Lessard-Sams Outdoor Heritage Council
Fiscal Year 2018 / ML 2017 Request for Funding

Date: June 15, 2016

Program or Project Title: DNR Stream Habitat - Phase II (HRE02)

Funds Requested: $6,130,000

Manager's Name: Brian Nerbonne
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County Locations: Big Stone, Crow Wing, Douglas, Goodhue, Houston, Kittson, Olmsted, Otter Tail, Rock, Todd, and Watonwan.

Regions in which work will take place:

- Northern Forest
- Forest / Prairie Transition
- Southeast Forest
- Prairie

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Habitat

Abstract:

The Minnesota Department of Natural Resources will restore or enhance habitat to facilitate fish passage, restore degraded streams, and enhance habitat critical to fish and other aquatic life. Projects are prioritized based on ecological benefit, urgency, feasibility, and stakeholder support.

Design and scope of work:

Streams in Minnesota support a wealth of biodiversity, including 162 fish species and 48 mussel species of which 23 are listed as special concern, threatened or endangered. In some parts of the state that lack natural lakes, such as southeast Minnesota and the Red River Valley, streams represent the only local opportunity for fishing. Trout, smallmouth bass, lake sturgeon, and walleye are among the species stream anglers pursue.

Streams can be degraded by habitat alterations such as dams, channelization (straightening), and streambank erosion. Barriers such as dams block fish from migrating to key habitats such as spawning areas, and can lead to reduced abundance or even the loss of fish and mussel species. Past fish passage projects have returned up to 10 species, including walleye, sauger, and channel catfish, to miles of river where they had disappeared. All proposed fish passage projects have no known potential to enable access by invasive species.

Past channelization of streams simplified habitat and eliminated the shallow riffles and deeper pools required by different life stages of fish. Streambank erosion results in a loss of important undercut bank and overhanging vegetation, and contributes excess sediment that degrades habitat. Channel restoration and enhancement projects can address these impacts by recreating appropriate habitat,

and stabilizing eroding banks. This benefits not only the project area, but reaches that lie downstream that are no longer affected by eroded sediment.

The Minnesota Department of Natural Resources (MNDNR) has decades of experience restoring and enhancing habitat, benefiting fish, mussels, and other aquatic life. Our package of fish passage and stream channel restoration and enhancement includes 12 projects that occur in four LSOHC planning regions (refer to Figure 1). Although the footprint of projects is 54 acres which includes 2.6 miles of stream, the projects will benefit over 10,900 acres of lakes and streams through restoration or enhancement of fish passage (refer to Table 1). Projects were selected from a prioritized list using criteria such as ecological benefit, feasibility, urgency, and stakeholder support. Two of the projects on our parcel list (Whetstone River and Fish Lake Dam) will involve partners, who will contribute in-kind staff time as well as financial resources toward the projects' completion.

Department resources for stream habitat work falls far short of the need; funding from the Outdoor Heritage Fund (OHF) has been critical to an acceleration of stream habitat work by the department and partners such as Trout Unlimited, as well as smaller groups such as lake associations who seek funding through the Conservation Partners Legacy program. We propose to continue funding for two stream habitat specialist positions to enable this increased effort. They provide technical assistance and oversight on Legacy-funded projects by MNDNR and partners, improving efficiency of coordination by providing single points of contact, and enhancing outcomes of stream projects through technical guidance.

Which sections of the Minnesota Statewide Conservation and Preservation Plan are applicable to this project:

- H3 Improve connectivity and access to recreation
- H6 Protect and restore critical in-water habitat of lakes and streams

Which other plans are addressed in this proposal:

- Minnesota DNR Nongame Wildlife Plans
- Red River of the North Fisheries Management Plan

Describe how your program will advance the indicators identified in the plans selected:

The Red River of the North Management plan has as one of its habitat focuses, a goal to "reconnect Red River and its tributaries by removing or modifying dams in order to restore uninterrupted fish migration pathways." Our Hallock River dam modification is exactly the type of project that plan calls for, and will benefit channel catfish and sauger which are identified in the plan, respectively, as primary or secondary management species.

