Lessard-Sams Outdoor Heritage Council
Fiscal Year 2020 / ML 2019 Request for Funding

HRE 08

Date: May 31, 2018

Program or Project Title: Restoration of Norway Brook connectivity to the Pine River by removal of Norway Lake Dam and repl with rock-arch rapids.

Funds Requested: $2,356,000

Manager's Name: Mike Hansen
Title: Public Works Director
Organization: City of Pine River
Address: 200 Front St N
Address 2: PO Box 87
City: Pine River, MN 56474
Office Number: (218)-587-2338
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Fax Number: (218)-587-2168
Email: publicworks@cityofpineriver.org
Website: http://cityofpineriver.org/

County Locations: Cass

Regions in which work will take place:

- Northern Forest

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Habitat

Abstract:

The Norway Lake Dam will be removed and replaced with a rock-arch rapids by the City of Pine River. Replacing the high hazard dam with a rock riffle will enhance fish passage, biological connectivity, habitat, safety, aesthetics, fishing, access, and whitewater boating opportunities.
The riffle pools and meandering low flow channel will enhance recreational opportunities for fishing, paddling and other water-based fun. Removal of the dam will restore fish passage and connectivity between the Whitefish Chain of Lakes and reconnect 134 lakes and 80 miles of river and stream corridors benefitting fish, mussels and many game and non-game animal species.

Design and scope of work:

The 13' high Norway Lake Dam was constructed in 1910, and is now proposed for removal and replacement with a rock-arch rapids. Trunk Highway 84 is constructed on top of the dam. MNDOT plans to replace the bridge and separate it from the dam within a year or two. The dam is classified as "High" hazard and needs to be modified to provide additional capacity. Replacing the dam with a rock riffle was selected to enhance: fish passage, biological connectivity, riffle habitat, safety, aesthetics, fishing, access, and whitewater boating opportunities.

The riffle will include a series of pools and a meandering low flow channel to provide enhanced recreational opportunities along the river for fishing, paddling and other water-based fun. Pools next to two City Parks will enhance fishing and maintain water near an historic WPA-constructed Beach and Swimming Area.

Removal of the dam will restore fish passage and connectivity between the Whitefish Chain of Lakes and the 149 square mile watershed above the dam. This reconnected watershed includes 134 lakes with surface areas totaling 11,338 acres and 80 miles of rivers and streams ranging from 1st order to 4th order. Twenty-seven lakes exceed 100 acres, with the largest-Pine Mountain Lake-

having 1,622 acres. Removing the dam and reconnecting these high quality, diverse habitats and stream corridors will benefit fish, mussels and many game and non-game animal species.

Removal of the dam will result in the following outcomes: (Data sources include: MPCA stream surveys 2012-14, Fishes of MN Mapper, MNDNR stream survey, MNDNR lake surveys).
Habitat:
• Restores ecological connection between Outstanding Lakes of Biological Significance for fish community.
• Diverse stream habitat upstream and downstream of the dam will be reconnected. Riffle habitat will be constructed in 600-foot length of boulder-arch rapids.
• Common species that will benefit include: walleye, northern pike, largemouth bass, white sucker, shorthead redhorse, greater redhorse, hornyhead chub, and rock bass.
• The fish community in Norway Lake will likely be enhanced with an increase in walleye and other species abundance possible through upstream migration.
• Long-ear Sunfish, Northern Sunfish, Silver Redhorse, Sand Shiner and Black Sandshell (mussel) are present below the dam but have not been found upstream of the Pine River Dam.
• Upstream fish passage will not pose a risk of invasive aquatic species range expansion. Dam removal will not increase habitat favorable to invasive species.

Hydrology:
• Water levels upstream and downstream from the rock-riffle will adjust naturally in response to the seasonal runoff. The riffle will convey all streamflow from low flows through extreme floods and will provide similar upstream water levels within Norway Lake, although the fixed crest will result in some fluctuations as flow varies, but does not require operation.
• Public safety is enhanced due to the removal of the gate spillways and associated currents.
• Less city staff maintenance and liability exist with the rock-riffle construction.
Access:
• Creation of the rock riffle will improve the fishing and water access near two City Parks.
• The rock riffle will provide whitewater boating opportunities.
• ADA handicap accessible fishing.

