Lessard-Sams Outdoor Heritage Council
Laws of Minnesota 2018 Accomplishment Plan

Date: December 18, 2017

Program or Project Title: Two Rivers Fish Passage Restoration and Habitat Enhancement

Funds Recommended: $ 2,000,000

Manager's Name: Angela Grafstrom
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Legislative Citation: ML 2018, Ch. X, Art. 1, Sec. 2, subd XX

Appropriation Language:

County Locations: Kittson

Regions in which work will take place:

- Prairie

Activity types:

- Enhance
- Restore

Priority resources addressed by activity:

- Habitat

Abstract:

The City of Hallock will restore and enhance habitat to facilitate fish passage by retrofitting the existing Hallock Dam on the South Branch of the Two Rivers and re-establishing a stable riffle-pool habitat downstream, as funding allows. The existing 11-foot high dam will be modified with a rock-arch rapids fishway that will provide lake sturgeon and walleye spawning habitat and reconnect more than 30 miles and in excess of 300 acres of high quality, diverse habitat along the South Branch. In addition to the fish habitat improvement, the project will provide enhanced recreational opportunities for paddlers along the river.

Design and scope of work:

Many native fish species migrate from the Red River to tributary streams, such as Two Rivers, to access quality spawning habitats. This is especially true for Lake Sturgeon, a native species recently re-introduced into the Red River Basin, which make very long migrations to reproduce in riffles and rapids found in high gradient areas. Barriers to fish passage, such as dams, prevent fish from making this seasonal spawning run. Much work has been done to eliminate these barriers but additional work is required. Restoring connections from the Red River to these critical habitats helps to re-establish and maintain healthy, robust native fish communities with greater resiliency to invasion by exotic species.
Fisheries surveys on Two Rivers clearly identified the Hallock Dam as a barrier to upstream migration. Recent fish surveys conducted by the DNR have found that 13 of the 43 species present in the Two Rivers are absent upstream of the dam in Hallock. Absent are large river species such as Channel Catfish, Sauger, and Freshwater Drum. The absence of these fish species also impact mussel populations

which rely on the upstream migrations of large river species to transport juvenile life stages to hospitable habitat. Based on several DNR studies, removal of barriers create more diverse mussel and fish communities and also expand and improve fishing opportunities in river segments above barriers.
A fish passage project similar to the one proposed for Two Rivers was conducted on the Wild Rice River, another major tributary to the Red River. Similar to findings on Two Rivers, large river fish species such as Channel Catfish, Freshwater Drum, Goldeye, Sauger, and Smallmouth Bass were common below but rarely captured above the dam. Within one year of passage restoration at this dam, these large river species were common upstream of the dam, with channel catfish captured 70 river miles above the previous barrier. Restoration of fish passage on Two Rivers would likely yield similar results.
Retrofit of the Hallock dam with a rock arch rapids fishway will allow fish migration upstream of the Dam into a 30 plus mile stretch of river and more than 300 acres of aquatic habitat between Hallock and the Lake Bronson Dam. The river channel upstream of the reservoir created by the Hallock Dam between Lake Bronson and Hallock is a segment of river that is in its most natural, unaltered state. The channel undergoes a series of riffles and pools, and provides excellent fish and wildlife habitat.
Downstream of the dam, an unstable stream channel has caused degraded habitat and eroding banks. Here, as funding allows, the channel enhancement work will recreate the appropriate complex and diverse pool-riffle habitat. This will benefit both the project area and the habitat reaches downstream that will no longer need to handle the excessive sediment load. Natural channel design principles will be used to restore this channel.

How does the request address MN habitats that have: historical value to fish and wildlife, wildlife species of greatest conservation need, MN County Biological Survey data, and/or rare, threatened and endangered species inventories:

A significant fishery exists on the Two Rivers, benefiting from the resource of the Red River. Stream survey work was done by the Minnesota DNR recently. This work identified 43 species of fish within the watershed but only 13 of these species upstream of the dam. The project will benefit lake sturgeon (Acipenser fulvescens) which is a MN species of Special Concern. The project will modify the existing 11 foot high dam with a rock arch rapids fishway that will provide lake sturgeon spawning habitat and reconnect more than 30 miles and in excess of 300 acres of habitat along the South Branch. Several other game species will benefit, including walleye, northern pike, channel catfish, largemouth bass, black crappie, bluegill, sauger, and various other non-game fish species.

