



Lessard-Sams Outdoor Heritage Council

DNR Fish Habitat Restoration and Enhancement Phase 1

ML 2027 Request for Funding

General Information

Date: 06/24/2026

Proposal Title: DNR Fish Habitat Restoration and Enhancement Phase 1

Funds Requested: \$7,112,300

Confirmed Leverage Funds: \$100,000

Is this proposal Scalable?: Yes

Manager Information

Manager's Name: Heather Baird

Title: Lake Habitat Supervisor

Organization: Mn DNR Section of Fisheries

Address: 1601 Minnesota Drive

City: Brainerd, MN 56401

Email: heather.baird@state.mn.us

Office Number: 218-203-4345

Mobile Number:

Fax Number:

Website:

Location Information

County Location(s): Aitkin, Hubbard, Pine, Otter Tail, Douglas, Pope, Meeker, Blue Earth, Rice, Kandiyohi, Clay, Itasca, St. Louis, Crow Wing, Cass, Becker, Beltrami, Mahnommen, Todd, Benton and Cottonwood.

Eco regions in which work will take place:

Prairie

Forest / Prairie Transition

Northern Forest

Activity types:

Enhance

Priority resources addressed by activity:

Habitat

Narrative**Abstract**

The MNDNR is proposing to enhance fish habitat in lakes by modifying six different lake outlets and fish passage, enhance habitat with aquatic plantings and improving riparian habitat on lakeshores. The new outlet structures will reestablish the appropriate lake elevation and help diversify the habitat in the lakes for fish and aquatic resources. Aquatic and terrestrial plantings of native plants will help with lake water quality and enhance habitat for fish. Projects were selected from a statewide request, prioritized by factors such as ecological benefit, scale of impact, urgency of completion, and local support.

Design and Scope of Work

The Minnesota Department of Natural Resources (MNDNR) is starting a programmatic approach to restoring and enhancing fish habitat in lakes. A request from DNR area offices and resource partners developed an initial list of fish habitat projects for lakes. Projects are prioritized based on scale-of-impact, urgency, local support, and critical habitat for rare species. Outlet structures on six different lakes will reestablish appropriate lake levels and improve habitat for fish and aquatic resources. Improving aquatic vegetation with plantings and lake draw downs, along with riparian habitat restoration will improve habitat and water quality for fish habitat statewide.

Working in cooperation with partners, six new rock arch rapids at the outlets of Big Pine, Little Wolf, String Lakes, Blanche Lake, Toad Lake and McCraney Lake will be installed. These new outlet structures will reestablish the appropriate run-out elevation and hydrologic regime to the lakes, and it will also allow fish migration which in turn will help diversify the fish composition and help improve the aquatic ecology of these basins. Modifying or removing the barriers through our six proposed fish passage projects would improve fish habitat on 10,669 acres of water and allow access of many miles to river habitat, restoring river ecological processes that have ecosystem wide benefits. This will benefit fish such as Walleye, Northern Pike, and Lake Sturgeon present in these lakes, as well as five mussel species classified as threatened or special concern.

To improve lake water quality and fish habitat in Little Rock Lake in Benton County, the lake will be drawn down for a period of time allowing for planting of native bullrush (three species) in opportune areas and will be maintained for five years. Planting aquatic plants will restore and enhance emergent vegetation which is critical habitat to many fish species.

We propose to enhance 5,205 acres of habitat in 21 counties across the state, which includes 591 acres of lake shore uplands on 33 Aquatic Management Areas (AMA). Uplands in these parcels provide a buffer to protect water quality, and habitat for more terrestrial species. Our enhancement work includes shoreline plantings, invasive species control, planting climate resilient tree species, and prescribed burns. Projects are selected based on management guidance documents that have been written for each AMA. The shoreline on newly acquired Ida Lake AMA will be enhanced after the lake elevation is restored with some work by partners.