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 Fish Habitat Plan; Norway Lake Management Plan;

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

This program will advance the indicators by removing the 13' high Norway Lake Dam that has been in operation since 1910, and is now being replaced with a rock-arch rapids. Removal of the dam will restore fish passage and connectivity between the Whitefish Chain of Lakes and the 149 square mile watershed above the dam. This reconnected watershed includes 134 lakes with surface areas totaling 11,338 acres and 80 miles of rivers and streams ranging from 1st order to 4th order. Twenty-seven lakes exceed 100 acres, with the largest-Pine Mountain Lake-having 1,622 acres. Removing the dam and reconnecting these high quality, diverse habitats and stream corridors will benefit fish, mussels and many game and non-game animal species.

Which LSOHC section priorities are addressed in this proposal:

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

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:

The project will permanently restore and enhance habitat of public waters by removing a dam that is a barrier to fish movement and reconnecting a disconnected subwatershed of the Pine River. The project will allow fish and mussel species to repopulate the 149 square mile area upstream of the dam including 134 lakes with surface areas totaling 11,338 acres and 80 miles of rivers and streams ranging from 1st order to 4th order. Twenty-seven lakes exceed 100 acres, with the largest-Pine Mountain Lake-having 1,622 acres. Removing the dam and reconnecting these high quality, diverse habitats and stream corridors will benefit fish, mussels and many game

and non-game animal species.

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:

The Norway Lake dam has been a fish barrier for 108 years and has created a significant fragmentation of aquatic habitat. Removal of the dam and replacement with a rock-arch rapids will restore fish passage and connectivity between the Whitefish Chain of Lakes and the 149 square mile watershed above the dam. This reconnected watershed includes 134 lakes with surface areas totaling 11,338 acres and 80 miles of rivers and streams ranging from 1st order to 4th order. Twenty-seven lakes exceed 100 acres, with the largest-Pine Mountain Lake-having 1,622 acres. Removing the dam and reconnecting these high quality, diverse habitats and stream corridors will benefit fish, mussels and many game and non-game animal species.

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:

Removal of the dam will restore fish passage and connectivity between the Whitefish Chain of Lakes and 134 lakes and 80 miles of rivers and streams. The project will restore the ecological connection between Outstanding Lakes of Biological Significance for fish community-Whitefish Chain and upstream Lake Hattie as well as additional Outstanding Lakes of Biological Significance in headwaters: Lizzie, Brockway, Lind, Bowen, Pine Mountain, Beuber and Deep Portage. Removing the dam and reconnecting these high quality, diverse habitats and stream corridors will benefit fish, mussels and many game and non-game animal species.

Removal of the dam will result in the following habitat outcomes:
• Restores ecological connection between Outstanding Lakes of Biological Significance for fish community.
• Diverse stream habitat upstream and downstream of the dam will be reconnected. Riffle habitat will be constructed in 600-foot length of boulder-arch rapids.
• Long-ear Sunfish, Northern Sunfish, Silver Redhorse, Sand Shiner and Black Sandshell (mussel) are present below the dam but have not been found upstream of the Pine River Dam. Northern Sunfish (special concern) are found downstream of the dam but have not been found upstream. Restoring fish passage may enable Northern Sunfish to expand their range in the watershed. Pugnose Shiner (threatened), Least Darter (special concern), and Hornyhead Chub (species of greatest conservation need) are found in the Pine River system both upstream and downstream of the dam. Populations of these fish will benefit from reestablished connectivity between the middle and upper reaches of the Pine River and the associated lakes and streams of the watershed. Black Sandshell mussel (special concern) are found below the dam but not upstream. Upstream fish passage may allow Black Sandshells to expand upstream as larval mussels are carried upstream by bluegill and largemouth bass hosts. Blandings Turtle (threatened) has been found in the area around the City of Pine River and any turtles moving along the river will be able to move through the rock riffle instead of crossing the dam on the present road. The aquatic plant, Olive-colored Southern Naiad (special concern) has been found within the Whitefish Chain of Lakes.

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

Removal of the dam will result in the following outcomes: (Data sources include: MPCA stream surveys 2012-14, Fishes of MN Mapper, MNDNR stream survey, MNDNR lake surveys).
Habitat:
• Restores ecological connection between Outstanding Lakes of Biological Significance for fish community.
• Diverse stream habitat upstream and downstream of the dam will be reconnected. Riffle habitat will be constructed in 600-foot length of boulder-arch rapids.
• Common species that will benefit include: walleye, northern pike, largemouth bass, white sucker, shorthead redhorse, greater redhorse, hornyhead chub, and rock bass.
• The fish community in Norway Lake will likely be enhanced with an increase in walleye and other species abundance possible through upstream migration.
• Long-ear Sunfish, Northern Sunfish, Silver Redhorse, Sand Shiner and Black Sandshell (mussel) are present below the dam but have not been found upstream of the Pine River Dam.
• Upstream fish passage at the Pine River Dam will not pose a risk of invasive aquatic species range expansion. The existing dam is overtopped in extreme flows and significant downstream barriers are present at Cross Lake Dam on the Pine River and the Brainerd Dam on the Mississippi River. A diverse native fish community is present in the Pine River that will be strengthened with increased connectivity, increasing resilience to invasive species invasion.