In addition to the game species listed above, many non-game species of animals also exist within the South Branch river corridor. These include, but are not limited to sandhill crane, great blue heron, magpie, bald eagle, timber wolf, garter snake, various frog species, American bittern, marbled godwit, loon, and many others.

Describe the science based planning and evaluation model used:

It is recognized that dams create significant fragmentation of aquatic habitat. Recent DNR stream surveys indicate that 13 of 43 expected fish species are found upstream of the dam. The project eliminates the fragmentation and will allow passage of all of the fish species in the river system. The project will expand habitat corridors by opening up the reach of the South Branch Two Rivers upstream of the Hallock Dam. Both game and non-game species will benefit. River degradation downstream of the dam will also be addressed through the restoration of habitat in the mile of channel downstream of the dam, as funding allows. The project uses natural channel design principles. This project has been identified by the Two Rivers Watershed District as a priority in this subwatershed of the District.

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

- 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 program:

- Long Range Plan for Fisheries Management
- Red River of the North Fisheries Management Plan

Which LSOHC section priorities are addressed in this program:

Prairie:

- Restore or enhance habitat on public lands

Relationship to other funds:

- Not Listed

Describe the relationship of the funds:

Not Listed

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

The project does not have any leverage funds at this time, however, the City will continue to pursue funding from other sources to help complete this work. The US Fish and Wildlife Service has provided small amounts of funding for similar projects in the past but no commitment of funding yet toward this project. The DNR Dam Safety unit has provided some funding for similar projects in the past, but no commitment at this point.

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:

The funding provided by the Outdoor Heritage Fund does not supplant or substitute for any previous funding.

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

Not Listed

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

The City of Hallock will maintain the installed project features into the future. Initially, the project will be monitored to ensure that the project is functioning as intended. The project will follow natural channel design principles, which create habitat conditions that are self-sustaining. Significant long-term maintenance costs are not expected. The City of Hallock will use funds currently used for dam maintenance to conduct required project maintenance.

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 Hallock - Local Tax Levy	Inspect Rock Fishway and downstream habitat restoration features	Perform maintenance/repairs, as needed	
One year after project completion	MN DNR - Fisheries	Fish survey conducted by Minnesota DNR fisheries		
5 years after project completion	MN DNR - Fisheries	Fish survey conducted by Minnesota DNR fisheries		
10 years after project completion	MN DNR - Fisheries	Fish survey conducted by Minnesota DNR fisheries		

Activity Details:

If funded, this program will meet all applicable criteria set forth in MS 97A.056 - **Yes**

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

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 (Private Land, County/Municipal, Public Waters)**

Accomplishment Timeline:

Activity	Approximate Date Completed
Finalize Restoration project construction plans	September 2018
Complete project permitting	November 2018
Begin Construction	December 2018
Complete Construction	October 2019
Full Project Maintenance Begins	November 2019

Date of Final Report Submission: 6/30/2021

Federal Funding:

Do you anticipate federal funds as a match for this program - **Yes**

Are the funds confirmed - **No**

What is the approximate date you anticipate receiving confirmation of the federal funds - **3/31/2018**

Outcomes:

Programs in prairie region:

- Protected, restored, and enhanced habitat for migratory and unique Minnesota species *This project will restore and enhance habitat within a Public Water by reconnecting a disconnected reach and restoring a degraded reach of the South Branch Two Rivers. The project provides lake sturgeon and walleye spawning habitat and reconnects more than 30 miles and in excess of 300 acres of aquatic habitat. The restoration of the downstream reach will result in more complex diverse habitat which will promote aquatic diversity. Future stream surveys will confirm improvements in species diversity and populations. The project will also provide enhanced recreational opportunities for paddlers which can be tracked through City campground use statistics.*

Budget Spreadsheet

Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan

How will this program accommodate the reduced appropriation recoomendation from the original proposed requested amount

It is anticipated that the appropriation will be used first to construct items associated with the rock fishway feature at the Dam and any excess funds will be used second to install downstream habitat features.

Total Amount of Request: $ 2000000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	$0	$0		$0
Contracts	$1,750,000	$0		$1,750,000
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	$250,000	$0		$250,000
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	$2,000,000	$0		$2,000,000

Amount of Request:	$2,000,000
Amount of Leverage:	$0
Leverage as a percent of the Request:	0.00%
DSS + Personnel:	$0
As a % of the total request:	0.00%

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

All of the contract amount is for restoration/enhancement work. 100%.

Describe and explain leverage source and confirmation of funds:

The City will explore additional outside funding through the US Fish and Wildlife Service and Clean Water Fund to complete downstream erosion/habitat features. None of these funds are confirmed at this time.

