Lessard-Sams Outdoor Heritage Council
Fiscal Year 2019 / ML 2018 Request for Funding

Date: May 31, 2017

Program or Project Title: DNR Aquatic Habitat Restoration and Enhancement

Funds Requested: $11,838,900

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County Locations: Aitkin, Anoka, Becker, Becker , Beltrami, Benton, Big Stone, Brown, Carlton, Carver, Cass, Chisago, Clay, Cook , Crow Wing, Dakota, Douglas, Fillmore, Goodhue, Houston, Hubard, Itasca, Kandiyohi, Kanebec, Lake, Lake of the Woods, Le Sueur, Marshall, McLeod, Meeker, Mille Lacs, Morrison, Mower, Nicollet, Otter Tail, Pine, Pope, Redwood, Renville, Rice, Scott, St Louis, St. Louis, St Louis and Lake, Todd, Wabasha, Waseca, Winona, and Wright.

Regions in which work will take place:

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

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Habitat

Abstract:

Good habitat is critical to sustaining quality fish populations in both lakes and rivers. DNR proposes to restore or enhance aquatic habitat under three programs: 1) stream restoration, 2) trout stream enhancement, and 3) Aquatic Management Area (AMA) enhancement. Stream restoration includes major channel restorations and fish passage projects such as dam removals. Trout stream enhancement will stabilize eroding streambanks and add cover for fish to improve trout populations. AMA enhancement will improve habitat on shorelines and their associated uplands, providing critical spawning habitat for fish, and riparian habitat critical for many species of amphibians, turtles, and birds.

Design and scope of work:

The DNR proposes to expand on decades of experience restoring and enhancing aquatic habitat through three program areas that would be funded by this proposal: 1) stream restoration, 2) trout stream enhancement, and 3) Aquatic Management Area (AMA) enhancement. Through these programs, DNR will increase its capacity to complete habitat projects on both lakes and rivers for the benefit of fish and other aquatic species.

MN DNR is a national leader in stream restoration, having innovated and refined restoration techniques of the past 30+ years. An example is the removal or modification of dams on the Red River to allow fish passage, which has resulted in native fish (e.g., channel catfish and walleye) returning or increasing in reaches upstream of former barriers. Projects are prioritized based on factors such as the scale of benefiting waters, local support, rare species, and project urgency. Quite often dam removal/modification projects are done on old dams in need of repair. If removal/modification funds are not available, it is possible that partners may seek funds elsewhere to repair or replace the dam, which represents a potential missed opportunity to address fish passage. Our prioritized list includes

submissions from several partners including watershed districts, local governments, and Soil and Water Conservation Districts (SWCDs). Partners are often able to handle local logistics and provide some in-kind or financial match. In this request we have proposed 11 stream restoration projects totaling $8.2 million, which includes 5 channel restorations and 6 fish passage projects. This proposal also continues support of a position previously funded LSOHF that coordinates stream restoration projects, providing surveying, design, permitting, and contracting support to enable DNR to complete these additional projects.

Trout streams are sometimes degraded by poor land use practices, reducing their capacity to support trout and other coldwater fish species. Construction will be done by DNR staff, meaning LSOHF will only be paying for project materials and equipment time. This represents a significant cost savings over hiring a private contractor. We have selected one high-priority location for this proposal, based on habitat need, project readiness, and potential for angler use. Total project cost is planned at $160,000. The project will be done on a conservation easement owned by DNR on Pine Creek in Houston County, working with the owner of the surrounding land.

DNR owns almost 1,400 AMA parcels totaling over 34,000 acres of lake and river shoreline and associated uplands. These parcels encompass critical habitat for fish, turtles, frogs, and birds that depend on shoreline habitat. Quality habitat often requires ongoing maintenance such as invasive plant removal, prescribed burns, and planting of native species. The DNR's Section of Fisheries manages AMAs but has limited capacity and expertise to manage these lands. This proposal requests continued funding for positions previously funded by LSOHF who are tasked with designing, contracting, and overseeing AMA enhancement work. Included in this request is $750,000 in project dollars that will be used to enhance approximately 1,000 acres.

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

- H5 Restore land, wetlands and wetland-associated watersheds
- H6 Protect and restore critical in-water habitat of lakes and streams

Which other plans are addressed in this proposal:

- Minnesota DNR Strategic Conservation Agenda
- Red River of the North Fisheries Management Plan

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

The DNR's Strategic Conservation Agenda includes strategies to identify priority land and waters at greatest risk, and manage lands and waters for ecosystem health and resilience. Our proposal will address each of these through our prioritization of projects, and the management actions we will take.

The Red River of the North Fisheries Management plan includes a goal of re-establishing a self-sustaining population of lake sturgeon, reconnecting the Red River and its tributaries, and rehabilitating habitat in the watershed to provide viable native fish populations. The Pelican Rapids Dam, Elizabeth Dam, and Stoney Creek projects all work toward those goals.