Outcomes:

Programs in the northern forest region:

- Improved aquatic habitat indicators *This project will restore and enhance habitat within a Public Water by reconnecting a disconnected river*

reach and restoring fish passage and biological connectivity. The project improves habitat by restoring fish passage and biological connectivity between the Whitefish Chain of Lakes and 134 lakes and 80 miles of rivers and streams and in excess of 11,000 acres of aquatic habitat. Future lake and stream surveys will confirm improvements in species diversity and populations. The project will also provide enhanced recreational opportunities for fishing, paddling and other users which can be tracked through City Park use.

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

The City of Pine River will maintain the rock riffle features. The project will be monitored to determine that it works as planned. The rock riffle incorporates natural channel features which are sustainable and don't typically require significant maintenance. Native plantings will be inspected and maintained as necessary while the vegetation becomes established.

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

Year	Source of Funds	Step 1	Step 2	Step 3
Annually	City of Pine River-Local Tax Levy	Inspect rock riffle	Determine whether boulder weirs, base rock and habitat features are performing adequately	Perform maintenance to remove debris and adjust or maintain spillway.
1 year following construction	City of Pine River-Local Tax Levy	Inspect native plantings	Maintain native plantings, reseed as necessary and control invasive plants as native vegetation becomes established.	
1 year following construction	DNR Fisheries	Perform fish survey	Determine whether fish passage is improved and species populations are responding to reconnected habitats	
5 years following construction	DNR Fisheries	Perform fish survey	Determine whether fish passage is improved and species populations are responding to reconnected habitats	
10 year following construction	DNR Fisheries	Perform fish survey	Determine whether fish passage is improved and species populations are responding to reconnected habitats	
Annually	City of Pine River-Local Tax Levy	Perform recreational user survey	Determine recreational use of rock riffle and adjoining parks. Report on numbers of people fishing, kayaking and using adjoining park spaces.	

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

There is a high degree of timing and opportunistic urgency in this project. Trunk Highway 84 is constructed on top of the dam. MNDOT plans to replace the bridge and separate the road and bridge from the dam within a year or two. It is important for the planning, engineering and construction of the new bridge and the rock riffle to be coordinated and carried out on parallel tracks so problems and conflicts can be avoided such as difficulties with aligning the rock riffle underneath the low beam elevations and/or constructing the riffle once the new bridge is completed. Driving piles for the new bridge can be completed more easily provided that the dam is being removed, reducing concerns over affects of vibrations on the dam. In addition, the dam is classified as “High” hazard and needs to be modified to provide additional capacity. Project has willing stakeholders now.

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

DNR Dam Safety has provided $200,000 in funding for engineering and design. The City of Pine River will also continue to pursue funding for this project from other sources.

Relationship to other funds:

- DNR Dam Safety Program has provided a $200,000 grant for engineering and design services.

Describe the relationship of the funds:

DNR Dam Safety Program has provided a $200,000 grant for engineering and design services.

Per MS 97A.056, Subd. 24, Any state agency or organization requesting a direct appropriation from the OHF must inform the LSOHC at the time of the request for funding is made, 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:

Not applicable

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

Not Listed

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 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 - **Yes (Private Land, 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
Complete design, deliver plans, specifications and construction documents.	December 2019
Complete project permitting	December 2019
Advertise for bids, receive bids, award construction contract	April 2020
Begin Construction of rock riffle	October 2020
Complete Construction of rock riffle	June 2021
Begin monitoring of project and operation and maintenance activities	July 2021

Budget Spreadsheet

Total Amount of Request: $2,356,000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	$36,000	$0		$36,000
Contracts	$2,100,000	$0		$2,100,000
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	$0	$0		$0
Professional Services	$220,000	$200,000	DNR Dam Safety Program	$420,000
Direct Support Services	$0	$0		$0
DNR Land Acquisition Costs	$0	$0		$0
Capital Equipment	$0	$0		$0
Other Equipment/Tools	$0	$0		$0
Supplies/Materials	$0	$0		$0
DNR IDP	$0	$0		$0
Total	$2,356,000	$200,000	-	$2,556,000

