



Lessard-Sams Outdoor Heritage Council

DNR Aquatic Habitat Restoration and Enhancement
Laws of Minnesota 2018 Final Report

General Information

Date: 10/18/2023

Project Title: DNR Aquatic Habitat Restoration and Enhancement

Funds Recommended: \$2,834,000

Legislative Citation: ML 2018, Ch. 208, Art. 1, Sec. 2, subd 5(q)

Appropriation Language: \$2,834,000 the second year is to the commissioner of natural resources to restore and enhance aquatic habitat in degraded streams and aquatic management areas 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

Title:

Organization: Minnesota Department of Natural Resources

Address: 500 Lafayette Road Box 20

City: St Paul, MN 55155

Email: jamison.wendel@state.mn.us

Office Number: 651-259-5176

Mobile Number:

Fax Number:

Website:

Location Information

County Location(s): Chisago, Becker, Pine, Mille Lacs, Fillmore, Pope, Redwood, Wabasha, Meeker, Cass, Faribault, Dodge, Goodhue, St. Louis, Scott, Kandiyohi, Kanabec, Douglas, Carver, Crow Wing and Wright.

Eco regions in which work will take place:

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

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 across all the LSOHC planning regions. Two stream restoration projects totaling 23 acres were completed with this appropriation. Also, habitat enhancement projects were completed on 43 Aquatic Management Areas, totaling 849 acres. Stream habitat work for this appropriation and LSOHC-funded projects from other appropriations was aided by funding for a stream restoration coordinator and interns. These positions aided in public outreach, survey work, design, permitting, contracting, and coordination with project partners on these complex projects

Process & Methods

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

Miller Creek Stream Restoration: Miller Creek is a designated trout stream that is located within the city limits of Duluth that was ditched in the 1930's. This project highlights an urban project that was successful in restoring 6100 feet of Miller Creek. This project restored the geomorphic stability of the stream by reconnecting the floodplain and remeandering the stream to a stable channel. This project also enhanced riparian corridors and buffers, improved fish habitat diversity, and addressed the bed and bank erosion. In addition, the project team was able to expand the project to include an important tributary to Miller Creek. This project will provide improved habitat, stability and water quality to the associated tributary and Miller Creek. Funding for the larger overall project of Miller Creek and the tributary has come from various sources USFS (\$115,000) and NOAA (\$95,000).

North Fork of the Zumbro River Stream Restoration: The North form of the Zumbro River was historically dammed near the City of Mazeppa. This damming disconnected the stream and altered the stream channel. This project was successful in restoring 3710 feet of the Zumbro River to a more stable form that is connected to the floodplain. Additionally, this project was able to address the dam remnants that were affecting the river stability, address the high unstable banks and improve instream habitat diversity. This project improved habitat for at least 28 species of fish documented downstream of where the dam was located. Fish will have easier accessibility to 40 miles upstream of the dam location.

AMA Enhancement: This appropriation includes funding for personnel tasked with assessing habitat needs on Aquatic Management Areas (AMAs), writing management guidance documents that outline projects, and overseeing project implementation. AMA Specialists completed 6 new site assessments, bringing the total number of AMAs assessed since June 2014 to 247. To date, 170 Management Guidance Documents have been completed. An additional 28 Management Guidance Documents are in various stages of review. Staff also planned or oversaw enhancement projects on 43 AMAs, totaling 849 acres.

The Restoration Coordinator has worked on project development for future projects, coordinated project meetings, been involved in design, written grant agreements, processed reimbursements, tracked budgets, and prioritized projects for funding. Additionally, the Restoration Coordinator hired and managed to interns to advance the

culvert inventory and prioritization work. The Restoration Coordinator has developed the Natural Resources Specialist position and held interviews.

This past year the interns have completed the Crow Wing watershed culvert inventory. They also were able to get a portion of the Zumbro watershed completed too.

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?

There are 68 species of greatest conservation need that utilize headwaters to large streams, including birds, turtles, frogs, fish, and insects. Stream habitat projects are not designed with one species in mind, but instead are intended to benefit multiple functions and habitats of the river both within the stream and in the riparian area, which will have benefits for rare species.