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

Metro / Urban:

- Protect, enhance, and restore riparian and littoral habitats on lakes to benefit game and nongame fish species

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:

Fish passage projects and stream channel restorations represent a significant benefit to adjoining lakes and rivers, connecting habitats and at times re-establishing species that had been lost due to fragmentation. They represent a huge habitat benefit that extends well beyond a relatively small local footprint. These projects are also enduring; they generally do not require maintenance beyond an initial period of construction and vegetation establishment.

AMA enhancement will maintain high quality habitat on lake and river shores, habitat that is rapidly disappearing on private lands. Sustaining quality habitat requires periodic work such as controlling invasive species, prescribed burns, or other enhancement of native plant communities.

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:

Barriers to migration are one of the biggest stressors on aquatic life, at times resulting in the loss of species. The fish passage projects in this proposal will greatly enhance connectivity of habitat along river systems, reducing fragmentation that has resulted in the loss of fish and mussel species, some of which are state-listed as threatened. There are 6 such projects in this proposal, providing access to almost 10,000 acres of critical locations that may serve as habitat for spawning, rearing, over-wintering, or refuge from low flow.

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.

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 proposed fish passage projects on the Pelican River (Elizabeth Dam and Pelican Rapids Dam) are both opportunities to create connectivity and spawning habitat for lake sturgeon (species of greatest conservation need) which are being restored in the Red River basin. In addition, creek heelsplitter and fluted-shell mussels (both threatened) are only found downstream of the Pelican Rapids Dam, prevented from accessing habitat upstream. The Whetstone River project would create suitable habitat for the mucket mussel (threatened) which is found downstream. On the Pine River in Crow Wing County, black sandshell mussel is only found downstream of the Norway Lake Dam.

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

For fish passage and channel restoration projects, we expect up to 8,000 mussels/acre and 116 channel catfish/acre as indicators of project success. For trout stream enhancement, we expect 130 pounds/acre of brown trout. For AMA projects on grasslands we expect 3-8 monarch butterflies/acre, while in forest habitats we expect an average of 16 pairs of overbirds per 40 acres.

Outcomes:

Programs in the northern forest region:

- Improved aquatic habitat indicators *Fisheries monitoring programs through the DNR and PCA are designed to assess the relative health of aquatic systems through the use of tools such as indices of biotic integrity (IBI), the MN Stream Habitat Assessment, and Score-Your-Shore. These can all be used to assess tour success in achieving outcomes for these projects.*

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 *All restoration and enhancement projects on rivers include restoration of the riparian area into native vegetation. We will monitor the success of plant establishment and conduct maintenance as needed during the 2-3 year establishment period to insure that sites are part of a healthy riparian corridor.*

Programs in metropolitan urbanizing region:

- A network of natural land and riparian habitats will connect corridors for wildlife and species in greatest conservation need *Our work in the metro region will involve enhancement on AMA parcels. These lands are located in complexes of habitat, with corridors of riparian habitat connecting larger blocks of land in native vegetation. We will monitor enhancement projects to insure that they are successful in their goals of creating quality habitat based on the mix of native plant species present as compared to pre-project.*

Programs in southeast forest region:

- Rivers, streams, and surrounding vegetation provide corridors of habitat *All restoration and enhancement projects on rivers include restoration of the riparian area into native vegetation. We will monitor the success of plant establishment and conduct maintenance as needed during the 2-3 year establishment period to insure that sites are part of a healthy riparian corridor.*

Programs in prairie region:

- Improved condition of habitat on public lands *Our AMA enhancement program will monitor all projects to insure that outcome goals are being met by looking at the diversity and abundance of native plant species that are supported by project sites as compared to pre-project.*

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

Fish passage and channel restoration projects generally do not require ongoing maintenance except during the 3-year window of vegetation establishment. For AMA enhancement projects and trout stream enhancement, DNR has access to several potential funding sources for subsequent maintenance, including the Game and Fish Fund, the Heritage Enhancement Account, and Trout and Salmon Stamps. In addition, the DNR may seek additional funds from external sources such as the Glacial Lakes Partnership, the Natural Resources Trust Fund, or the Outdoor Heritage Fund.

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	LSOHF	Inspect for maintenance needs	Adjust project as needed	Plant native species
Second year post-project	LSOHF	Inspect for maintenance needs	Adjust project as needed	Ensure establishment of native species through techniques such as controlling invasives
Third year post-project	LSOHF	Inspect for maintenance needs	Adjust project as needed	Ensure establishment of native species through techniques such as controlling invasives

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

Dam removal projects can be particularly time-sensitive. An example is the Pine River Dam at Norway Lake. which is in need of repairs. The city is deciding whether to seek funding to repair the dam, or take funding to modify the dam for fish passage. If we are unsuccessful in finding funding to assist with a modification of the dam, the city may seek out another funding source in order to repair the dam. If that were to happen, we will have missed an opportunity to provide fish and mussel passage to habitat upstream.

