Lessard-Sams Outdoor Heritage Council
Laws of Minnesota 2013 Final Report

Date: September 25, 2018

Program or Project Title: Pelican Lake Enhancement

Funds Recommended: $2,000,000

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Legislative Citation: ML 2013, Ch. 137, Art. 1, Sec. 2, Subd. 4(g)

Appropriation Language: $2,000,000 in the first year is to the commissioner of natural resources for an agreement with Ducks Unlimited to construct a gravity outlet, water control structure, and pump station lift to enhance aquatic habitat in Pelican Lake in Wright County. A list of proposed land restoration and enhancements must be included as part of the required accomplishment plan.

County Locations: Wright

Eco regions in which work was completed:

- Metro / Urban

Activity types:

- Enhance

Priority resources addressed by activity:

- Wetlands

Summary of Accomplishments:

Construction was completed in 2018 on the three components that made up the major infrastructure project at Pelican Lake - construction of a gravity outlet, water control structure, and pump lift station. This work will allow for a drawdown and enhancement of Pelican Lake to return it to what was once one of the region's premier waterfowl and wetland wildlife habitats. Ducks Unlimited provided the engineering and construction oversight of this significant project.

Process & Methods:

Pelican Lake, located in eastern Wright County within ½ hour of the Twin Cities metro area is a shallow lake known statewide for its waterfowl production, migration, habitat, and hunting opportunities and is a state-designated wildlife lakes in Minnesota. This shallow lake basin has no natural watercourse inlets or outlets. Since the late 1950s and particularly, since the late 1970s, Pelican Lake has experienced a decline in water quality and a loss of the extent and quality of aquatic plant communities that once supported wetland wildlife habitat. This decline in water quality and loss of plant communities is associated with high lake levels and watershed land uses that increase water runoff. Agricultural land uses such as tiling and ditching within the Pelican Lake watershed have altered the natural hydrology and contributed to the decline in water quality. High water levels in Pelican Lake have contributed to persistent and increased rough and game fish populations, as well as a shift from rooted aquatic plants (macrophytes) to algae-dominated (plankton) communities. Increased turbidity due to re-suspension of bottom sediments and algae has resulted in the absence of rooted

macrophytes from large areas of the lake. These macrophytes, when present, moderate wave action, stabilize bottom sediments, uptake nutrients, and provide habitat for invertebrates. These factors have resulted in Pelican Lake changing over time from a “clear water state” to a “turbid state" and caused negative effects on lake productivity for waterfowl and shorebirds that historically used Pelican Lake as a migration stopover destination. The loss of important food sources associated with diverse macrophyte and invertebrate communities was the primary factor associated with declining use of the lake by waterfowl and shorebirds.

The Minnesota Department of Natural Resources (DNR) cooperated with Ducks Unlimited to install the significant infrastructure needed to enhance Pelican Lake through managed drawdowns. In 2012, Ducks Unlimited completed bioengineering designs and preliminary construction plans for the Pelican Lake project and oversaw all subsequent construction. The project focused on the construction of a variable crest outlet weir and pump lift station which would allow for the gradual dewatering of the basin through an outlet (also developed as part of this project). The outlet was completed in 2014 and was followed by construction of a stoplog weir structure. A pump station was constructed at the existing edge of the eastern-most bay of Pelican Lake. A 24-inch intake pipe was installed from this point for 900 feet into the lake The intake pipe involved placement of a structure within the lakebed to support the intake pipe at the proper elevation. The pump allows lower drawdowns than are possible with the weir structure alone.

The water level management that this project makes possible is guided by the Pelican Lake Management Plan (2012), which details habitat objectives for the lake and defines triggers that determine what and when management actions are taken. Pelican Lake is currently in the middle of a multi-year drawdown.

The DNR plans to develop a parking lot and lake access point in 2019 to give hunters and visitors better access to Pelican Lake.

Explain Partners, Supporters, & Opposition:

Ducks Unlimited was the prime partner in completing this project and provided engineering and construction management. While not directly involved with the specific Pelican Lake project components funded with this OHF proposal, Pheasants Forever and the USFWS contributed overall to Pelican Lake with the protection of land and habitat restoration around Pelican Lake. Some amount of opposition to the Pelican Lake project was voiced by fisherman who had come to enjoy the fisheries that had become established and were upset at what they viewed as management that would restore a "duck" lake vs. a "fish" lake.

Additional Comments:

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

Pelican Lake is a shallow lake known for its waterfowl production, migration, habitat, and hunting opportunities and is one of 58 state-designated wildlife lakes in Minnesota. Pelican Lake has no defined natural inlets, and its natural outlet elevation is significantly higher than the highest known water level elevation, essentially making it a landlocked lake. The previous outlet functioned poorly in maintaining water levels on Pelican Lake. Since the late 1950s and more particularly, since the late 1970s, Pelican Lake experienced a decline in water quality and a loss of habitat. Pelican Lake has become the "poster child" of successful OHF-funded projects. It's size, engineering challenges that were overcome, anticipated habitat benefits, and location near urban centers has made it a frequent fieldtrip destination for visiting conservation groups.