Historically, Department resources for fish habitat work falls short of our funding and staff capacity; funding from the Outdoor Heritage Fund will be critical to an acceleration of fish habitat work by the department and partners. To develop future projects and to manage proposed projects, funding for a Fish Habitat Restoration Coordinator and Habitat Specialist is included in this proposal. These positions, located in the Division of FAW, Section of

Fisheries, will provide critical technical assistance, and construction oversight to partners working on Legacy-funded restoration and enhancement projects.

Explain how the proposal addresses habitat protection, restoration, and/or enhancement for fish, game & wildlife, including threatened or endangered species conservation

McCraney Lake outlet is on Gull Creek, which joins the White Earth River in White Earth Lake. Removal of the dam will reconnect McCraney, Tulaby, Snider, and Little Elbow Lakes to White Earth Lake. White Earth Lake is a Lake Sturgeon stocking location for White Earth Natural Resources.

This project would be a key components to Lake Sturgeon restoration efforts in the Red River basin. Lake Sturgeon are an important game species and also listed as a species of Special Concern in Minnesota. Dams that blocked migrations to spawning habitat, overharvest, and poor water quality contributed to the extirpation of Lake Sturgeon from the Red River basin in the early 1900's. Lake Sturgeon reintroduction in the Red River basin has been ongoing for 20 years and mature fish are being captured during spring surveys now. However, barriers block upstream migrations of mature Lake Sturgeon on the Otter Tail River. Removing these barriers for fish passage is key to restoring a naturally reproducing population of Lake Sturgeon in the Red River basin.

Big Pine Lake(s) outlet is at the head of the Pine River (Kettle River Watershed). Modifying the lake outlet structure would allow for fish passage between lakes and river for regionally important species including but not limited to Lake Sturgeon, Walleye, and state listed mussel species.

Endangered and threatened species often rely on migratory corridors, such as our AMA parcels. Restoring and enhancing these parcels provides the optimal habitat for these species to recover and reach other critical habitat. In North America, riparian habitat has the most diverse and rich array of bird, amphibian, and mammal species, maintaining this habitat is critical for biodiversity as well as threatened and endangered species.

There are 68 species of greatest conservation need that utilize headwaters to large streams, including birds, turtles, frogs, fish, and insects. Habitat projects are intended to benefit multiple functions and habitats of the lake both within the lake and in the riparian area, which will have benefits for many rare species.

What are the elements of this proposal that are critical from a timing perspective?

The projects on our list have local support that may not be present in the future if public sentiment were given time to change, which can happen with outlet structure removal or modification projects.

If funded, timing for the Ida Lake shoreline restoration will align nicely with work that Ducks Unlimited and local government units are doing to establish a baseline elevation for Ida Lake and removing a road that segments the lake and runs through the AMA.

Describe how the proposal expands habitat corridors or complexes and/or addresses habitat fragmentation:

Science-based targeting was used to identify, design, and prioritize restoration and enhancement projects included in this proposal. Projects were prioritized based on multiple criteria, including scale-of-impact, critical habitat, technical feasibility, and compatibility with other resource initiatives. Projects that benefit or reconnect areas of high or outstanding biological significance or lakes of biological significance are targeted and prioritized.

Our proposal features projects intended to reduce fragmentation. Dams and other obstructions in rivers on lake outlet fragment areas of suitable habitat, similar to when pieces of prairie are separated by large areas of row-crop

farmland. By removing or modifying barriers on lakes, we will allow fish and other aquatic life to move between different patches of habitat that may be critical for their life-processes, such as spawning and overwintering habitat. Connectivity also expands fishing opportunities by acting as a conduit for recolonization after catastrophic events such as drought happen in one portion of a watershed. We have prioritized fish passage projects that connect large areas of high-quality habitat.

Similarly, our vegetation improvement projects and AMA enhancement projects target reaches of where habitat is poor due to past alterations. Poor habitat can act as barriers to animal movement, where a fish may choose not to migrate through a reach without adequate depth or cover to reach more suitable habitat upstream. Restoring aquatic vegetation and riparian habitat removes that "barrier" of poor habitat that fragments a watershed. In the process, we also create high-quality habitat within the formerly degraded lake system.