Other projects such as the Whetstone River restoration are one part of a much larger project. If funds are found to help pay for the restoration, we can leverage up to $1.8 million in restoration funds. However, these funds are not committed to this project and may go elsewhere if Whetstone goes unfunded.

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

The Red River Flood Damage funds are committed as a match toward restoration of Stony Creek. In addition to the habitat benefits of this project, a reconnected floodplain will increase flood storage on Stony Creek and reduce flooding downstream on the Red River. Local governments are expected to provide some local match for projects on the Shell River, Miller Creek, Bostic Creek, the Pelican Rapids Dam, and Norway Lake Dam. The match may be in-kind or a financial contribution. However, none of those funds are currently committed and so we do not list them in the budget table. The Whetstone project is similar, with potential to leverage up to $1.8 million for a number of different sources. We hope to under-promise but over-perform on match for this request.

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
2012	Game and Fish, Heritage Enhancement, and Federal Grants	2,404,000
2013	Game and Fish, Heritage Enhancement, and Federal Grants	4,062,000
2014	Game and Fish, Heritage Enhancement, and Federal Grants	2,843,000
2016	Game and Fish, Heritage Enhancement, and Federal Grants	3,267,000

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, County/Municipal, Public Waters)**

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
Stream restoration project design	September 2019
Stream restoration permitting	March 2020
Stream restoration construction	October 2022
Stream restoration vegetation maintenance	June 2023
Trout stream enhancement design	March 2019
Trout stream enhancement permitting	May 2019
Trout stream enhancement construction	October 2019
AMA enhancement	June 2023

Budget Spreadsheet

Total Amount of Request: $11,838,900

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	$1,796,000	$0		$1,796,000
Contracts	$9,121,000	$216,000	Red River Basin Flood Damage Reduction Work Group	$9,337,000
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	$130,000	$0		$130,000
Professional Services	$400,000	$0		$400,000
Direct Support Services	$201,900	$0		$201,900
DNR Land Acquisition Costs	$0	$0		$0
Capital Equipment	$0	$0		$0
Other Equipment/Tools	$2,000	$0		$2,000
Supplies/Materials	$188,000	$0		$188,000
DNR IDP	$0	$0		$0
Total	$11,838,900	$216,000	-	$12,054,900

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
AMA enhancement specialist	2.00	5.00	$728,000	$0		$728,000
AMA enhancement technician	2.00	5.00	$429,000	$0		$429,000
AMA enhancement contracting	1.00	5.00	$364,000	$0		$364,000
Stream Restoration Coordinator	1.00	2.00	$225,000	$0		$225,000
Stream Restoration Interns	2.00	2.00	$50,000	$0		$50,000
Total	8.00	19.00	$1,796,000	$0	-	$1,796,000

Amount of Request:	$11,838,900
Amount of Leverage:	$216,000
Leverage as a percent of the Request:	1.82%
DSS + Personnel:	$1,997,900
As a % of the total request:	16.88%
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:

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

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

100% of contracts are for R/E work.

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:

60,000 will be used to pay DNR equipment time during use in the trout stream habitat enhancement project on Pine Creek (New Hartford).

Describe and explain leverage source and confirmation of funds:

Committed leverage comes from the Red River Basin Flood Reduction Work Group, who has already awarded that amount for the

Stoney Creek channel restoration. However, we have leads on additional uncommitted leverage funds from other sources, potentially adding up to $1.8 million.

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:

Because we are working off of a prioritized list for both stream restoration and AMA enhancement projects, we are able to scale the work based on allocated funding. Our first priority will be to retain positions necessary to complete project work.

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	145	145
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	1,007	1,007
Total	0	0	0	1,152	1,152

Table 2. Total Requested Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	$0	$0	$0	$9,208,200	$9,208,200
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	$2,630,700	$2,630,700
Total	$0	$0	$0	$11,838,900	$11,838,900

Table 3. Acres within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	2	9	67	67	145
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	40	200	67	500	200	1,007
Total	40	202	76	567	267	1,152

Table 4. Total Requested Funding within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	$736,800	$1,013,100	$0	$4,972,700	$2,485,600	$9,208,200
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	$320,000	$421,100	$381,500	$1,087,100	$421,000	$2,630,700
Total	$1,056,800	$1,434,200	$381,500	$6,059,800	$2,906,600	$11,838,900

Table 5. Average Cost per Acre by Resource Type

Type	Wetlands	Prairies	Forest	Habitats
Restore	$0	$0	$0	$63,505
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	$2,612