The Minnesota non-game wildlife plan (aka State Wildlife Action Plan) identifies the need to provide habitat for Topeka Shiner, black sandshell, and creek heelsplitters. Among the strategies that are called for is to "support the removal of dams where appropriate to restore movement corridors."

Which LSOHC section priorities are addressed in this proposal:

Prairie:

- Restore or enhance habitat on public lands

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

Southeast Forest:

- Protect, enhance, and restore habitat for fish, game, and nongame wildlife in rivers, cold-water streams, and associated upland habitat

Describe how your program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife as indicated in the LSOHC priorities:

Consistent among the priorities from each of the LSOHC priorities for each section is a focus on restoring or enhancing critical aquatic habitats. Our emphasis on fish passage not only restores habitat at the project site, but also creates access to miles of additional habitat upstream. We are benefiting game species such as channel catfish and sauger, but also non-game species such as the Topeka Shiner, black sandshell mussels, and creek heelsplitter mussels. The impacts of dams is typically present for decades, but once they are removed or modified the benefits are ongoing without need for maintenance. These types of projects create a lasting legacy of accomplishments from our investment.

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

One of the criteria to rank our proposed projects is the amount of habitat that is created, or acres of habitat made accessible through the removal or modification of barriers. This reduces fragmentation of aquatic systems, providing access to key habitats such as spawning grounds. In addition, numerous fish and mussel species are currently found downstream from the barriers but not upstream. For example, the Hallock Dam modification will provide access for 13 fish species, including important game species of channel catfish and sauger, not currently found upstream of the dam.

How does the proposal address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species:

The highest-ranking project in our proposal is a fish passage/channel restoration on Mound Creek which will benefit the federally endangered Topeka Shiner. The project will restore 7 acres of stream channel habitat in a former impoundment, and will provide access to an additional 6 acres of habitat.

The Hallock Dam modification will all create access to 31 miles (372 acres) of upstream habitat for Creek Heelsplitter and the Black Sandshell mussels, both species of special concern in Minnesota. The North Fork Watonwan dam removal will create access to 19 miles (228 acres) of habitat for the Creek Heelsplitter mussel. The Whetstone River restoration will create 0.8 miles (10 acres) of habitat for the Creek Heelsplitter.

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.

Identify indicator species and associated quantities this habitat will typically support:

The values below represent general averages for potential aquatic indicator species in Minnesota. These averages are generated from available data and published sources, and do not capture the variability inherent in populations of fish and mussels. Natural populations, including healthy populations with good habitat, vary among locations, and also rise and fall within lakes and rivers. Most fish surveys conducted by DNR produce an index of abundance (catch per unit effort) rather than a population estimate. Indicators: Trout stream-SE Brook trout 100 lbs/acre; Brown Trout 130 lbs/acre; Trout stream-NE- brook, brown or rainbow trout 40 lbs/acre; Warmwater rivers- sauger 2 lbs/acre; Channel catfish 116/acre; Mussels, all species 8000/acre; Prairie streams- Topeka shiner 1810/acre.

Outcomes:

Programs in the northern forest region:

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

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 fish passage 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 *For stream habitat enhancement 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 fish passage projects we will use routine fish surveys to gauge changes to the fish community, and compare with pre-project data. Specialized sampling to evaluate Topeka Shiner population response to the Blue Mounds project will be done, tracking colonization from downstream areas.*

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, funds raised through the sale of Trout Stamps, people who volunteer to help the department with projects, and future potential OHF appropriations.

Explain the things you will do in the future to maintain project outcomes:

Year	Source of Funds	Step 1	Step 2	Step 3
First year post-project	OHF	Inspect completed project	Make any minor modifications to projects as needed using funds OHF funds allocated for project maintenance	Perform vegetation maintenance such as mowing or spot-spraying to control invasive species
Second year	OHF	Inspect completed project	Perform vegetation maintenance such as mowing or spot-spraying to control invasive species	
All following years	Multiple	Inspect completed project	Make any minor modifications to projects as needed.	