Which top 2 Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

Long Range Plan for Fisheries Management

Minnesota DNR Strategic Conservation Agenda

Which LSOHC section priorities are addressed in this proposal?

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

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

Prairie

Restore or enhance habitat on public lands

Describe how this project/program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife:

The lake outlet restoration projects included in this proposal represent opportunities to make major and lasting positive changes for these lakes and rivers. Fish passage projects such as at the String Lakes, Blanche Lake, Toad Lake, and McCraney Lake outlet dam projects have the potential to create access to high-quality lake habitat for species that are currently blocked, which includes game fish and state-listed mussel species. A defined project done in one location can benefit several lake habitats, and the benefit will last in perpetuity. Little to no follow-up maintenance is needed. Similarly, our aquatic vegetation and riparian projects would restore previously-altered reaches of lake terrestrial vegetation back to high quality habitats. This not only creates habitat within the project area but also makes it easier for fish and other aquatic life to move between upstream and downstream habitats. All of this enhanced connectivity makes for much healthier and resilient populations.

If this project/program does not have permanent outcomes, describe why it is important to undertake at this time:

While most lake projects in this proposal have permanent outcomes, AMA habitats are always changing, and little is permanent due to the science of plant succession. The best example would be fire and prairie. With periodic fires, we can keep trees under control and the prairies open for grassland dependent wildlife. Multiple prescribed fires are also more cost effective than waiting 20 yrs and funding a major tree removal project. To quote Leopold's Game Management "Cover is controlled by controlling the plant succession in the right direction at the right time and place. Cow, plow, axe, and fire reverse the succession. Fencing, fire prevention, and planting advance it." In other cases, we can approach most enhancement projects when they are still small and manageable. Waiting another decade will degrade the habitat and cost much more once we finally get to it.

Outcomes

Programs in forest-prairie transition region:

Improved aquatic habitat vegetation ~ *Forest Prairie will be lake riparian focused restoration of valuable corridors of habitat. It will be monitored with AMA staff and local Area Fisheries Staff during routine fish surveys and AMA monitoring. The non-game program is very active in this region with projects assessing wildlife populations. And there are the same ongoing wildlife surveys as in the other regions of the state. The Blanche Lake and McCraney Lake Outlet connectivity aligns with "Reconnect the Red" efforts (Goal #3, Red River Fisheries Management plan; Phase 2 Lake Sturgeon Restoration Plan). Compare fisheries communities before and after project completion.*

Programs in the northern forest region:

Increased availability and improved condition of riparian forests and other habitat corridors ~ *Improved aquatic habitat indicators will include geomorphic monitoring on the Toad Lake restoration projects. Fish communities will be assessed before and after project completion. Stream riparian focused restoration will be monitored with AMA staff and local Area Fisheries Staff during routine fish surveys and AMA monitoring. The non-game program is very active in this region with projects assessing wildlife populations and there are the same ongoing wildlife surveys as in the other regions of the state.*

Programs in prairie region:

Enhanced shallow lake productivity ~ *String Lake will improve connectivity to many miles of river habitat and the acres within the lake will remain viable depth for walleye and northern pike stocking. It will be monitored with regular schedule fish lake surveys. Shallow lakes for fish habitat in south differ from wildlife shallow lake management. The efforts in this grant will restore habitat for fish and aquatic resources that are lacking in many southern, more shallow lakes. Lake riparian focused restoration of valuable corridors of habitat. It will be monitored with AMA staff and local Area Fisheries Staff during routine fish surveys and AMA monitoring.*

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 request is an acceleration of DNR aquatic habitat work to a level not attainable without this appropriation.

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

MNDNR has multiple potential avenues that could be used for ongoing maintenance of projects, including the Game and Fish Fund which is supported by license sales, the Heritage Enhancement account funded by taxes on lottery tickets, the General Fund, and people who volunteer to help the department with projects.