Table 6. Average Cost per Acre by Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	$0	$506,550	$0	$74,219	$37,099
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	$8,000	$2,106	$5,694	$2,174	$2,105

Target Lake/Stream/River Feet or Miles

11.9

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:

For stream restoration projects, the DNR uses a prioritized list compiled annually for projects submitted both internally and from external partners. Criteria include the scale of benefits from the project, benefits to rare species, urgency, and local support. For trout stream enhancement, we have looked for locations where the potential gain for the trout population is high, angler use potential is good, and the likelihood of the project having lasting benefits is high. For AMA enhancement, projects are identified in Management Guidance Documents prepared by AMA staff. Priorities are based on criteria such as the presence of or proximity to high-quality habitat such as native prairie or rare species, cost/benefit of the project, and early intervention to control new invasive species to prevent their spread.

Section 1 - Restore / Enhance Parcel List

Aitkin

Name	TRDS	Acres	Est Cost	Existing Protection?
Cedar Lake AMA	04727232	2	$1,500	Yes
Mud River	04527205	10	$10,000	Yes

Anoka

Name	TRDS	Acres	Est Cost	Existing Protection?
Ham Lake	03223220	7	$3,500	Yes

Becker

Name	TRDS	Acres	Est Cost	Existing Protection?
Bad Medicine	14237208	3	$2,000	Yes
Bucks Mill	13842236	45	$8,500	Yes
Detroit Lake Headquarters	13841208	20	$10,000	Yes
Long Lake	13941229	8	$3,500	Yes
Shell River	14037215	1	$125,000	Yes
Straight Lake (Osage Pond)	14036229	10	$5,000	Yes

Becker

Name	TRDS	Acres	Est Cost	Existing Protection?
Upper Cormorant AMA	13843205	64	$32,500	Yes
Upper Cormorant (Island) AMA	13843208	1	$2,000	Yes

Beltrami

Name	TRDS	Acres	Est Cost	Existing Protection?
Bemidji Lake (north)	14733216	15	$3,500	Yes
Bemidji Lake (south)	14633215	5	$4,500	Yes
Blackduck Lake	14931210	4	$2,000	Yes

Benton

Name	TRDS	Acres	Est Cost	Existing Protection?
Little Rock Lake AMA	03731210	12	$1,500	Yes

Big Stone

Name	TRDS	Acres	Est Cost	Existing Protection?
MN River Headwaters	12146209	6	$4,000	Yes
Whetstone River	12146216	16	$2,000,000	Yes

Brown

Name	TRDS	Acres	Est Cost	Existing Protection?
Cottonwood River	10932203	18	$9,000	Yes

Carlton

Name	TRDS	Acres	Est Cost	Existing Protection?
Blackhoof River	04717227	20	$3,500	Yes

Carver

Name	TRDS	Acres	Est Cost	Existing Protection?
Lotus Lake	11623201	5	$39,000	Yes

Cass

Name	TRDS	Acres	Est Cost	Existing Protection?
Agate Rearing Pond	13529232	9	$1,500	Yes
Ah Gwah Ching	14231235	20	$25,000	Yes
Grassy Point	13529221	15	$3,500	Yes
Pine River/Norway Lake Dam	13829231	1	$1,000,000	Yes
Woman Lake	14029222	5	$7,500	Yes

Chisago

Name	TRDS	Acres	Est Cost	Existing Protection?
Sunrise Lake	03420217	20	$10,000	Yes

Clay

Name	TRDS	Acres	Est Cost	Existing Protection?
Silver Lake	13945226	105	$36,500	Yes
Stony Creek	13746203	49	$1,944,000	Yes

Cook

Name	TRDS	Acres	Est Cost	Existing Protection?
Cascade River	06102224	40	$13,500	Yes
Cedar Creek AMA	06005223	10	$3,500	Yes
Devil Track River	06201221	40	$18,500	Yes
Swamp River	06304229	40	$13,500	Yes

Crow Wing

Name	TRDS	Acres	Est Cost	Existing Protection?
Bertha Moody Lake	13528232	35	$7,500	Yes
North Long Lake	13428204	55	$15,000	Yes

Dakota

Name	TRDS	Acres	Est Cost	Existing Protection?
South Branch Vermillion River	11418229	28	$40,700	Yes

Douglas

Name	TRDS	Acres	Est Cost	Existing Protection?
Big Chippewa Lake	12939201	7	$2,000	Yes
Bliss	13037221	8	$3,500	Yes
Crestwood Hills	12837204	6	$3,500	Yes
Geneva Lake	12837221	10	$2,000	Yes
Jessie Lake	12837227	5	$2,000	Yes
Lake Carlos Dam	12937215	1	$180,000	Yes
Mary Lake	12738216	20	$4,500	Yes
Miltona Lake	13037232	15	$3,500	Yes
West Rachel Shores	12739215	6	$9,000	Yes