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Project Manager	0.05	2.00	$24,000	$0		$24,000
City Clerk	0.03	2.00	$12,000	$0		$12,000
Total	0.08	4.00	$36,000	$0	-	$36,000

Amount of Request:	$2,356,000
Amount of Leverage:	$200,000
Leverage as a percent of the Request:	8.49%
DSS + Personnel:	$36,000
As a % of the total request:	1.53%
Easement Stewardship:	$0
As a % of the Easement Acquisition:	-%

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

The whole amount listed for contracts is for R/E work. $2.1 Million is the estimated construction contract cost for removal of the existing dam and replacement with the rock riffle. The construction estimate includes mobilization, water control, steel sheet piling, excavation, furnishing and installing rock riprap and derrick stone boulders and other associated contract items.

Describe and explain leverage source and confirmation of funds:

The DNR Dam Safety program has provided a $200,000 grant for engineering and design services.

Does this proposal have the ability to be scalable? - No

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	6	6
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	0	0
Total	0	0	0	6	6

Table 2. Total Requested Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	$0	$0	$0	$2,356,000	$2,356,000
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	$0	$0
Total	$0	$0	$0	$2,356,000	$2,356,000

Table 3. Acres within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	0	0	0	6	6
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	0	0	0	0	0
Total	0	0	0	0	6	6

Table 4. Total Requested Funding within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	$0	$0	$0	$0	$2,356,000	$2,356,000
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	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	$2,356,000	$2,356,000

Table 5. Average Cost per Acre by Resource Type

Type	Wetlands	Prairies	Forest	Habitats
Restore	$0	$0	$0	$392,667
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	$0

Table 6. Average Cost per Acre by Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	$0	$0	$0	$0	$392,667
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	$0	$0

Target Lake/Stream/River Feet or Miles

1

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:

All parcels within the project reach have been identified for restoration. The parcels listed adjoin the river reach where the Norway Lake Dam will be removed and the rock riffle will be constructed. Dam removal and rock riffle construction costs are concentrated in a relatively small area but the habitat restoration and biological connectivity benefits extend well beyond the construction limits. For example, removal of the dam will restore fish passage and connectivity between the Whitefish Chain of Lakes and the 149 square mile watershed above the dam. This reconnected watershed includes 134 lakes with surface areas totaling 11,338 acres and 80 miles of rivers and streams ranging from 1st order to 4th order. Twenty-seven lakes exceed 100 acres, with the largest-Pine Mountain Lake-having 1,622 acres. Removing the dam and reconnecting these high quality, diverse habitats and stream corridors will benefit fish, mussels and many game and non-game animal species.

Section 1 - Restore / Enhance Parcel List

Cass

Name	TRDS	Acres	Est Cost	Existing Protection?
94-231-3401	13829231	1	$500,000	No
94-231-3404	13829231	0	$500,000	No
94-337-1810	13729206	0	$250,000	No
94-337-1820	13729206	0	$94,000	No
94-337-1830	13729206	0	$225,000	No
94-338-0110 to 0260	13829231	0	$350,000	No
94-339-0001	13829231	0	$100,000	No
94-340-0210	13829231	0	$80,000	No
94-340-0220	13829231	0	$80,000	No

Section 2 - Protect Parcel List

No parcels with an activity type protect.