What is the degree of timing/opportunistic urgency and why it is necessary to spend public money for this work as soon as possible:

Proposed projects have been prioritized using criteria that includes urgency. Timing for dam removal or modification projects is particularly important, because there can at times be resistance from the public to changes to dams. All of our proposed projects currently have support locally, but that could change in the future with new local elected officials who feel differently about dams, and may try to preserve or restore the dam rather than allow it to be removed or modified.

How does this proposal include leverage in funds or other effort to supplement any OHF appropriation:

For the Whetstone River restoration project, the Upper Minnesota River Watershed District ($100,000) and Citizens for Big Stone County ($50,000) have offered local funds to assist with the project. In addition to but not included in match totals is spending by South Dakota of over $4 million toward restoration work in their portion of the Whetstone River. For the Fish Lake dam modification project, the Pelican Group of Lakes Improvement District has pledged to contribute $28,700 in additional funds.

Not listed in leverage totals is the numerous in-kind time that DNR staff not supported by OHF spend in supporting the proposed projects.

Relationship to other funds:

- Clean Water Fund

Describe the relationship of the funds:

The Clean Water Fund supports local governments in implementing projects in lakes and rivers to address known or potential impairments. However, they do not typically fund "habitat" projects such as dam removals or modifications. In addition, MNDNR is not eligible for implementation money from the Clean Water Fund.

Describe the source and amount of non-OHF money spent for this work in the past:

Appropriation Year	Source	Amount
2015	Game and Fish, Heritage Enhancement, and Federal Grants	1,083,717
2014	Game and Fish, Heritage Enhancement, and Federal Grants	764,917
2013	Game and Fish, Heritage Enhancement, and Federal Grants	596,168
2012	Game and Fish, Heritage Enhancement, and Federal Grants	848,571

Activity Details

Requirements:

If funded, this proposal 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 activity on permanently protected land per 97A.056, subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 - **Yes (AMA, Public Waters, State Park)**

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

Land Use:

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

Accomplishment Timeline

Activity	Approximate Date Completed
Survey and design of projects	March, 2019
Permitting and hiring of construction contractors	March, 2020
Construction of projects	March, 2021
Monitoring and initial vegetation maintenance	June, 2022

Budget Spreadsheet

Total Amount of Request: $6,130,000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	$726,000	$0		$726,000
Contracts	$4,792,000	$179,000	Upper Minnesota R. Watershed District, Citizens for Big Stone County, and the Pelican Group of Lakes Improvement District	$4,971,000
Fee Acquisition w/ PILT	$0	$0		$0
Fee Acquisition w/o PILT	$0	$0		$0
Easement Acquisition	$0	$0		$0
Easement Stewardship	$0	$0		$0
Travel	$101,000	$0		$101,000
Professional Services	$280,000	$0		$280,000
Direct Support Services	$95,000	$0		$95,000
DNR Land Acquisition Costs	$0	$0		$0
Capital Equipment	$0	$0		$0
Other Equipment/Tools	$0	$0		$0
Supplies/Materials	$136,000	$0		$136,000
DNR IDP	$0	$0		$0
Total	$6,130,000	$179,000	-	$6,309,000

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Stream Habitat Specialist	2.00	4.00	$726,000	$0		$726,000
Total	2.00	4.00	$726,000	$0	-	$726,000

Amount of Request:	$6,130,000
Amount of Leverage:	$179,000
Leverage as a percent of the Request:	2.92%
DSS + Personnel:	$821,000
As a % of the total request:	13.39%
Easement Stewardship:	$0
As a % of the Easement Acquisition:	-%

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

DNR uses a standard departmental formula that calculates direct support services costs that are directly related to and necessary for each request based on the type of work being done.

Does the amount in the contract line include R/E work?

Yes, 100%.

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

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

DNR's accounting system does not allow a split between equipment time and travel mileage. We expect to have $69,000 of equipment

time that will be reported as "travel".