Fillmore

Name	TRDS	Acres	Est Cost	Existing Protection?
Etna Creek	10213236	38	$26,000	Yes
Lanesboro Hatchery	10310226	10	$3,000	Yes
Peterson Trout Hatchery	10408232	20	$5,000	Yes

Goodhue

Name	TRDS	Acres	Est Cost	Existing Protection?
Gemini	11217207	52	$23,800	Yes

Houston

Name	TRDS	Acres	Est Cost	Existing Protection?
Pine Creek (New Hartford)	10505230	7	$161,000	Yes

Hubard

Name	TRDS	Acres	Est Cost	Existing Protection?
Kabekona Lake	14332224	10	$7,500	Yes

Itasca

Name	TRDS	Acres	Est Cost	Existing Protection?
Bender AMA	15028210	10	$3,500	Yes
Crawford Island	05626217	10	$1,500	Yes
Dixon Lake AMA	14829224	15	$15,000	Yes
Island Lake AMA	15028205	5	$1,500	Yes
Pokegama Lake	05426204	5	$1,500	Yes
Sugar Brook AMA	05426203	10	$1,500	Yes

Kandiyohi

Name	TRDS	Acres	Est Cost	Existing Protection?
Elizabeth Lake	11833203	40	$48,000	Yes
Games Lake	12235232	2	$6,000	Yes
Green Lake	12034210	10	$4,800	Yes
Kasota Lake	11934236	4	$7,200	Yes
Middle Lake	12135209	8	$4,000	Yes
New london hatchery	12134209	5	$2,500	Yes
Norway Lake	12135205	26	$9,800	Yes

Kanebec

Name	TRDS	Acres	Est Cost	Existing Protection?
Little Knife	04124221	60	$20,000	Yes

Lake

Name	TRDS	Acres	Est Cost	Existing Protection?
Manitou River	05806206	20	$3,500	Yes
Split Rock River	05509217	20	$3,500	Yes

Lake of the Woods

Name	TRDS	Acres	Est Cost	Existing Protection?
Bostic Creek	16133212	60	$500,000	Yes

Le Sueur

Name	TRDS	Acres	Est Cost	Existing Protection?
St Peter	11026214	17	$13,400	Yes
Tetonka Lake	10923217	4	$2,000	Yes
Waterville Hatchery	10923229	25	$15,000	Yes

Marshall

Name	TRDS	Acres	Est Cost	Existing Protection?
Frank Rose	15750230	25	$3,000	Yes

McLeod

Name	TRDS	Acres	Est Cost	Existing Protection?
Hutchinson FMA	11730235	6	$5,500	Yes

Meeker

Name	TRDS	Acres	Est Cost	Existing Protection?
Minniebelle Lake	11831212	21	$20,000	Yes
North Fork Crow River	12132224	45	$29,500	Yes
Thompson Lake	11732217	50	$6,500	Yes

Mille Lacs

Name	TRDS	Acres	Est Cost	Existing Protection?
Chuck Davis	03626203	16	$20,000	Yes

Morrison

Name	TRDS	Acres	Est Cost	Existing Protection?
McDougall	12829232	11	$3,500	Yes

Mower

Name	TRDS	Acres	Est Cost	Existing Protection?
Cedar River	10218222	34	$10,000	Yes

Nicollet

Name	TRDS	Acres	Est Cost	Existing Protection?
Seven Mile Creek Dam	10927204	1	$350,000	Yes

Otter Tail

Name	TRDS	Acres	Est Cost	Existing Protection?
Dead Lake	13540219	10	$5,000	Yes
Dead River-Walker Lake	13440211	25	$10,000	Yes
Elizabeth Dam	13443232	1	$450,000	Yes
Pelican Rapids Dam	13643227	1	$750,000	Yes

Pine

Name	TRDS	Acres	Est Cost	Existing Protection?
Barnes Springs	04118212	30	$3,500	Yes
Big Pine	04321208	20	$3,500	Yes
Hinckley	04121224	50	$20,000	Yes

Pope

Name	TRDS	Acres	Est Cost	Existing Protection?
Glenwood Headquarters	12538202	31	$22,000	Yes

Redwood

Name	TRDS	Acres	Est Cost	Existing Protection?
Brickyard	11334231	25	$12,500	Yes
Riverside	11335221	104	$14,000	Yes
Sanborn	10936227	60	$30,200	Yes
Whispering Ridge	11436232	84	$88,600	Yes

Renville

Name	TRDS	Acres	EstCost	Existing Protection?
Nesburgs Landing	11233229	7	$3,500	Yes

Rice

Name	TRDS	Acres	EstCost	Existing Protection?
Cannon River (Dundas)	11120215	28	$22,600	Yes
Dudley-Kelly	11021208	2	$1,000	Yes