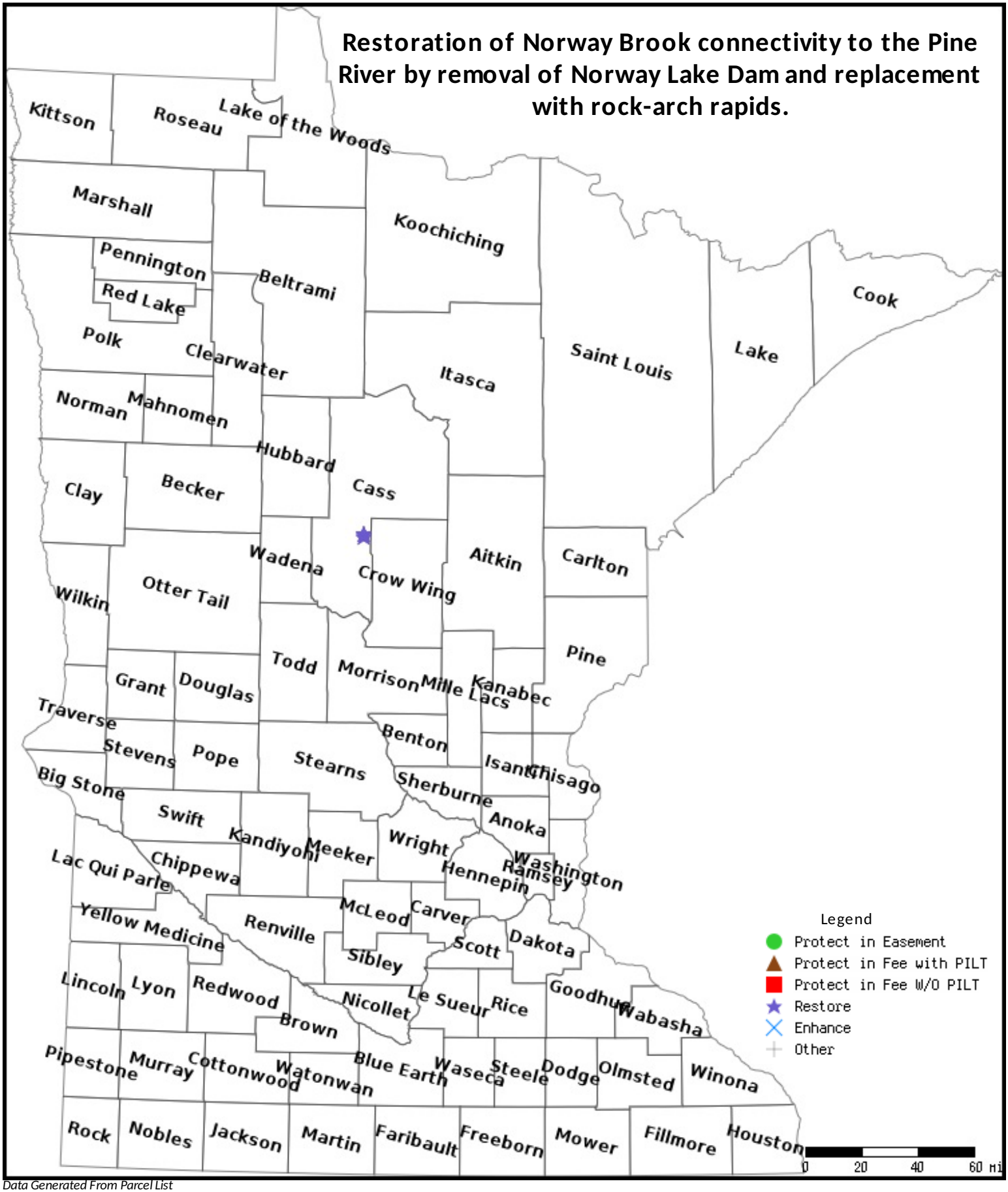
Section 2a - Protect Parcel with Bldgs

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

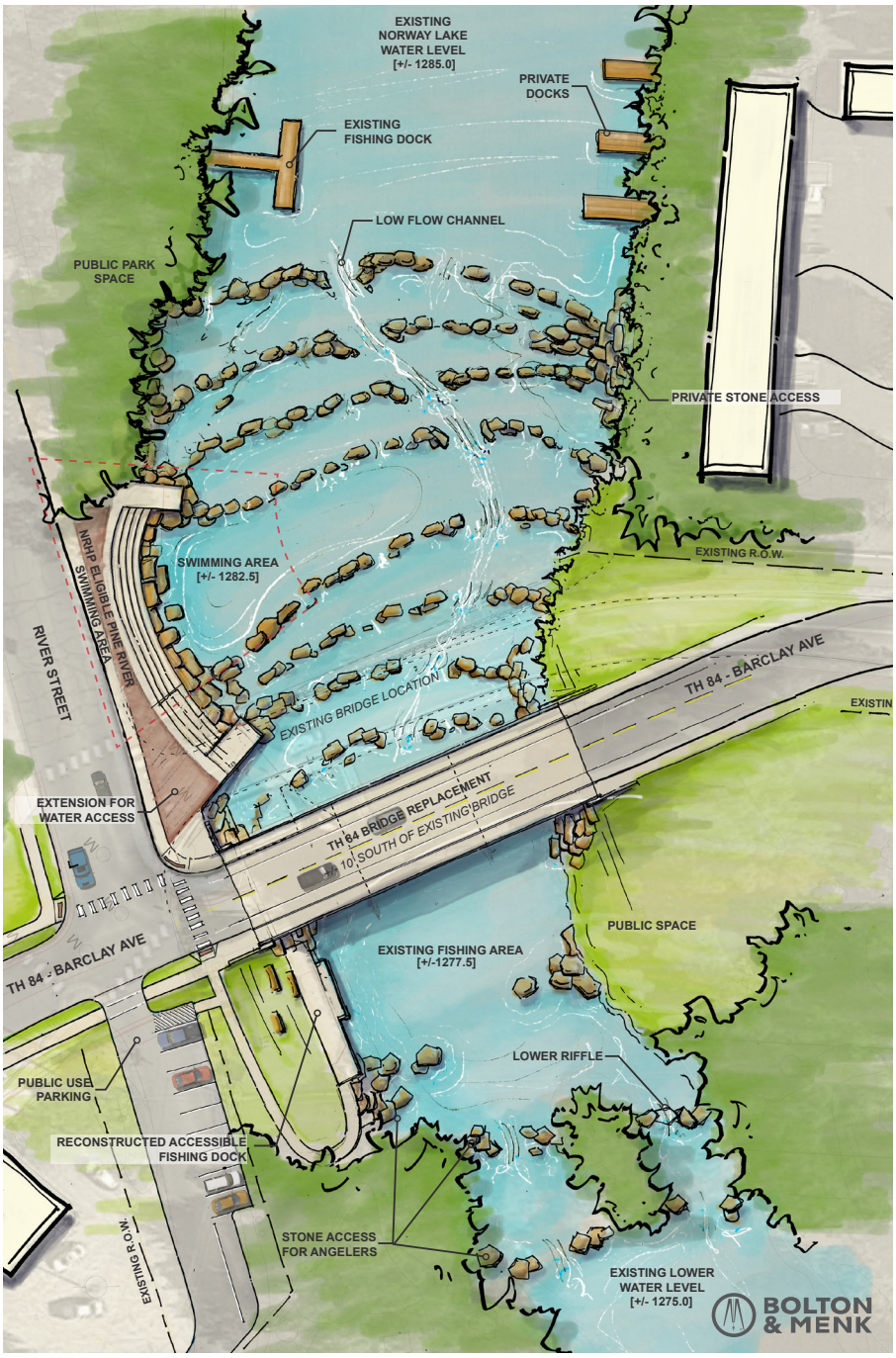
RESTORATION OF NORWAY BROOK - CONNECTIVITY TO THE PINE RIVER BY REMOVAL OF NORWAY LAKE DAM AND CONSTRUCTING A ROCK-ARCH RAPIDS

Abstract

The Norway Lake Dam is planned to be removed and replaced with a rock-arch rapids by the City of Pine River. Replacing the high hazard dam with a rock riffle will ***enhance fish passage, connectivity, habitat, aesthetics, fishing, access, and whitewater boating*** opportunities.

The riffle pools and meandering low flow channel will enhance recreational opportunities for fishing, paddling and other water-based fun. Removal of the dam will restore fish passage and connectivity between the Whitefish Chain of Lakes and ***reconnect 134 lakes and 80 miles of river and stream corridors*** benefiting fish, mussels and several game and non-game animal species.

CONCEPTUAL BRIDGE AND RIVER PLANS



Project Partners

Lessard-Sams Outdoor Heritage Council

Pine River Minnesota

DEPARTMENT OF TRANSPORTATION

CASS COUNTY Minnesota — Still More To Explore!

DEPARTMENT OF NATURAL RESOURCES

CLEAN WATER LAND & LEGACY AMENDMENT

Project Benefit & Outcomes

This project will restore and enhance ***habitat*** by:

- Diversifying stream habitat upstream and downstream of the dam.
- Restoring ecological connection between Outstanding Lakes of Biological Significance for fish community.
- Increasing walleye and other species abundance through enabling upstream migration.