Describe and explain leverage source and confirmation of funds:

The Whetstone River restoration project has commitments from the Upper Minnesota River Watershed District ($100,000) and Citizens for Big Stone County ($50,000). We will seek additional funds required for the project. The Pelican Group of Lakes Improvement District has committed $28,700 toward the Fish Lake Dam modification.

Does this proposal have the ability to be scalable? - Yes

Tell us how this project would be scaled and how administrative costs are affected, describe the "economy of scale" and how outputs would change with reduced funding, if applicable:

We will prioritize the stream habitat specialist positions to continue, although depending on the allocation we may reduce the years they are funded. For projects we will select the ones highest on the priority list based on what is allocated. Agency direct costs would be reduced proportionally.

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	20	20
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	34	34
Total	0	0	0	54	54

Table 2. Total Requested Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	$0	$0	$0	$4,280,000	$4,280,000
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	$1,850,000	$1,850,000
Total	$0	$0	$0	$6,130,000	$6,130,000

Table 3. Acres within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	1	0	19	0	20
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	3	29	1	1	34
Total	0	4	29	20	1	54

Table 4. Total Requested Funding within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	$0	$100,000	$0	$4,180,000	$0	$4,280,000
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	$715,000	$620,000	$435,000	$80,000	$1,850,000
Total	$0	$815,000	$620,000	$4,615,000	$80,000	$6,130,000

Table 5. Average Cost per Acre by Resource Type

Type	Wetlands	Prairies	Forest	Habitats
Restore	$0	$0	$0	$214,000
Protect in Fee with State PILT Liability	$0	$0	$0	$0
Protect in Fee W/O State PILT Liability	$0	$0	$0	$0
Protect in Easement	$0	$0	$0	$0
Enhance	$0	$0	$0	$54,412

Table 6. Average Cost per Acre by Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	$0	$100,000	$0	$220,000	$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	$238,333	$21,379	$435,000	$80,000

Target Lake/Stream/River Feet or Miles

3

I have read and understand Section 15 of the Constitution of the State of Minnesota, Minnesota Statute 97A.056, and the Call for Funding Request. I certify I am authorized to submit this proposal and to the best of my knowledge the information provided is true and accurate.

Parcel List

Explain the process used to select, rank and prioritize the parcels:

We have created a prioritized list of projects based on the following criteria: resource potential, scale of impact, critical habitat for threatened/endangered/special concern species, invasive species potential, community support, timing/urgency, feasibility, and compatibility with other initiatives. The list is compiled annually based on projects proposed by DNR staff as well as external partners (i.e. local governments and not-for-profit organizations), who are solicited for potential stream habitat projects.

Section 1 - Restore / Enhance Parcel List

Big Stone

Name	TRDS	Acres	Est Cost	Existing Protection?
Whetstone River Restoration	12146216	11	$2,000,000	Yes

Crow Wing

Name	TRDS	Acres	Est Cost	Existing Protection?
Red Sand Lake Dam	13329210	1	$68,000	Yes

Douglas

Name	TRDS	Acres	Est Cost	Existing Protection?
Long Prairie River Dam Modification	12937216	1	$180,000	Yes

Goodhue

Name	TRDS	Acres	Est Cost	Existing Protection?
North Branch Middle Fork Zumbro River	10916233	7	$65,000	Yes

Houston

Name	TRDS	Acres	Est Cost	Existing Protection?
Pine Creek Habitat Enhancement	10506213	7	$169,000	Yes

Kittson

Name	TRDS	Acres	Est Cost	Existing Protection?
Hallock Dam Modificaiton	16149213	1	$375,000	Yes

Olmsted

Name	TRDS	Acres	Est Cost	Existing Protection?
North Branch Whitewater River Habitat Enhancement	10811232	15	$300,000	Yes

Otter Tail

Name	TRDS	Acres	Est Cost	Existing Protection?
Crane Lake Fish Passage	13240225	1	$65,000	Yes
Fish Lake Dam Modification	13742217	1	$400,000	Yes

Rock

Name	TRDS	Acres	Est Cost	Existing Protection?
Mound Creek Dam Removal	10345224	7	$1,400,000	Yes