Scott

Name	TRDS	Acres	EstCost	Existing Protection?
Eagle Creek	11521218	57	$85,400	Yes

St Louis

Name	TRDS	Acres	EstCost	Existing Protection?
Donna Lake	05412201	2	$1,500	Yes
French River Headwaters	05213216	52	$18,500	Yes
Island Lake (Goodland) AMA	05521220	5	$1,500	Yes
Knife River	05312212	20	$3,500	Yes
Lester River	05214227	5	$3,500	Yes
Little Grand Lake	05116231	3	$1,500	Yes
Sucker River	05312230	20	$3,500	Yes
Tower hatchery	06116203	10	$2,500	Yes

St. Louis

Name	TRDS	Acres	EstCost	Existing Protection?
Miller Creek	05014218	5	$800,000	Yes

St Louis and Lake

Name	TRDS	Acres	EstCost	Existing Protection?
Beaver River	05609225	100	$5,500	Yes

Todd

Name	TRDS	Acres	EstCost	Existing Protection?
Little Swan Lake	12832203	5	$1,500	Yes

Wabasha

Name	TRDS	Acres	EstCost	Existing Protection?
Miller Creek	11112208	21	$6,500	Yes
North Fork Zumbro River	10914206	9	$750,000	Yes
Zumbro River	10914222	1	$1,000	Yes

Waseca

Name	TRDS	Acres	EstCost	Existing Protection?
St Olaf Lake	10522213	3	$1,500	Yes

Winona

Name	TRDS	Acres	EstCost	Existing Protection?
Coolridge Creek	10509203	12	$30,000	Yes

Wright

Name	TRDS	Acres	EstCost	Existing Protection?
Ramsey Lake	12026218	5	$14,400	Yes
Silver Creek	12226215	4	$4,800	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