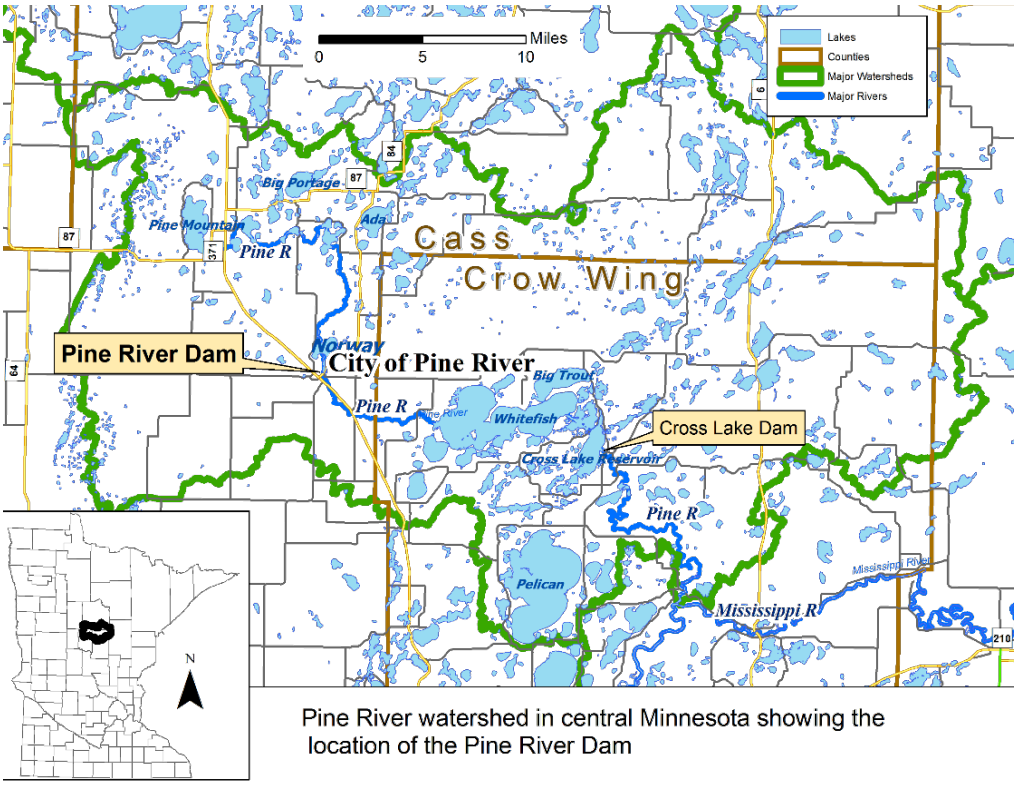
The project will also benefit the area's ***hydrology*** through:

- Adjusting water levels upstream naturally in response to the seasonal runoff, yet similar to existing conditions in Norway Lake.
- Removing the gate spillways and associated currents to enhance public safety.
- Lessening City staff maintenance and liability with the rock-riffle construction.

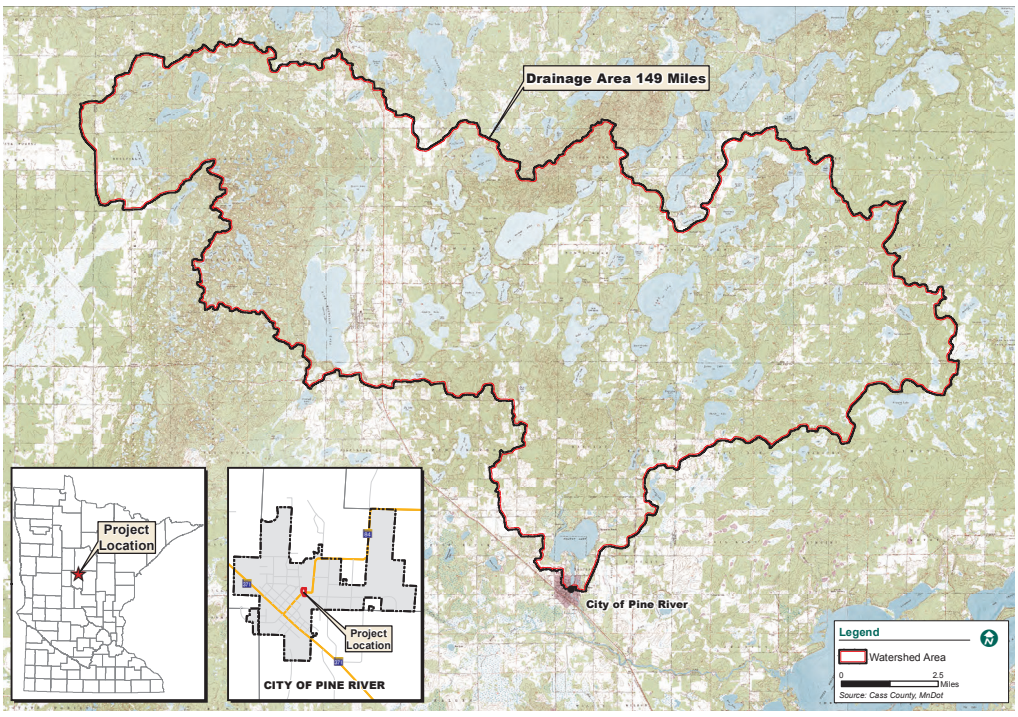
Additionally, these changes will improve ***access*** by:

- Enhancing fishing and water access through with the rock riffle creation.
- Offering whitewater boating opportunities.
- Providing ADA handicap accessible fishing.

RESTORATION OF NORWAY BROOK - CONNECTIVITY TO THE PINE RIVER BY REMOVAL OF NORWAY LAKE DAM AND CONSTRUCTING A ROCK-ARCH RAPIDS



Pine River watershed in central Minnesota showing the location of the Pine River Dam



Pine River Watershed Restoration and Protection Strategies (WRAPS)

- As it flows to the Mississippi, the Pine River Watershed is a source of drinking water for municipalities such as St. Cloud and the Twin Cities downstream.
- Primary impairments to streams are biological; lack of fish or bugs that one would expect to find in clean waters. Therefore, habitat restoration is key to improving biology in streams.
- The Pine River watershed overall has very good water quality and to preserve it, forest protection is critical.

Design and Scope of Work

The 13' high ***Norway Lake Dam was constructed in 1910***, and is now to be removed and replaced with a rock-arch rapids. Currently, Trunk Highway 84 is constructed on top of the dam. MNDOT plans to replace the bridge and separate it from the dam within a year or two. The dam is ***classified as "High" hazard*** and needs to be modified to provide additional capacity.

Removal of the dam will restore fish passage and connectivity between the Whitefish Chain of Lakes and the ***149*** mi^2 watershed above the dam. This reconnected watershed includes ***134 lakes*** with surface areas totaling ***11,338 acres*** and ***80 miles*** of rivers and streams. Removing the dam and reconnecting these ***high quality, diverse habitats*** and stream corridors will benefit fish, mussels and many game and non-game animal species.

Benefited Species

Common species that will benefit include: walleye, northern pike, largemouth bass, white sucker, shorthead redhorse, greater redhorse, hornyhead chuck, and rock bass. Long-ear sunfish, northern sunfish, silver redhorse, sand shiner and ***black sandshell*** (mussel) are present below the dam but have not been found upstream of the Pine River Dam. ***Northern Sunfish*** (special concern), ***Pugnose Shiner*** (threatened), ***Least Darter*** (special concern), and ***Hornyhead Chub*** (species of greatest conservation need) will greatly benefit from reestablished connectivity.

Funds Requested

$2,356,000

May 30, 2018

Mr. Bob Anderson
Chair, Lessard-Sams Outdoor Heritage Council
State Office Building, Room 95
100 Dr. Rev. Martin Luther King Jr. Blvd.
Saint Paul MN 55155

The Nature Conservancy
Protecting nature. Preserving life.™

RE: Letter of Support for Pine River Dam restoration

Dear Mr. Anderson:

On behalf of The Nature Conservancy MN-ND-SD Chapter we enthusiastically offer this letter of support for the city of Pine River dam restoration proposal replacing the dam structure on the Pine River. This project will have significant ecological and hydrological habitat outcomes following the restoration project. Replacing the existing aquatic organism passage barrier reconnects native species in both the river and lake systems resulting in a more resilient long-term condition. The proposed rock-riffle design, in addition to allowing for aquatic organism passage, better represents natural hydrologic fluctuations and will respond better to climate variability over time.

The Pine River system is identified by USFS ***Forest, Water and People Analysis*** (2009) as the #1 watershed regionally for its ability to produce clean water. Independent analysis work done by the Conservancy also ranks this project area in the top quartile of our multiple benefits scoring for habitat. That decision support tool identifies this specific area of the Pine River as high scoring using that methodology.

In addition to the habitat and hydrologic benefits this project will restore, the depth of partner support includes the Department of Natural Resources, MN Department of Transportation, Cass County, The Nature Conservancy and the city of Pine River.

We appreciate your consideration of this very significant project.

Sincerely,

Todd Holman
Mississippi Headwaters Program Director
The Nature Conservancy