Todd

Name	TRDS	Acres	Est Cost	Existing Protection?
Fish Creek Dam Removal	12732229	1	$85,000	Yes

Watonwan

Name	TRDS	Acres	EstCost	Existing Protection?
North Fork Watonwan Dam Removal	10733214	1	$200,000	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

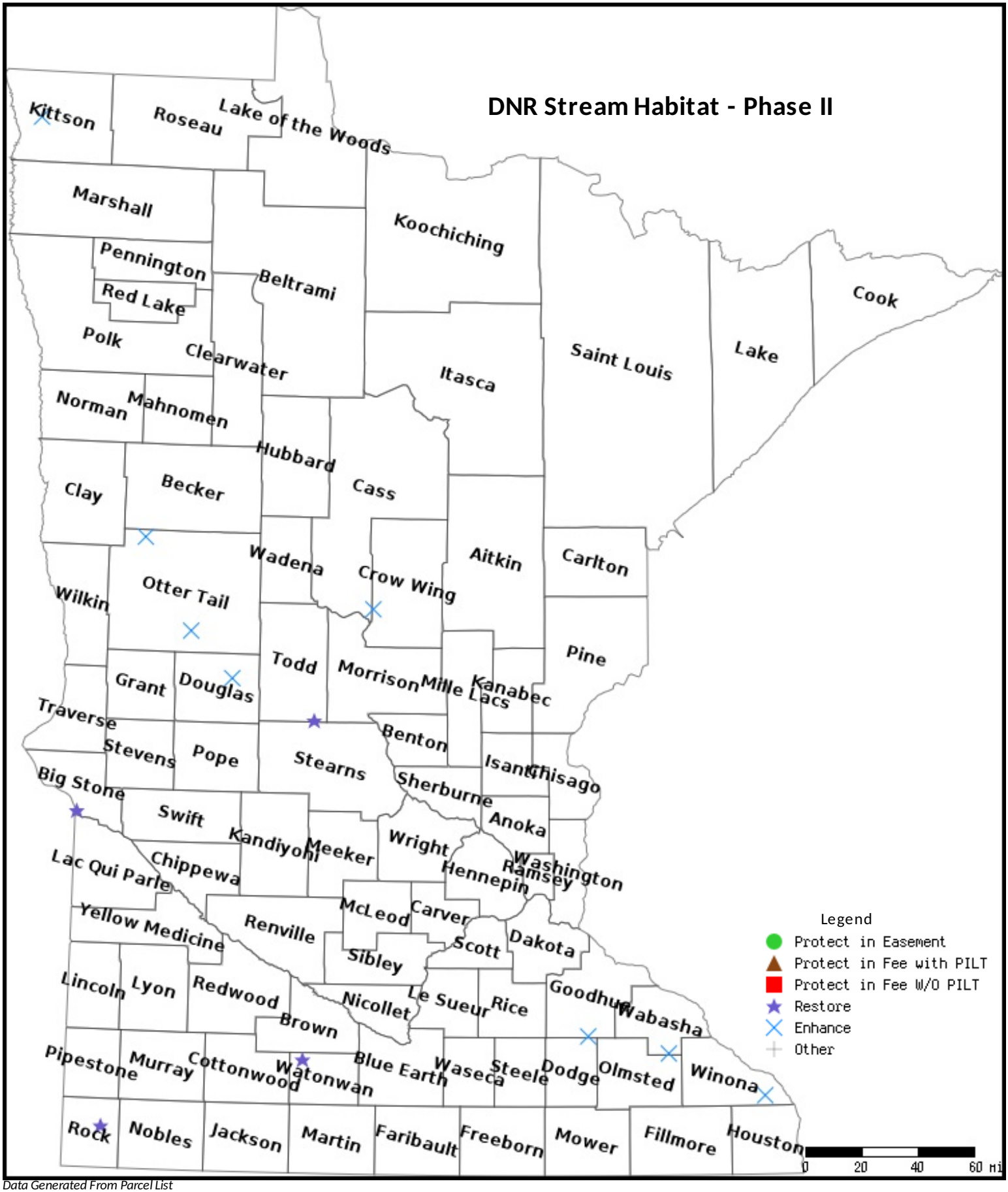
Section 2a - Protect Parcel with Bldgs

No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.