Provide an assessment of how your program may celebrate cultural diversity or reach diverse communities in Minnesota, including reaching low- and moderate-income households:

The DNR Aquatic Habitat Restoration and Enhancement proposal has the following specific ties to BIPOC and diverse communities: Projects included in this proposal provide benefits at the watershed scale. These benefits extend well beyond the footprint of each individual project and benefit all Minnesotans. Tribal partners have been significant partners in efforts to restore Lake Sturgeon in the Red River basin. Multiple projects included in this proposal contribute to these efforts. DNR’s OHF projects aim to serve all Minnesotans. At the same time, we are bringing more focus in all our work to BIPOC and diverse communities. The Minnesota DNR has adopted advancing diversity, equity and inclusion (DEI) as a key priority in its strategic plan. The plan focuses on increasing the cultural competence of our staff, creating a workforce that is reflective of Minnesota, continuing to strengthen tribal consultation and building partnerships with diverse communities. The OHF funds high quality habitat projects that provide ecosystem services like clean water and carbon sequestration that support environmental justice. OHF also supports public access and recreational opportunities on these lands. OHF projects and outcomes benefit BIPOC and diverse communities through recreational opportunities that are close-to-home, culturally responsive and accessible to Minnesotans with disabilities. The DNR has diversity, equity and inclusion strategies that benefit all OHF projects: Multilingual and culturally specific hunting and fishing education programs take place on public lands. All hiring is equal opportunity, affirmative action, and veteran friendly. Contracting seeks out Targeted Group, Economically Disadvantaged and Veteran-Owned businesses. Public engagement seeks out BIPOC voices and involves diverse communities. Outreach and marketing of projects has this focus as well. Partnerships are at the center of all projects. Tribes in particular are consulted in all pertinent areas of the DNR’s work, under EO 19-24.

Activity Details

Requirements

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

AMA

County/Municipal

Public Waters

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program, either by the proposer or the end owner of the property, outside of the initial restoration of the land?

No

Will insecticides or fungicides (including neonicotinoid and fungicide treated seed) be used within any activities of this proposal either in the process of restoration or use as food plots?

No

Previous OHF Appropriations

Have you received OHF dollars through LSOHC for this program or project in the past?

No

Timeline

Activity Name	Estimated Completion Date
Design of lake outlet projects for fish passage	March 2028
Permitting and environmental review of outlet fish passage and vegetation planting	December 2028
Construction of fish passage and riparian and aquatic vegetation	September 2030
Vegetation maintenance on all projects	June 2030

Budget

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	\$1,326,500	-	-	\$1,326,500
Contracts	\$5,606,800	\$100,000	Blanchard Hydro Mitigation funds	\$5,706,800
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	\$15,000	-	-	\$15,000
Professional Services	-	-	-	-
Direct Support Services	\$113,600	-	-	\$113,600
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	Blanchard Hydro Mitigation funds	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	\$50,400	-	-	\$50,400
DNR IDP	-	-	-	-
Grand Total	\$7,112,300	\$100,000	-	\$7,212,300

Personnel

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
Lake Habitat Specialist	1.0	5.0	\$512,500	-	-	\$512,500
Restoration Coordinator	1.0	5.0	\$814,000	-	-	\$814,000

Amount of Request: \$7,112,300

Amount of Leverage: \$100,000

Leverage as a percent of the Request: 1.41%

DSS + Personnel: \$1,440,100

As a % of the total request: 20.25%

Easement Stewardship: -

As a % of the Easement Acquisition: -

Leverage Funding Table

	Leverage Amount Committed	Leverage Amount Confirmed (of Committed Funds)	Leverage Amount Anticipated	Total Leverage
Amount:	\$100,000	\$100,000	-	\$100,000
% of Total Leverage:	100.0%	100.0%	0.0%	

Detail leverage sources and confirmation of funds:

Hydroelectric Blanchard Dam Mitigation Funds

Does this proposal have the ability to be scalable?