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	2	2
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	10	10
Total	0	0	0	12	12

Table 2. Total Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	$0	$0	$0	$1,700,000	$1,700,000
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	$300,000	$300,000
Total	$0	$0	$0	$2,000,000	$2,000,000

Table 3. Acres within each Ecological Section

Type	Metro Urban	Forest Prairie	SE Forest	Prairie	N Forest	Total
Restore	0	0	0	2	0	2
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	10	0	10
Total	0	0	0	12	0	12

Table 4. Total Funding within each Ecological Section

Type	Metro Urban	Forest Prairie	SE Forest	Prairie	N Forest	Total
Restore	$0	$0	$0	$1,700,000	$0	$1,700,000
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	$300,000	$0	$300,000
Total	$0	$0	$0	$2,000,000	$0	$2,000,000

Table 5. Average Cost per Acre by Resource Type

Type	Wetlands	Prairies	Forest	Habitats
Restore	$0	$0	$0	$850000
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	$30000

Table 6. Average Cost per Acre by Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	$0	$0	$0	$850000	$0
Protect in Fee with State PILT Liability	$0	$0	$0	$0	$0
Protect in Fee W/O State PILT Liability	$0	$0	$0	$0	$0
Protect in Easement	$0	$0	$0	$0	$0
Enhance	$0	$0	$0	$30000	$0

Target Lake/Stream/River Feet or Miles

1

Parcel List

For restoration and enhancement programs ONLY: Managers may add, delete, and substitute projects on this parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.

Section 1 - Restore / Enhance Parcel List

Kittson

Name	TRDS	Acres	Est Cost	Existing Protection?
300182480	16148218	0	$45,000	No
300182520	16148218	0	$15,000	No
320004100	16149212	0	$20,000	No
320005000	16149213	0	$40,000	No
320005200	16149213	0	$40,000	No
320005400	16149213	0	$100,000	No
320005600	16149213	0	$40,000	No
320005800	16149213	0	$40,000	No
320006200	16149213	0	$1,100,000	No
320006400	16149213	0	$500,000	No
320080600	16149213	0	$5,000	No
320081000	16149213	0	$5,000	No
320081200	16149213	0	$5,000	No
320081400	16149213	0	$5,000	No
320081600	16149213	0	$5,000	No
320081800	16149213	0	$5,000	No
320082000	16149213	0	$5,000	No
320082200	16149213	0	$5,000	No
320082400	16149213	0	$5,000	No
320082800	16149213	0	$5,000	No
320083000	16149213	0	$5,000	No
320083200	16149213	0	$5,000	No

Section 2 - Protect Parcel List

No parcels with an activity type protect.