Parcel Map



Data Generated From Parcel List

DNR Stream Habitat, Phase 2

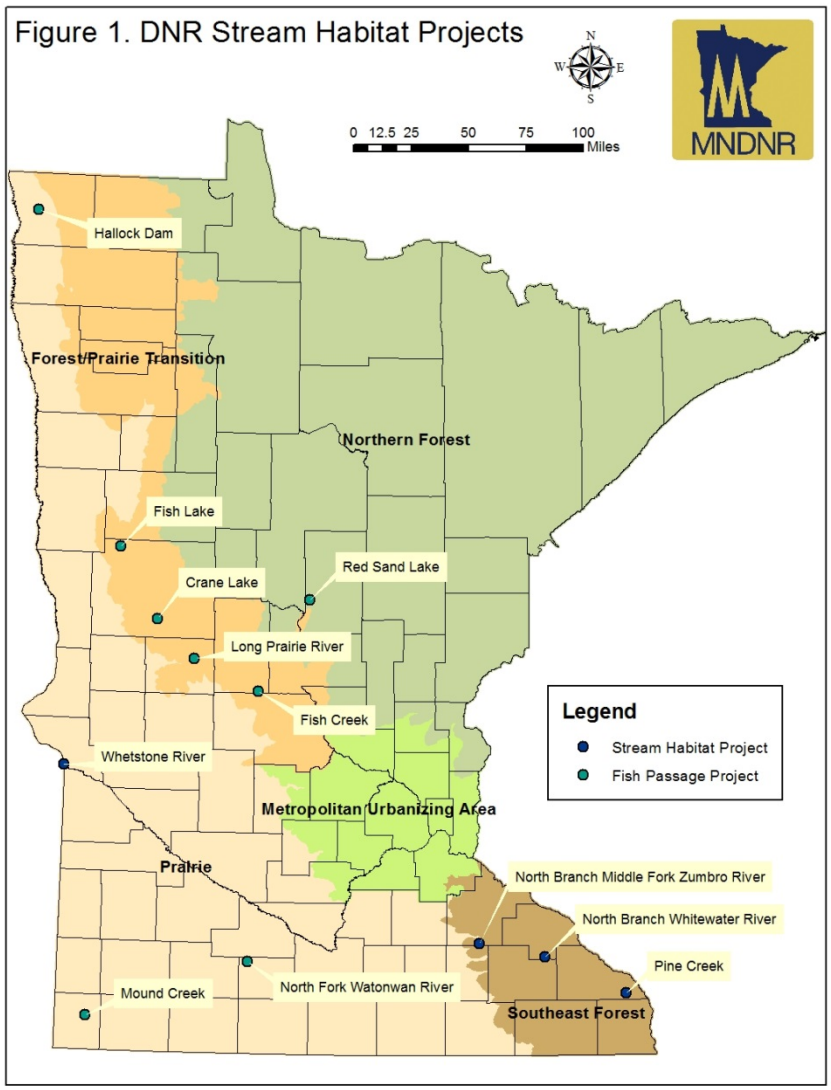
Total Request: $6.13 million over 5 years

Proposed Projects

- Projects selected from a prioritized list based on criteria such as habitat potential, urgency/timing, local support, and feasibility.
- Four projects to restore or enhance stream habitat on 3.3 miles of streams.
- Eight fish passage projects that will create access to over 10,900 acres of lake and stream habitat.
- Key indicator species benefitting from these projects include channel catfish, sauger, walleye, northern pike, brook and brown trout.
- Rare species such as Topeka shiner, black sandshell and creek heelsplitter mussels will benefit.

Stream Habitat Specialist Positions

- Two ongoing positons (north and south MN) will continue technical assistance for DNR and partners' (e.g. Trout Unlimited) OHF stream projects.