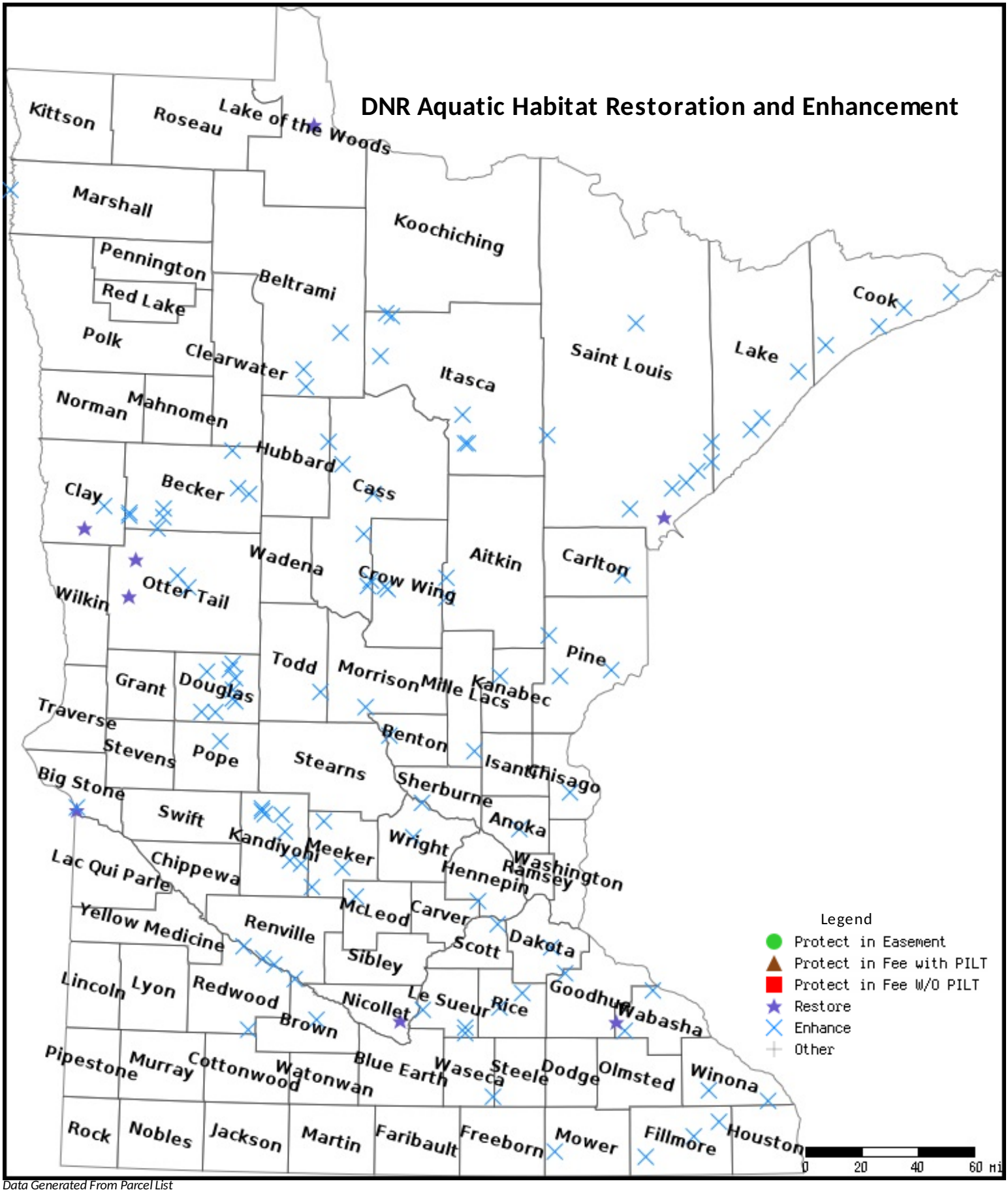
Section 2a - Protect Parcel with Bldgs

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 Aquatic Restoration and Enhancement

Total Request: $11.8 million over 5 years

Stream restoration and enhancement

- Stream Restoration projects selected from a prioritized list based on criteria such as habitat potential, urgency/timing, local support, and feasibility.
- Five projects will restore stream habitat on 11 miles of streams, and 11 fish passage projects that will create access to critical habitats for fish and mussels in over 10,000 acres of lakes and streams.
- Continued funding for an LSOH-funded stream habitat specialist plus two interns.

Aquatic Management Area (AMA) enhancement

- Shorelines are critical habitat for numerous fish and wildlife species
- Projects will enhance 1000 acres of habitat on shorelines and associated uplands
- Request includes funding to continue four positions previously funded by LSOHF to plan, contract, and complete projects
- Projects include prescribed burns, invasive species control, and native plantings.

Trout stream enhancement

- Work will be completed by DNR's own habitat crew, a significant cost savings over contracting the work
- Utilizing LSOH funding will allow DNR to complete more projects that would be possible without supplementary funding
- Project on Pine Creek will stabilize eroding banks and enhance cover for trout. The site's potential to support trout is excellent with the right habitat.

Stream Project Details

Project Name	Project Type	OHF Share of Project Cost	Total Project Cost	LSOHC Planning Region	Footprint Acres	Acres Benefitted
Stony Creek	Stream Channel Restoration	$1,944,000	$2,160,000	Prairie	49	49
Shell River	Fish Passage	$125000	$125,000	Northern Forest	1	4531
North Fork Zumbro River	Channel Restoration	$750,000	$750,000	Southeast Forest	9	9
Miller Creek	Channel Restoration	$800,000	$800,000	Northern Forest	5	5
Whetstone River	Channel Restoration	$2,000,000	$3,800,000	Prairie	15	15
Bostic Creek	Channel Restoration	$500,000	$500,000	Forest/Prairie Transition	1	60
Elizabeth Dam	Fish Passage	$451,000	$451,000	Prairie	1	352
Pelican Rapids Dam	Fish Passage	$751,000	$751,000	Forest/Prairie Transition	1	28
Seven Mile Creek Dam	Fish Passage	$350,000	$350,000	Prairie	1	238
Pine River/Norway Lake Dam	Fish Passage	$1,000,000	$1,000,000	Northern Forest	1	589
Lake Carlos Dam	Fish Passage	$180,000	$180,000	Forest/Prairie Transition	1	4410
Pine River (New Hartford)	Trout Stream Enhancement	$160,000	$160,000	Southeast Forest	7	7
Total		**$9,011,000**	**$11,027,000**		**92**	**10,293**

Recent Accomplishments

- The Knudson Dam fish passage project (ML2014) between Cass Lake and the Mississippi River received a national award for partnerships from the US Forest Service.
- Sandhill River fish passage (ML2014), done in partnership with the Sand Hill Watershed District is nearing completion in restoring access to over 50 miles of river upstream of 4 dams that are being modified.
- Two projects on the Buffalo River in Clay County (ML2010 and ML2011) restored over 1.8 miles of formerly straightened reaches of the river.
- Outlet dams at two lakes (ML2014 and ML2016) were modified to allow fish passage, creating connectivity between outlet streams and over 4,000 acres of lake habitat.
- Restored or enhanced habitat on seven trout streams (various funding years), totaling 5.8 miles of stream.
- Over five LSOH funding years, DNR has enhanced shoreland and associated upland habitats on over 1,450 acres at 87 different locations.