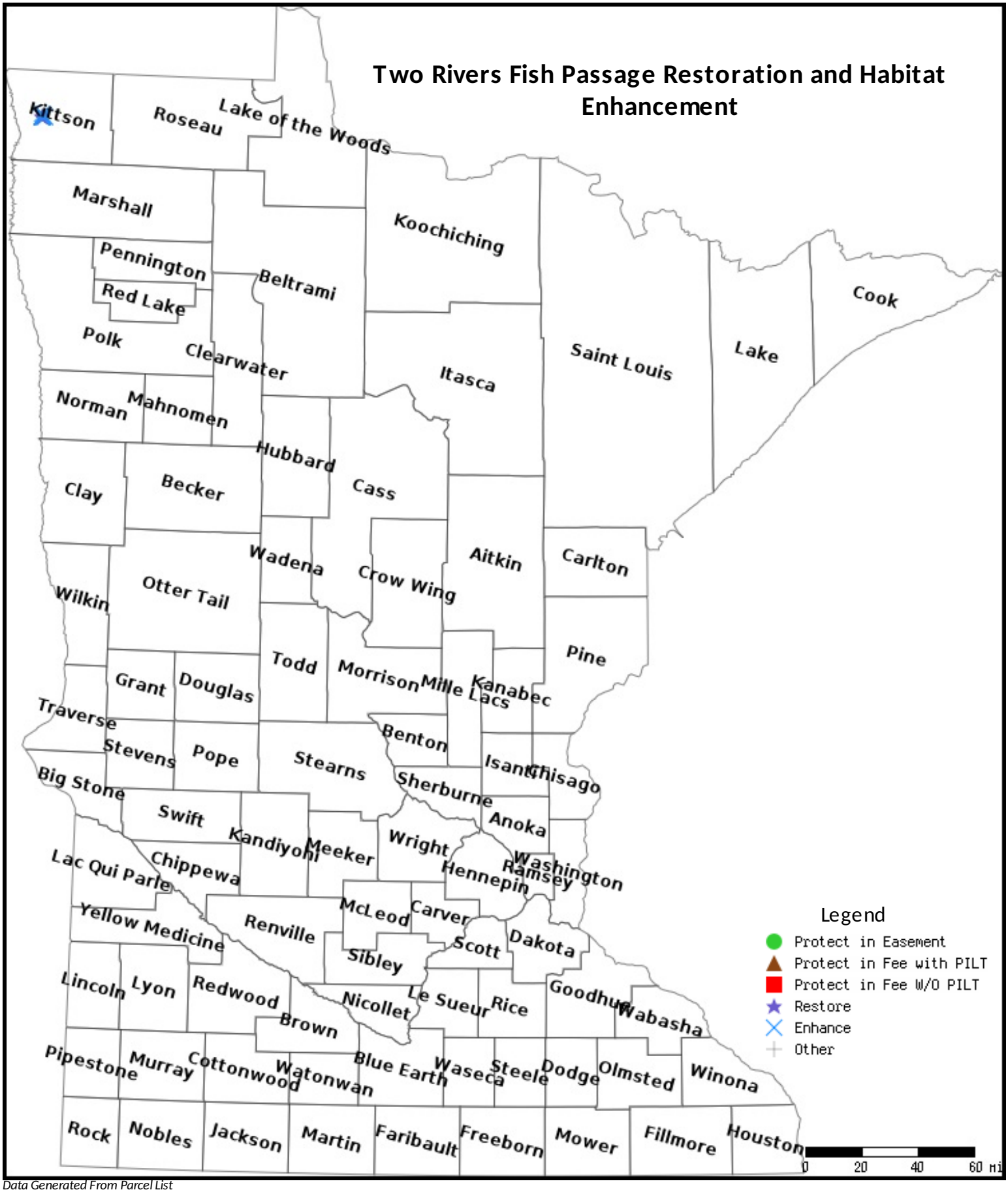
Section 2a - Protect Parcel with Bldgs

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

Lessard-Sams Outdoor Heritage Council
Comparison Report

Program Title: 2018 - Two Rivers Fish Passage Restoration and Habitat Enhancement
Organization: City of Hallock
Manager: Angela Grafstrom

Budget

Requested Amount: $2,000,000
Appropriated Amount: $2,000,000
Percentage: 100.00%

	Total Requested		Total Appropriated		Percentage of Request	
Budget Item	LSOHC Request	Anticipated Leverage	Appropriated Amount	Anticipated Leverage	Percentage of Request	Percentage of Leverage
Personnel	$0	$0	$0	$0	-	-
Contracts	$1,800,000	$0	$1,750,000	$0	97.22%	-
Fee Acquisition w/ PILT	$0	$0	$0	$0	-	-
Fee Acquisition w/o PILT	$0	$0	$0	$0	-	-
Easement Acquisition	$0	$0	$0	$0	-	-
Easement Stewardship	$0	$0	$0	$0	-	-
Travel	$0	$0	$0	$0	-	-
Professional Services	$200,000	$0	$250,000	$0	125.00%	-
Direct Support Services	$0	$0	$0	$0	-	-
DNR Land Acquisition Costs	$0	$0	$0	$0	-	-
Capital Equipment	$0	$0	$0	$0	-	-
Other Equipment/Tools	$0	$0	$0	$0	-	-
Supplies/Materials	$0	$0	$0	$0	-	-
DNR IDP	$0	$0	$0	$0	-	-
Total	$2,000,000	$0	$2,000,000	$0	100.00%	-

How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount?

It is anticipated that the appropriation will be used first to construct items associated with the rock fishway feature at the Dam and any excess funds will be used second to install downstream habitat features.

Output

Table 1a. Acres by Resource Type

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	2	2	100.00%
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	10	10	100.00%

Table 2. Total Funding by Resource Type

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	1,700,000	1,700,000	100.00%
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	300,000	300,000	100.00%

Table 3. Acres within each Ecological Section

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	2	2	100.00%
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	10	10	100.00%

Table 4. Total Funding within each Ecological Section

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	1,700,000	1,700,000	100.00%
Protect in Fee with State PILT Liability	0	0	-
Protect in Fee W/O State PILT Liability	0	0	-
Protect in Easement	0	0	-
Enhance	300,000	300,000	100.00%