Fish Passage Project Example

- Fish passage projects will remove or modify barriers such as dams, allowing fish to access upstream habitat. Many miles of new habitat can become available to both game and non-game species, creating much larger benefits than the project footprint.

Before

After

Stream Habitat Restoration Example

- Stream habitat projects are designed to restore the complex habitat of riffles, pools, and cover such as instream wood and overhanging vegetation required by different fish at various stages of life. Streambanks are stabilized and planted with native vegetation to provide lasting habitat.

Before

After

Project Details

Stream Name	Project Type	OHF Share of Project Cost	Total Project Cost	LSOHC Planning Region	Footprint Acres	Acres Benefitted
Mound Creek Dam Removal	Dam Removal/Channel Restoration	$1,400,000	$1,400,000	Prairie	7	13
North Fork Watonwan Dam Removal	Dam Removal/Channel Restoration	$200,000	$200,000	Prairie	1	228
Whetstone Stream Restoration	Channel Restoration	$2,000,000	$6,600,559	Prairie	11	11
Hallock Dam Modification	Dam Modification	$375,000	$375,000	Prairie	1	372
Fish Lake Dam Modification	Dam Modification	$400,000	$443,245	Forest/Prairie Transition	1	4,854
Long Prairie River Dam Removal	Dam Modification	$150,000	$150,000	Forest/Prairie Transition	1	4,407
Crane Lake Culvert	Culvert Modification	$65,000	$65,000	Forest/Prairie Transition	1	352
Red Sand Lake Dam	Dam Modification	$68,000	$68,000	Northern Forest	1	418
Fish Creek	Dam removal	$84,825	$84,825	Forest/Prairie Transition	1	223
North Branch Carley State Park	Channel Restoration	$300,000	$300,000	Southeast Forest	15	15
Pine Creek	Habitat Enhancement	$169,000	$300,000	Southeast Forest	7	7
North Branch Middle Fork Zumbro River	Channel Restoration	$65,000	$65,000	Southeast Forest	7	7
Total		**$5,276,825**	**$10,051,629**		**54**	**10,907**

Contact

Brian Nerbonne, Stream Habitat Coordinator, MNDNR Fisheries, brian.nerbonne@state.mn.us, (651) 259-5205

Table 1. Prioritized list of proposed projects. “Footprint acres” refers to the area directly altered by the project. “Acres benefited” includes the upstream river and lake habitat where access is created by fish passage.

Stream Name	Project Type	OHF Share of Project Cost	Total Project Cost	LSOHC Planning Region	Footprint Acres	Acres Benefitted
Blue Mounds Dam Removal	Dam Removal/Channel Restoration	$1,400,000	$1,400,000	Prairie	7	13
N.F. Watonwan Dam Removal	Dam Removal/Channel Restoration	$200,000	$200,000	Prairie	1	228
Whetstone Stream Restoration	Channel Restoration	$2,000,000	$6,600,559	Prairie	11	11
Hallock Dam Modification	Dam Modification	$375,000	$375,000	Prairie	1	372
Fish Lake Dam Modification	Dam Modification	$400,000	$443,245	Forest/Prairie Transition	1	4,854
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Fish Creek	Dam removal	$84,825	$84,825	Forest/Prairie Transition	1	223
North Branch Carley State Park	Channel Restoration	$300,000	$300,000	Southeast Forest	15	15
Pine Creek	Habitat Enhancement	$169,000	$300,000	Southeast Forest	7	7
Roscoe WMA	Channel Restoration	$65,000	$65,000	Southeast Forest	7	7
Total		**$5,276,825**	**$10,051,629**		**54**	**10,907**