Yes

If the project received 50% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?

Projects come from a prioritized list. With partial funding, we would fund only the top projects from our list that fit within the amount allocated. At 50% funding, we estimate that we would still be able to achieve approximately 40-50% of enhancement and restoration acres.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?

Personnel would reduce to 50 to 60% of the requested amount. Staff time would focus on project coordination, administration, and project development.

Direct Support Services is determined by a standard DNR process taking into account the amount of funding and the number of allocations made with that funding.

If the project received 30% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?

Top ranked projects are watershed-scale connectivity projects; at 30% funding we will achieve approximate 30-40% of our initial proposed acres for enhancement and 11% of our initial restoration acres.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?

Personnel would reduce to 30 to 40% of the requested amount. Staff time would focus on project coordination, administration, and project development.

Direct Support Services is determined by a standard DNR process taking into account the amount of funding and the number of allocations made with that funding.

What other dedicated funds may collaborate with or contribute to this proposal?

Clean Water Fund

Personnel

Has funding for these positions been requested in the past?

No

Contracts

What is included in the contracts line?

100% of contracts are for Restoration and Enhancement work.

Travel

Does the amount in the travel line include equipment/vehicle rental?

No

Explain the amount in the travel line outside of traditional travel costs of mileage, food, and lodging

All travel line costs will be used for mileage, food, and lodging.

I understand and agree that lodging, meals, and mileage must comply with the current MMB Commissioner Plan:

Yes

Direct Support Services

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

DNR calculates the program's fair share to pay for support costs directly related to and necessary for the appropriation, and an internal Service Level Agreement (contract) guarantees each program will receive the services for the calculated amount.

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	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	5,205	5,205
Total	0	0	0	5,205	5,205

Restoration/Enhancement Acres Breakdown of Existing Protected Lands (Table 1a.2)

	RESTORE: Lands acquired with OHF	RESTORE: Lands NOT acquired with OHF	ENHANCE: Lands acquired with OHF	ENHANCE: Lands NOT acquired with OHF
DNR Lands (WMA, State Forests, etc.)	-	-	54	537
Non-DNR Lands (city, state, federal, etc.)	-	-	0	4,614
Easements	-	-	-	-
Total	-	-	54	5,151

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	\$7,112,300	\$7,112,300
Total	-	-	-	\$7,112,300	\$7,112,300

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	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	1,638	0	480	3,087	5,205
Total	0	1,638	0	480	3,087	5,205

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	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	\$2,852,200	-	\$2,178,300	\$2,081,800	\$7,112,300
Total	-	\$2,852,200	-	\$2,178,300	\$2,081,800	\$7,112,300

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	\$1,366

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	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	\$1,741	-	\$4,538	\$674

Target Lake/Stream/River Feet or Miles

768 lake miles

Parcels

Sign-up Criteria?

