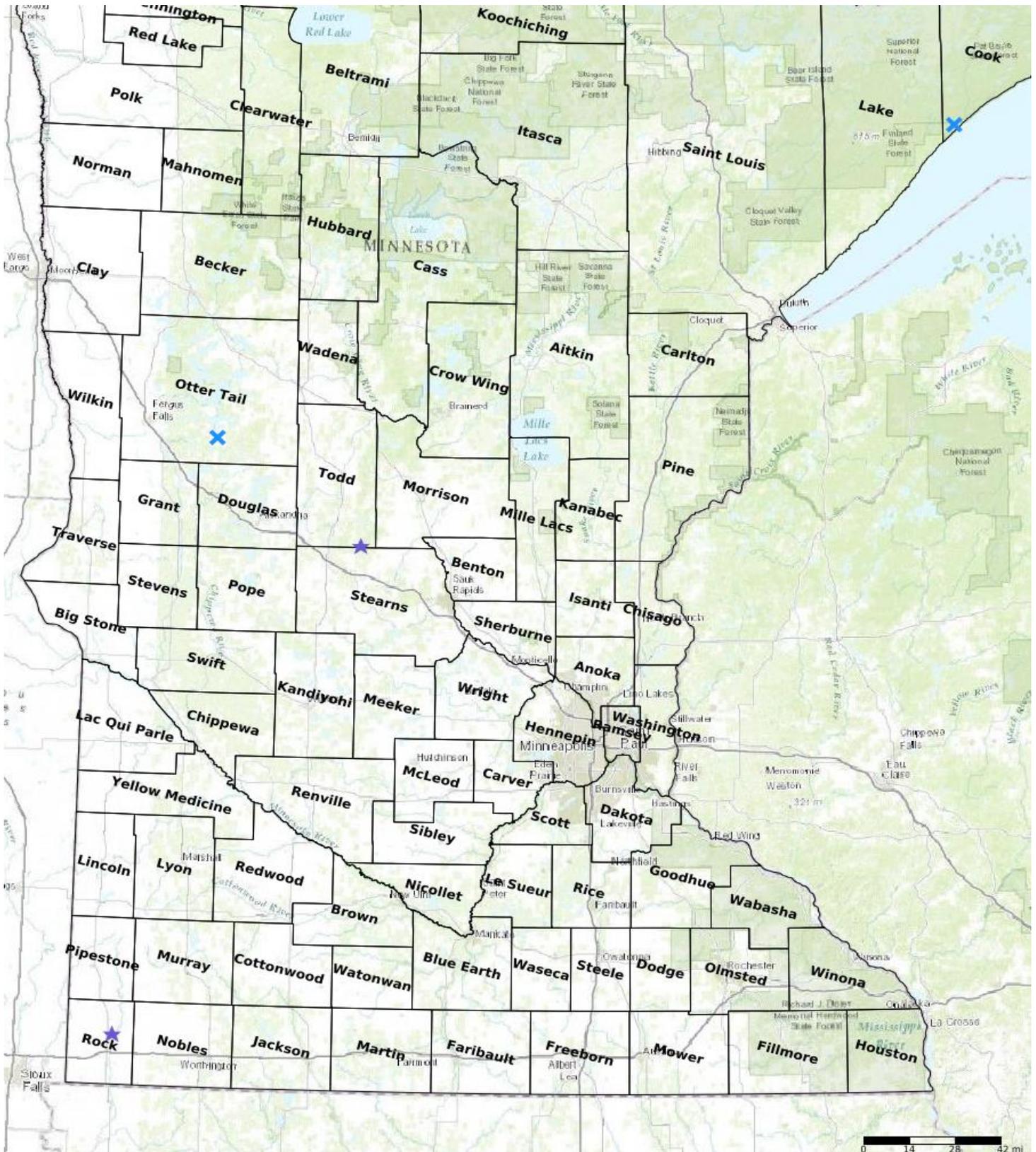
Sign-up Criteria?

No

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Fredenberg Creek	Cook	05805203	2	\$346,500	Yes
Crane Lake Fish Passage	Otter Tail	13240225	1	\$83,000	Yes
Mound Creek Dam Removal	Rock	10345224	20	\$1,400,000	Yes
Fish Creek Dam Removal	Todd	12732229	2	\$85,000	Yes

Parcel Map



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