



Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2015 Final Report

General Information

Date: 05/20/2021

Project Title: Sand Hill River Fish Passage

Funds Recommended: \$990,000

Legislative Citation: ML 2015, First Sp. Session, Ch. 2, Art. 1, Sec. 2, Subd. 5(e)

Appropriation Language: \$990,000 in the first year is to the commissioner of natural resources for an agreement with the Sand Hill River Watershed District to restore fish habitat in the Sand Hill River watershed. A list of proposed restorations must be provided as part of the required accomplishment plan.

Manager Information

Manager's Name: April Swenby

Title: Administrator

Organization: Sand Hill River Watershed District

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Location Information

County Location(s): Polk.

Eco regions in which work will take place:

- Forest / Prairie Transition
- Prairie

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Habitat

Narrative

Summary of Accomplishments

This project restored fish passage from the Red River to 50 miles of quality upstream Lake Sturgeon and Walleye habitats in the Sand Hill River by modifying four structures and modifying the Sand Hill Lake Dam which currently block access. It also enhanced in stream habitat on the SH River.

Process & Methods

This project partnered with the Sand Hill River Watershed District and Army Corps of Engineers to restore fish passage on the Sand Hill River. The in channel portion of the project was essentially completed in 2017. Initial fish surveys have already documented restored fish passage upstream of the modified dams. Both this grant and an ML 2014 grant to the MnDNR contributed to the local share of this project and were matched 3:1 by federal funds. Credits for habitat benefits were divided up between the two grants based on overall contribution to the project.

The SH Lake Dam project was completed in the spring of 2020. This barrier was a dam on Sand Hill Lake. The dam was removed and replaced with rock arch rapids to allow fish passage upstream into Sand Hill Lake.

In stream habitat enhancement was completed in 2019, and additional riffles will be completed using the awarded ML 2016 grant.

How did the program address habitats of significant value for wildlife species of greatest conservation need, threatened or endangered species, and/or list targeted species?

Historical accounts suggest that Lake Sturgeon were abundant in the Red River basin until the late 1800's. By the mid-1900's Lake Sturgeon had effectively been extirpated from the Red River basin due to over exploitation, construction of dams, and declines in water quality. Reintroduction of Lake Sturgeon in the Red River basin was initiated in the late 1990's and fish appear to be surviving well. Barriers to fish passage are thought to be the most significant obstacle to the restoration of naturally reproducing Lake Sturgeon populations. The restoration of fish movement throughout the system will be a long process. However, with the removal or modification of each dam, more miles of river habitat have been connected. Given the late maturation and longevity of Lake Sturgeon, one objective of restoration efforts is to restore a sexually mature population over the next 20 to 30 years. As fish passage is restored, the maturing sturgeon population will be able to access historic spawning areas and hopefully, reproduce naturally.

Fish species such as Channel Catfish, Smallmouth Bass, Northern Pike, Silver Redhorse, Golden Redhorse, and Chestnut Lamprey have all been documented as present upstream of the dams and were absent previous to the modifications.

How did the program use science-based targeting that leveraged or expanded corridors and complexes, reduced fragmentation, or protected areas in the MN County Biological Survey.

Stream surveys by the Minnesota DNR have conclusively identified these four dams as preventing upstream fish movement. Dam modification to allow fish passage has proven successful on many similar projects throughout

Minnesota, including several in the Red River basin. Fish surveys have been completed upstream and have documented fish presence of many species upstream of the modified dams which were previously absent.

Explain Partners, Supporters, & Opposition

The partners on the SH River Fish passage included the MnDNR, the Army Corp of Engineers. Partners for the stream habitat included BWSR, Clean Water Fund, SWCD's, and Enbridge.

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

The Sand Hill River fish passage project posed some design challenges due to a road crossing near one of the modified structures. Construction for that project went smoothly, though re-establishment of vegetation post construction was challenging.

What other funds contributed to this program?

- Clean Water Fund

How were the funds used to advance the program?