No

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

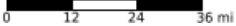
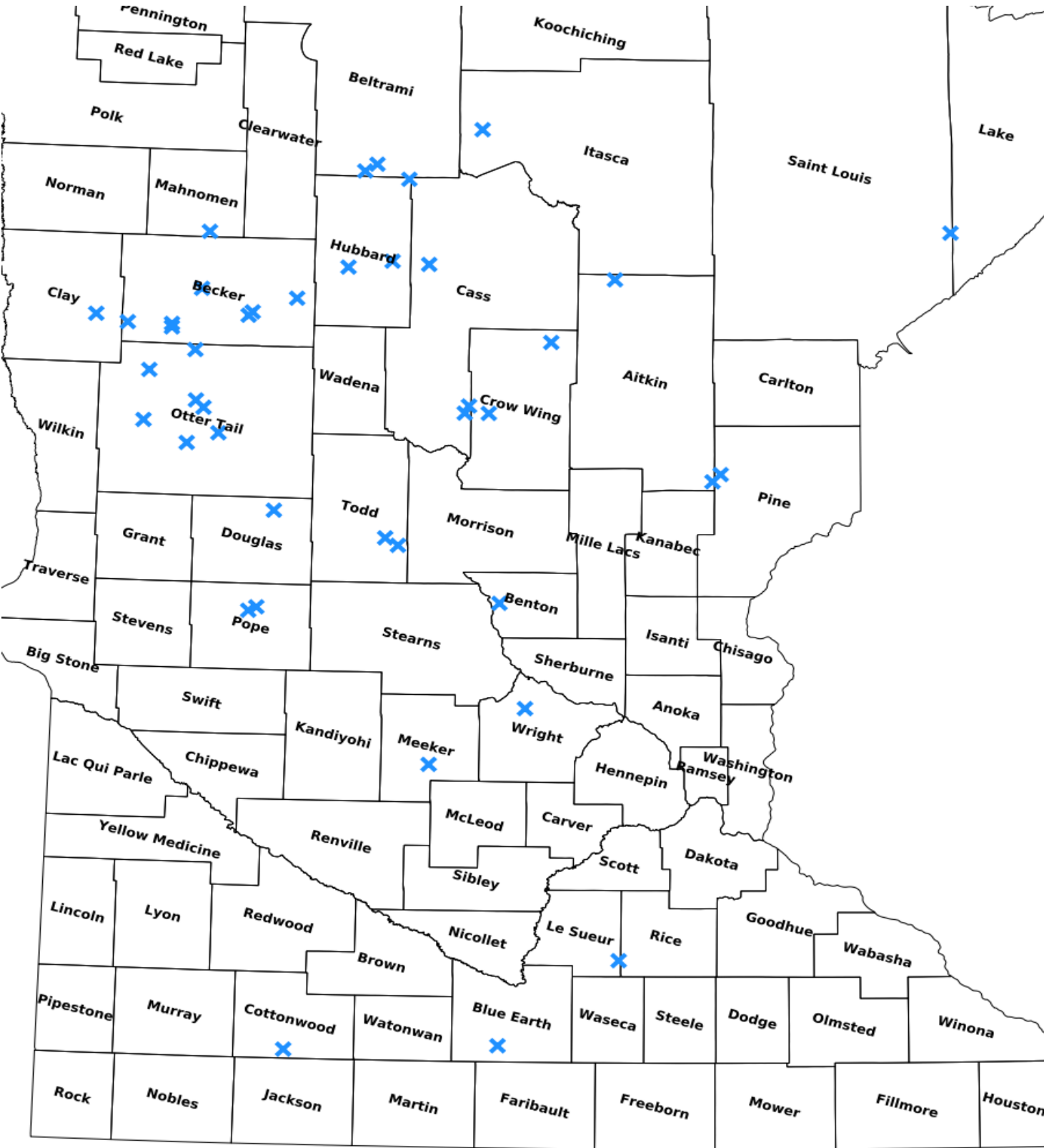
MN DNR uses a prioritized list to select habitat projects for submission. Project submissions are solicited from MN DNR staff as well as partner organizations. Criteria used to rank projects includes the scale of impact, critical habitat for rare species, the urgency of completing the project, feasibility, and local support. From that list we select the highest-ranked projects that we feel could be completed during the life of the OHF appropriation.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection	Description
Hill Lake AMA	Aitkin	05226212	130	\$50,000	Yes	Buckthorn- 3 yr. follow-up
Strawberry Creek	Aitkin	04322224	1	\$350,000	Yes	Culvert replacement
Monson Lake AMA	Becker	13841206	5	\$10,000	Yes	Buckthorn control
Rock Lake AMA	Becker	14040217	5	\$8,000	Yes	Tree planting or prescribed savanna burn
Sallie Lake AMA	Becker	13841207	10	\$10,000	Yes	Buckthorn control
Straight Lake AMA	Becker	14036229	18	\$10,000	Yes	Invasive Spp. Control
Toad Lake	Becker	13938220	1,715	\$725,000	Yes	Lake Outlet removal and modification
Toad Lake AMA	Becker	13938216	5	\$10,000	Yes	Common Tansy Control
Upper Cormorant Lake AMA	Becker	13843205	10	\$10,000	Yes	Buckthorn control
Bemidji Lake South AMA	Beltrami	14633215	4	\$10,000	Yes	Invasive Spp. Control
Preece Point AMA	Beltrami	14633230	10	\$10,000	Yes	Invasive Spp. Control
Little Rock Lake	Benton	03731214	1,000	\$350,000	Yes	Aquatic Vegetation planting