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.

Many AMAs contain native plant communities identified by the MN County biological survey. Habitat enhancement proposed in this request will help to maintain the quality of these communities into the future, rather than allowing them to be degraded by invasive species, woody encroachment, or other threats.

Explain Partners, Supporters, & Opposition

Partners for the Miller Creek Stream Restoration Project included the city of Duluth, South St. Louis River Soil and Water Conservation District, US Fish and Wildlife Service, and NOAA.

Partners for the Zumbro River Stream Restoration Project included the city of Mazeppa and Wabasha Soil and Water Conservation District.

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

COVID-19 impacts caused delays in design, permitting, and construction on the two stream restoration 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.

What other dedicated funds may collaborate with or 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 include the Game and Fish Fund, Heritage Enhancement account, and Trout Stamp revenue. AMA enhancement of vegetation often has a limited duration of benefit. Prescribed burns or control of invasive plants

may need to be done every 3-5 years to maintain their full benefit. DNR will continue to spend funds from internal sources, but may also make future requests to use OHF money to repeat these actions on the same parcel.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2025	Combination of DNR Game and Fish funds and OHF	Evaluate AMA Enhancement Projects for invasive plants	Develop or modify management plan	Prescribed burn or control of invasive plants
2028	Combination of DNR Game and Fish funds and OHF	Monitor effectiveness of stream restoration projects	Determine whether adjustments or maintenance is needed	Complete adjustments as needed

Budget

Totals

Item	Requested	AP Amount	Spent	Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$906,000	\$906,000	\$890,400	-	-	-	\$906,000	\$890,400
Contracts	\$1,632,200	\$1,712,200	\$1,793,600	-	\$210,000	US Fish and Wildlife Service and NOAA	\$1,632,200	\$2,003,600
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	\$20,000	\$20,000	\$18,100	-	-	-	\$20,000	\$18,100
Professional Services	\$170,000	\$70,000	\$3,900	-	-	-	\$170,000	\$3,900
Direct Support Services	\$90,800	\$90,800	\$90,800	-	-	-	\$90,800	\$90,800
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	-	-	-	-	-	-	-	-
Supplies/Materials	\$15,000	\$35,000	\$30,300	-	-	-	\$15,000	\$30,300
DNR IDP	-	-	-	-	-	-	-	-
Grand Total	\$2,834,000	\$2,834,000	\$2,827,100	-	\$210,000	-	\$2,834,000	\$3,037,100

Personnel

Position	Annual FTE	Years Working	Amount Spent	Leverage	Leverage Source	Total
AMA enhancement specialist	2.0	3.0	\$418,400	-	-	\$418,400
AMA enhancement technician	0.5	3.0	\$81,400	-	-	\$81,400
AMA contracting	0.5	3.0	\$104,600	-	-	\$104,600
Stream Restoration Coordinator	1.0	2.0	\$236,000	-	-	\$236,000
Stream Restoration Interns	1.0	2.0	\$50,000	-	-	\$50,000

Direct Support Services

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

Departmental formula calculated by DNR Office of Management and Budget Services.

Explain any budget challenges or successes:

COVID delays and recent cost increases with inflation have created budget challenges with other appropriations. However, we were fortunate to be mostly immune from those impacts with this appropriation. No significant budget challenges were faced with this appropriation. The addition of \$210,000 in leverage helped to expand the scope of one project.