This proposed project worked in conjunction with a Clean Water Fund grant proposal to install 18 rock riffle grade control structures and 2 larger rock riffles. The goal of the Clean Water Fund project was to help bring the Sand Hill River bed back up to grade and stabilize eroding banks and the down-cutting channel bed, due to the channelization. The Sand Hill River is currently impaired for turbidity, by raising the grade of the Sand Hill River with the rock riffles, the channel was stabilized and reduced the amount of sediment eroding from the channel bed and banks.

What is the plan to sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

Once construction is completed and vegetation is established, stream habitat projects generally do not require ongoing maintenance. The Sand Hill River Watershed District is committed to the maintenance of the project and will continue to work with the partners involved, should the need arise.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
Annually	SH River Watershed District Ditch Funds	Annual Inspection	Report findings	Coordinate with partners and make instream adjustments as needed

Budget

Totals

Item	Requested	AP Amount	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	-	-	-	-	-	-	-	-
Contracts	\$990,000	\$964,000	\$968,400	\$2,970,000	\$2,443,000	USACE, Clean Water	\$3,960,000	\$3,411,400
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-
Professional Services	-	\$26,000	\$21,500	-	-	-	-	\$21,500
Direct Support Services	-	-	-	-	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	-	-	-	-	-	-	-	-
Supplies/Materials	-	-	-	-	-	-	-	-
DNR IDP	-	-	-	-	-	-	-	-
Grand Total	\$990,000	\$990,000	\$989,900	\$2,970,000	\$2,443,000	-	\$3,960,000	\$3,432,900

Explain any budget challenges or successes:

The dam modification project came in below budget, leaving the district with additional funding for enhancements. The leverage was lower than expected due to the bid amounts being lower than the estimate.

Total Revenue: -

Revenue Spent: -

Revenue Balance: \$0

Of the money disclosed above, what are the appropriate uses of the money:

- E. This is not applicable as there was no revenue generated.

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Acres (AP)	Total Acres (Final)
Restore	0	0	0	0	0	0	600	1,066	600	1,066
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0
Enhance	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	600	1,067	600	1,067

Total Requested Funding by Resource Type (Table 2)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Funding (AP)	Total Funding (Final)
Restore	-	-	-	-	-	-	\$990,000	\$967,900	\$990,000	\$967,900
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	\$22,000	-	\$22,000
Total	-	-	-	-	-	-	\$990,000	\$989,900	\$990,000	\$989,900

Acres within each Ecological Section (Table 3)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	0	0	0	360	0	0	600	706	0	0	600	1,066
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0	0	0

Enhance	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	360	0	0	600	707	0	0	600	1,067

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	-	-	-	\$154,900	-	-	\$990,000	\$813,000	-	-	\$990,000	\$967,900
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	\$22,000	-	-	-	\$22,000
Total	-	-	-	\$154,900	-	-	\$990,000	\$835,000	-	-	\$990,000	\$989,900

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)
Restore	-	-	-	-	-	-	\$1,650	\$907
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	\$22,000

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)
Restore	-	-	-	\$430	-	-	\$1,650	\$1,151	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-

Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	\$22,000	-	-

Target Lake/Stream/River Feet or Miles

89

Outcomes

Programs in prairie region:

- Protected, restored, and enhanced habitat for migratory and unique Minnesota species ~ *Future fish surveys on SH River will detect any changes from increased fish passage.*