Contact

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

Stream Name	Project Type	Project	Resource	Scale of	Critical	Invasive	Communit	Timing	Technical	Compatibil	Profession	Total Score	DNR Share of Project Cost	Total Project Cost	Region	Region	Current Contact and Year Submitted	Township	Range	Section
Blue Mounds Dam	Dam Removal/ Channel Restoration	10	10	8	10	10	4	5	5	3	5	70	$1,400,000	$1,400,000		SW	Brooke Hacker, EWR (2016)	103	45	24
Wild Rice River	Channel Restoration	10	10	10	8	9	5	4	4	3	4	67	$46,000,000	$46,000,000	1	NW	Jamison Wendel, FAW (2015)	144	46	29, 30
Wolverton Creek (Phase II)	Channel Restoration	10	7	10	8	9	5	4	5	3	5	66	$2,000,000	8,000,000		NW	Bruce Albright, BRRWD (2016)	137	48	8,16,22,27,34+
Stony Creek	Channel Restoration	10	10	10	8	9	5	3	4	3	3	65	$1,944,000	$2,160,000		NW	Bruce Albright, BRRWD (2017)	137	46	2,3,4,11,12,13
Otter Tail River	Channel Restoration	10	10	10	9	9	3	3	4	3	4	65	$30,000,000	$30,000,000		NW	Jamison Wendel, FAW (2014)	143	45	33, 32, 31+
South Branch Buffalo	Channel Restoration	10	10	10	8	10	4	3	4	3	2	64	$2,520,000	$2,800,000		NW	Bruce Albright, BRRWD (2017)	135	46	9,10,11
Shell River Culverts	Culvert Replacement	8	9	7	10	9	5	3	5	3	5	64	$125,000	$165,350		NW	Michael Kelly, FAW (2017)	140	37	14,15
Whisky Creek	Channel Restoration	10	8	10	8	9	5	3	4	3	3	63	$3,500,000	$3,900,000		NW	Bruce Albright, BRRWD (2017)	137	46	18-23
N. Fork Zumbro/Mazeppa	Channel Restoration	8	9	10	7	9	4	3	4	3	5	62	$750,000	$850,000		SE	Beau Kennedy, Goodhue SWCD (2017)	110	14	31
S. Trib of Whisky Creek	Channel Restoration	10	7	10	8	10	5	3	4	3	2	62	$2,250,000	$2,500,000		NW	Bruce Albright. BRRWD (2017)	137	46	14,15,23,24,25,36
Miller Creek	Channel Restoration	10	10	8	7	9	4	3	4	3	2	60	$800,000	$800,000		NE	Jeff Tillma, FAW (2015)	50	14	17

Whetstone	Channel Reconnection	10	9	7	10	9	5	2	5	3	0	60	$2,000,000	$6,600,559		SW	SHP and Chris Domeier (2016)	121	46	16
Bostic Creek	Channel Restoration	10	9	10	7	9	3	3	3	3	3	60	$500,000	$500,000		NW	Lori Clark, EWR (2017)	161	33	12
Elizabeth Dam/Pelican River	Dam Removal	8	9	8	10	10	2	4	3	3	2	59	$451,000	$451,000		NW	Jim Wolters, FAW (2017)	134	43	32
Pelican Rapids Dam	Modificaiton	8	8	8	10	9	3	4	2	3	2	57	$751,000	$751,000		NW	Jim Wolters, FAW (2017)	136	43	22
Seven Mile Creek Dam	Dam Removal	10	8	7	7	10	3	3	4	3	2	57	$350,000	$350,000		SW	Brooke Hacker, EWR (2017)	109	27	4
Hallock Dam	Dam Modification	7	10	8	9	9	4	3	3	3	0	56	$400,000	$400,000		NW	Jamison Wendel, FAW (2015)	161	49	13
Lake Carlos Dam	Dam Modification	7	8	7	8	9	3	1	5	3	2	53	$180,000	$180,000		NW	Chris Weir-Koetter, PAT (2016)	129	37	16
Pine River/Norway Lake	Dam Modification	5	8	8	7	8	4	4	4	3	2	53	$1,000,000	$1,000,000		NE	Marc Bacigalupi, FAW (2012)	138	29	31
Fish Creek	Dam removal with Channel Restoration and Culvert Replacement	10	8	6	5	9	3	3	4	3	2	53	$83,525	$84,825			Eric Altena, FAW (2016)	127	32	29
Tischer Creek Removal	Dam Removal with Channel Restoration	10	8	8	5	7	2	1	3	2	1	47	$1,000,000	$1,000,000		NE	Deserae Hendrickson, FAW (2012)	50	14	2, 3
Cannon River- Malt-O-Meal Dam	Dam Modification	8	8	8	8	8	1	1	3	1	0	46	$500,000	$2,300,000	2	SE	Southern Region FAW and EWR (before 2010)	111	20	1

Roscoe WMA	Toe-Wood	2	2	4	7	8	3	1	3	2	0	32	$65,000	$65,000		SE	Jeff Weiss, FAW (2016)	109	16	33

Not requesting funding for ML2018

Awaiting Legislative decision for ML 2017