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	15	23	15	23
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	265	849	265	849
Total	0	0	0	0	0	0	280	872	280	872

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	-	-	-	-	-	-	\$2,001,300	\$1,812,200	\$2,001,300	\$1,812,200
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	\$832,700	\$1,014,900	\$832,700	\$1,014,900
Total	-	-	-	-	-	-	\$2,834,000	\$2,827,100	\$2,834,000	\$2,827,100

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	0	0	9	9	0	0	6	14	15	23
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	20	34	25	48	20	66	100	132	100	569	265	849
Total	20	34	25	48	29	75	100	132	106	583	280	872

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	-	-	-	-	\$920,400	\$744,100	-	-	\$1,080,900	\$1,068,100	\$2,001,300	\$1,812,200
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	\$62,800	\$147,000	\$78,500	\$56,700	\$62,800	\$123,400	\$314,100	\$203,500	\$314,500	\$484,300	\$832,700	\$1,014,900
Total	\$62,800	\$147,000	\$78,500	\$56,700	\$983,200	\$867,500	\$314,100	\$203,500	\$1,395,400	\$1,552,400	\$2,834,000	\$2,827,100

Target Lake/Stream/River Feet or Miles

2.5

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 ~ *Surveys of AMAs will help us to see benefits to riparian habitat.*

Programs in metropolitan urbanizing region:

- A network of natural land and riparian habitats will connect corridors for wildlife and species in greatest conservation need ~ *Surveys of AMAs will help us to see benefits to riparian habitat.*

Programs in the northern forest region:

- Improved aquatic habitat indicators ~ *The Miller Creek channel restoration project in this region will improve in-channel and riparian habitat. We will use metrics that evaluate instream and floodplain habitat to assess our success. Surveys of AMAs will help us to see benefits to riparian habitat.*

Programs in prairie region:

- Improved condition of habitat on public lands ~ *Surveys of AMAs will help us to see benefits to riparian habitat.*

Programs in southeast forest region:

- Rivers, streams, and surrounding vegetation provide corridors of habitat ~ *The North Fork of the Zumbro River channel restoration project in this region will improve in-channel and riparian habitat. We will use*

metrics that evaluate instream and floodplain habitat to assess our success. Surveys of AMAs will help us to see benefits to riparian habitat.

Parcels

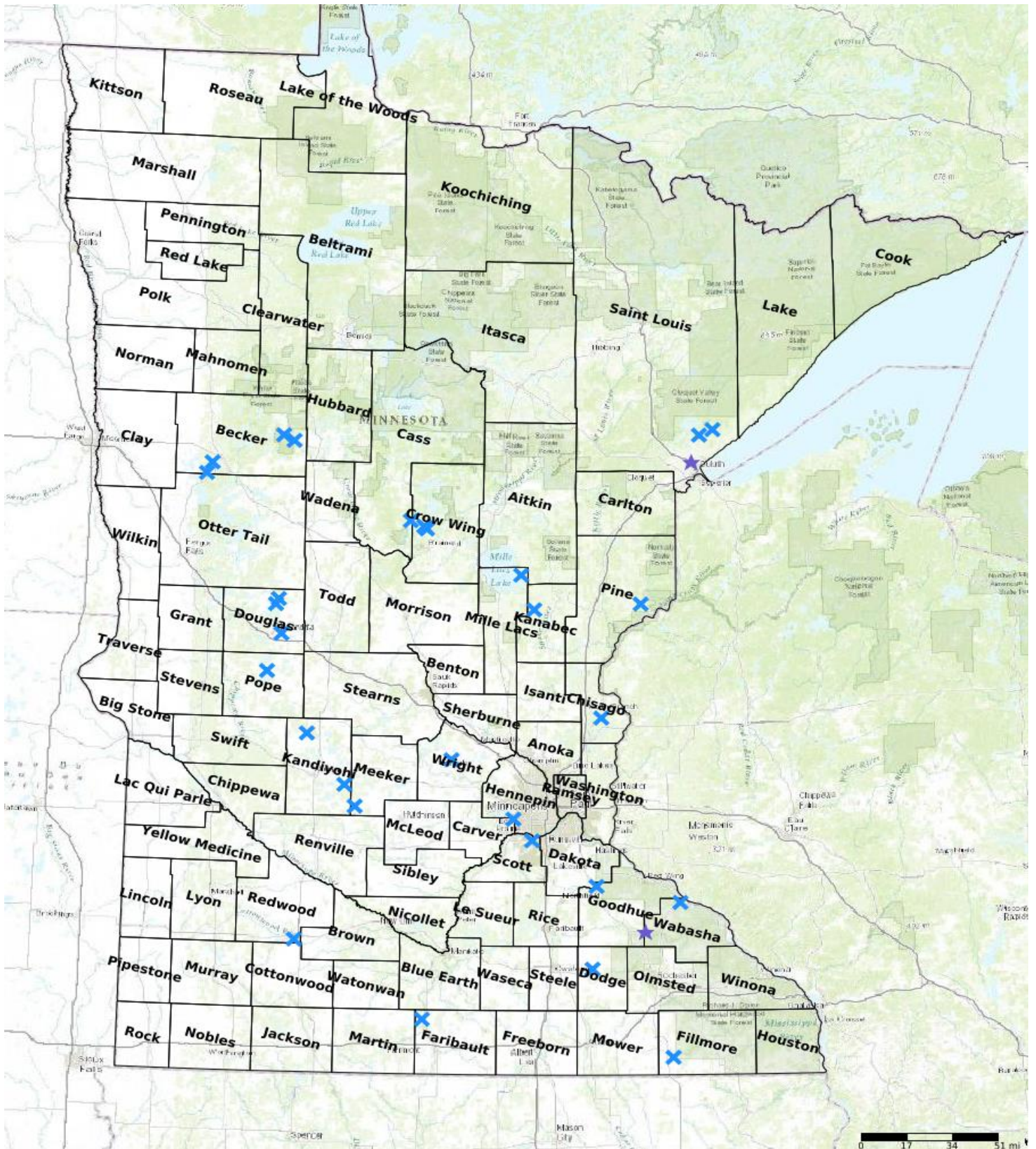
Sign-up Criteria?