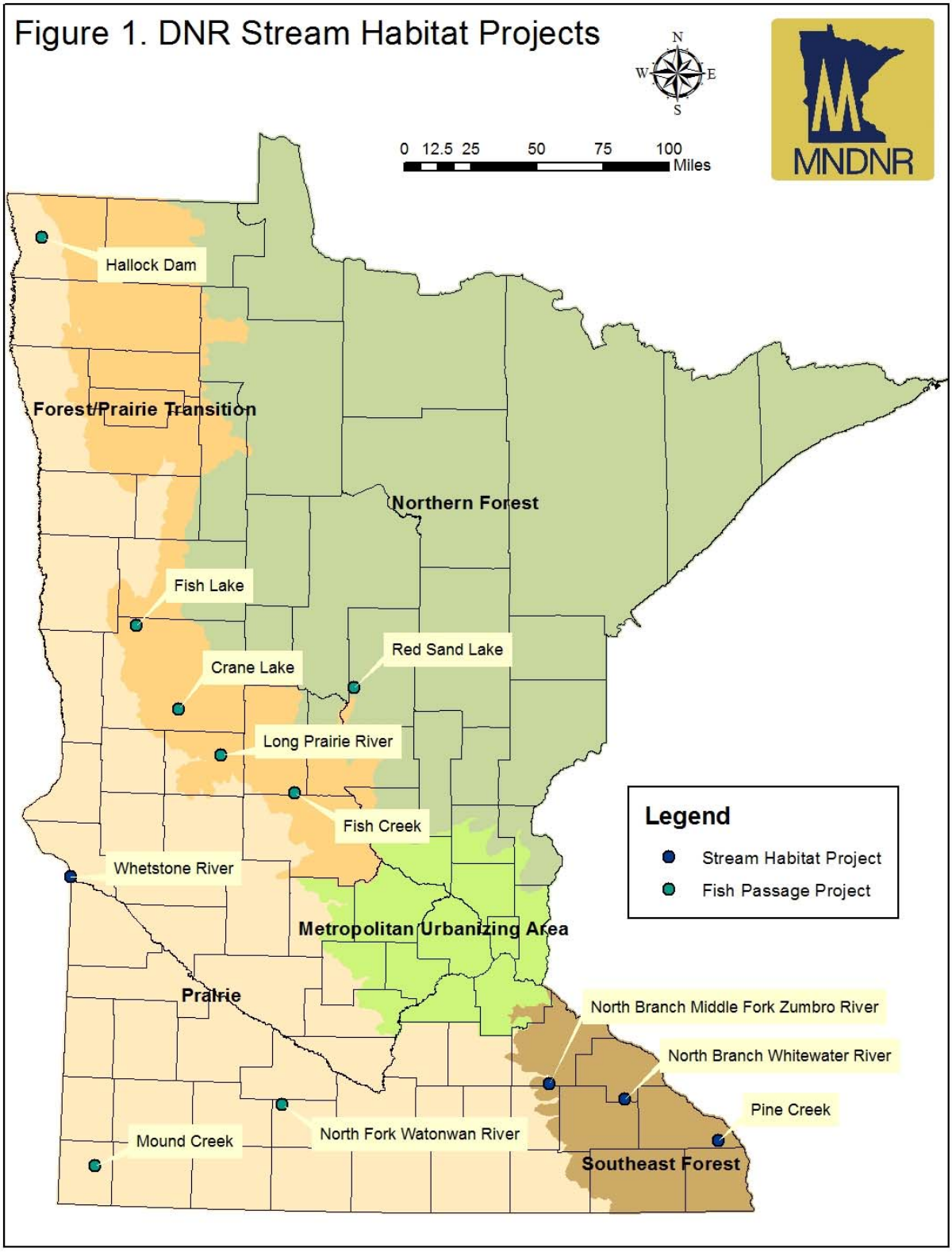
Figure 1. DNR Stream Habitat Projects
N
W
E
S
0 12.5 25 50 75 100
Miles
MNDNR
Hallock Dam
Forest/Prairie Transition
Northern Forest
Fish Lake
Red Sand Lake
Crane Lake
Long Prairie River
Fish Creek
Whetstone River
Metropolitan Urbanizing Area
Prairie
North Branch Middle Fork Zumbro River
North Branch Whitewater River
Pine Creek
North Fork Watonwan River
Mound Creek
Southeast Forest
Legend
Stream Habitat Project
Fish Passage Project