Ida Lake AMA	Blue Earth	10528212	30	\$500,000	Yes	Shoreline restoration and engineering design
Agate Rearing Pond AMA	Cass	13529232	9	\$10,000	Yes	Invasives (canada thistle (0.6 acres), red cedar, reed canary grass)
Ah Gwah Ching AMA	Cass	14131202	15	\$10,000	Yes	Invasives
Grassy Point AMA	Cass	13529221	14	\$10,000	Yes	Invasive species control
Silver Lake AMA	Clay	13945225	50	\$20,000	Yes	Prescribed burn/invasives birdsfoot
String Lake	Cottonwood	10536219	402	\$1,233,750	Yes	Lake Outlet removal and modification
Bertha Moody Lake AMA	Crow Wing	13528232	100	\$30,000	Yes	Buckthorn control
Roosevelt AMA	Crow Wing	13826224	30	\$10,000	Yes	Tree cage
Milona Lake AMA	Douglas	12127224	20	\$20,000	Yes	Buckthorn Control
Lester Lake AMA	Hubbard	14232232	5	\$10,000	Yes	Tree planting
Little Wolf Lake Outlet	Hubbard	14532201	1	\$110,000	Yes	Outlet connection to Mississippi River
Pickerel Lake AMA	Hubbard	14134209	4	\$10,000	Yes	Invasive Spp. Control
Dixon Lake AMA	Itasca	14829225	5	\$5,000	Yes	Prescribed burn/ native seeding
Elizabeth Lake AMA	Kandiyohi	13037221	10	\$5,000	Yes	Buckthorn Control
McCraney Lake	Mahnomen	14340227	265	\$725,000	Yes	Lake Outlet removal and modification
Minniebelle Lake AMA	Meeker	11831212	3	\$4,000	Yes	prescribed burn
Blanche Lake	Otter Tail	13339206	1,228	\$750,000	Yes	Lake Outlet removal and modification
Dead Lake	Otter Tail	13540233	1	\$350,000	Yes	Outlet connection
Dead Lake AMA	Otter Tail	13540219	20	\$20,000	Yes	Invasive Spp. Control