No

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Straight Lake (Osage Pond)	Becker	14036229	2	\$5,000	Yes
Shell River	Becker	14037215	1	\$125,000	Yes
Bucks Mill	Becker	13842236	3	\$2,102	Yes
Detroit Lake Headquarters	Becker	13841208	35	\$4,879	Yes
Lotus Lake	Carver	11623201	6	\$10,306	Yes
Grassy Point	Cass	13529221	15	\$3,500	Yes
Sunrise Lake	Chisago	03420217	10	\$7,471	Yes
North Long Lake	Crow Wing	13428204	21	\$3,589	Yes
Bertha Moody Lake	Crow Wing	13528232	24	\$10,151	Yes
Naylor AMA	Dodge	10718213	2	\$805	Yes
Jessie Lake	Douglas	12837227	2	\$1,375	Yes
Miltona Lake	Douglas	13037232	6	\$2,400	Yes
Bliss	Douglas	13037221	3	\$869	Yes
Blue Earth AMA	Faribault	10428221	46	\$12,379	Yes
Etna Creek	Fillmore	10213236	41	\$15,719	Yes
Gemini	Goodhue	11217207	15	\$11,812	Yes
Little Knife	Kanabec	04124221	27	\$13,647	Yes
Games Lake	Kandiyohi	12235232	5	\$437	Yes
Elizabeth Lake	Kandiyohi	11833203	16	\$5,375	Yes
Thompson Lake	Meeker	11732217	17	\$144	Yes
Cedar Creek AMA	Mille Lacs	04325215	52	\$9,720	Yes
Barnes Springs	Pine	04118212	20	\$19,256	Yes
Glenwood Headquarters	Pope	12538202	25	\$3,865	Yes
Sanborn	Redwood	10936227	7	\$9,140	Yes
Eagle Creek	Scott	11521218	24	\$17,570	Yes
Lester River	St. Louis	05214227	4	\$980	Yes
French River Headwaters	St. Louis	05213216	394	\$12,419	Yes
Miller Creek	St. Louis	05014218	14	\$800,000	Yes
Miller Creek AMA	Wabasha	11112208	25	\$11,257	Yes
North Fork Zumbro River	Wabasha	10914206	9	\$750,000	Yes
Ramsey Lake	Wright	12026218	4	\$4,261	Yes

Parcel Map



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