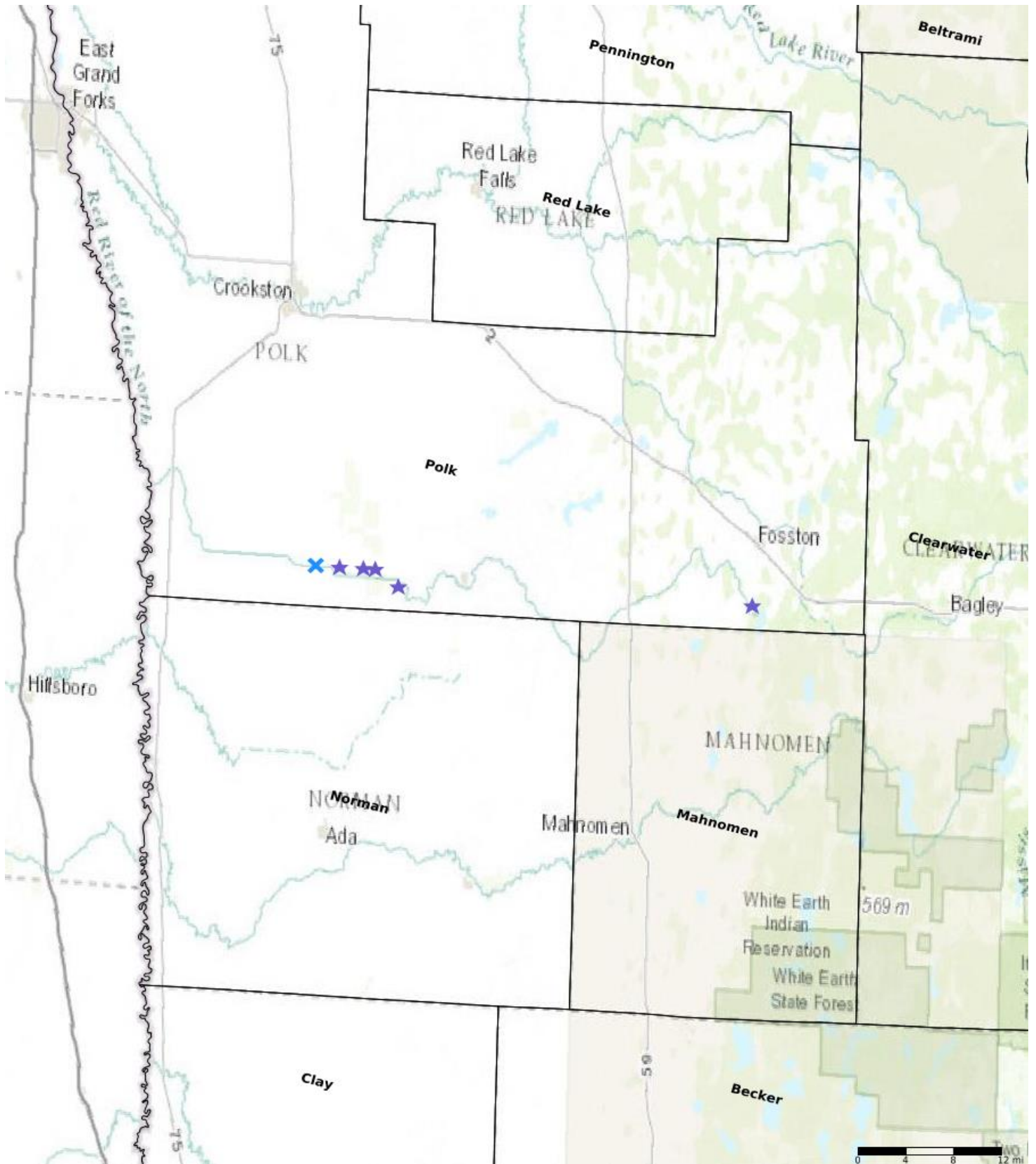
Parcels

Sign-up Criteria?

No

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Riffle 9	Polk	14746220	1	\$18,600	No
Barrier #4	Polk	14745228	177	\$517,600	No
Barrier #1	Polk	14746222	177	\$177,600	No
Barrier #3	Polk	14745219	177	\$150,000	No
Barrier #2	Polk	14746224	177	\$144,800	No
SH Lake Dam	Polk	14740228	360	\$225,000	Yes



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

Parcel Map
Sand Hill River Fish Passage
(Data Generated From Parcel List)