Jewitt Lake AMA	Otter Tail	13443224	1	\$2,000	Yes	Prescribed burn
Lake Seven AMA	Otter Tail	13740207	8	\$10,000	Yes	buckthorn control
Lizzie Lake AMA	Otter Tail	13642207	2	\$2,000	Yes	Prescribed burn
North Turtle Lake	Otter Tail	13341223	2	\$2,000	Yes	Prescribed burn
Big Pine Lake Outlet	Pine	04321208	1	\$100,000	Yes	Outlet connection to Big Pine Lake to river
Glenwood HQ AMA	Pope	12538202	5	\$7,000	Yes	invasive species control
Pelican Lake AMA	Pope	12538209	5	\$8,000	Yes	invasive species control
Horseshoe Lake AMA	Rice	10923212	5	\$400,000	Yes	Gully repair, design, and restoration of shoreline outlet location
Donna Lake AMA	St. Louis	05412201	20	\$20,000	Yes	Spruce Budworm Rx/Tree Planting
Dohn Lake	Todd	12932230	4	\$10,000	Yes	Buckthorn/honeysuckle follow-up
Little Swan Lake	Todd	12832203	27	\$10,000	Yes	Invasives (buckthorn, garlic mustard);

Parcel Map



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



Fish Habitat Restoration and Enhancement—Phase 1

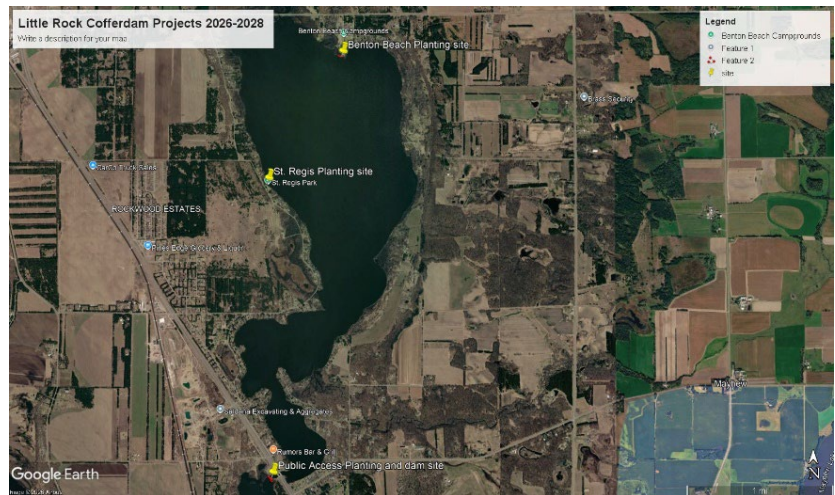
The MNDNR is proposing to enhance fish habitat in lakes by modifying six different lake outlets, enhance habitat with aquatic plantings and improving riparian habitat on lakeshores on Aquatic Management Areas (AMA). The new outlet structures will reestablish the appropriate lake elevation and help diversify the habitat in the lakes for fish and aquatic resources. Modifying or removing the barriers through our six proposed fish passage projects would improve fish habitat on 10,669 acres of water and allow access of many miles to river habitat, restoring ecological processes that have ecosystem wide benefits. This will benefit fish such as Walleye, Northern Pike, and Lake Sturgeon present in these lakes, as well as five mussel species classified as threatened or special concern. Little Rock Lake is proposing to restore aquatic emergent plants with a lake drawdown. Aquatic and terrestrial plantings of native plants will help with lake water quality and enhance habitat for fish. All projects were selected from a statewide request, prioritized by factors such as ecological benefit, scale of impact, urgency of completion, and local support.

Project Partners

- Cottonwood County
- Big Pine Lake Association
- Pine County SWCD
- Ottertail County
- Becker County
- Mahnommen County
- The Nature Conservancy
- Leach Lake Band of Ojibwe

Requested Amount: \$7,112,300

Leverage Amount: \$100,000



Little Rock Lake

- Enhance aquatic plants through a whole lake drawdown
- Enhance water quality and habitat for fish through the growth of native aquatic vegetation



Example of Rock Arch Rapids for lake outlets

Projects (continued)



String Lakes

- Replace the failing outlet structure with a rock arch rapids
- New outlet will allow fish passage to the West Fork of the Des Moines River
- New outlet will restore water levels and increase the diversity of fish and aquatic assemblages that will be more resilient to ecological stressors



Dead Lake Outlet

- The Dead River is a direct tributary to Otter Tail Lake
- The Dead River outlet and downstream crossing are known barriers to spring spawning runs of Walleye, White Sucker, and other native species
- Modification of the structures will restore aquatic migratory pathways, and unlock 126 square miles of drainage area which includes 44 lakes

Aquatic Management Area Enhancement

- AMA enhancement work includes tree planting, prairie enhancement, shoreline restoration
- Planting and enhancing emergent aquatic vegetation on AMAs and in lakes is an important part of enhancing fish habitat

Questions?

Heather Baird
Lake Habitat Supervisor
Minnesota Department of Natural Resources
heather.baird@state.mn.us