Other Funds Received:

- Not Listed

How were the funds used to advanced the program:

Interest in Minnesota's wetland and shallow lake habitats has resulted in initiatives with a variety of funding sources, including the Environmental and Natural Resource Trust Fund and Clean Water Fund. The work from this proposal will complement the goals of other funds, especially in terms of water quality, habitat, and wildlife benefits.

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

As with other shallow lake projects, Pelican Lake will subject to periodic assessments to determine existing habitat quality and if and when future management is needed. Shallow Lakes Program staff and/or Area Wildllife staff will participate in needed monitoring. Triggers for future management actions are spelled out in the Pelican Lake Management Plan. While costs for future management are unknown at this time, the infrastructure built this through this OHF appropriation (pumps, water control structure, outlet channel) provides the tools needed to conduct the management.

Outcomes:

The original accomplishment plan stated the program would

Programs in metropolitan urbanizing region:

- A network of natural land and riparian habitats will connect corridors for wildlife and species in greatest conservation need
- Core areas protected with highly biologically diverse wetlands and plant communities, including native prairie, Big Woods, and oak savanna
- Improved aquatic habitat indicators

How will the outcomes be measured and evaluated?

Anticipated outcomes of the Pelican Lake project include (1) improve the wildlife and waterfowl habitat by increasing water clarity/quality and the abundance, diversity and overall vigor of both native submerged and emergent plant species, (2) increase waterfowl migration and brood rearing habitat, as well as resting habitat during spring and fall migration, maintain lake habitat improvements brought about by the water level management, and (3) manage nuisance fish populations to prevent degradation of improved habitat. Standardized shallow lake assessments will be conducted to identify and measure vegetation, determine fish abundance and waterfowl use and measure water quality.

Budget Spreadsheet

Final Budget line item reallocations are allowed up to 10% and do not need require an amendment to the Accomplishment Plan

Total Amount: $2,000,000

Budget and Cash Leverage

Budget Name	Request	Spent	Cash Leverage (anticipated)	Cash Leverage (received)	Leverage Source	Total (original)	Total (final)
Personnel	$100,000	$188,000	$50,000	$50,000	Ducks Unlimited	$150,000	$238,000
Contracts	$1,875,000	$1,761,000	$0	$0		$1,875,000	$1,761,000
Fee Acquisition w/ PILT	$0	$0	$0	$0		$0	$0
Fee Acquisition w/o PILT	$0	$0	$0	$0		$0	$0
Easement Acquisition	$0	$0	$0	$0		$0	$0
Easement Stewardship	$0	$0	$0	$0		$0	$0
Travel	$10,000	$16,000	$0	$0		$10,000	$16,000
Professional Services	$5,000	$5,000	$0	$0		$5,000	$5,000
Direct Support Services	$0	$16,000	$0	$0		$0	$16,000
DNR Land Acquisition Costs	$0	$0	$0	$0		$0	$0
Capital Equipment	$0	$0	$0	$0		$0	$0
Other Equipment/Tools	$0	$0	$0	$0		$0	$0
Supplies/Materials	$10,000	$6,000	$0	$0		$10,000	$6,000
DNR IDP	$0	$7,000	$0	$0		$0	$7,000
Total	$2,000,000	$1,999,000	$50,000	$50,000		$2,050,000	$2,049,000

Personnel

Position	FTE	Over # of years	Spent	Cash Leverage	Leverage Source	Total
DU Professional Bioengineering Staff	1.60	2.00	$188,000	$50,000	Ducks Unlimited	$238,000
Total	1.60	2.00	$188,000	$50,000		$238,000

Budget and Cash Leverage by Partnership

Budget Name	Partnership	Request	Spent	Cash Leverage (anticipated)	Cash Leverage (received)	Leverage Source	Original AP Total	Total Spent
Personnel	Dept Nat Res	$0	$0	$0	$0		$0	$0
Contracts	Dept Nat Res	$0	$0	$0	$0		$0	$0
Fee Acquisition w/ PILT	Dept Nat Res	$0	$0	$0	$0		$0	$0
Fee Acquisition w/o PILT	Dept Nat Res	$0	$0	$0	$0		$0	$0
Easement Acquisition	Dept Nat Res	$0	$0	$0	$0		$0	$0
Easement Stewardship	Dept Nat Res	$0	$0	$0	$0		$0	$0
Travel	Dept Nat Res	$0	$0	$0	$0		$0	$0
Professional Services	Dept Nat Res	$0	$0	$0	$0		$0	$0
Direct Support Services	Dept Nat Res	$0	$0	$0	$0		$0	$0
DNR Land Acquisition Costs	Dept Nat Res	$0	$0	$0	$0		$0	$0
Capital Equipment	Dept Nat Res	$0	$0	$0	$0		$0	$0
Other Equipment/Tools	Dept Nat Res	$0	$0	$0	$0		$0	$0
Supplies/Materials	Dept Nat Res	$0	$0	$0	$0		$0	$0
DNR IDP	Dept Nat Res	$0	$0	$0	$0		$0	$0
Total		$0	$0	$0	$0		$0	$0

Budget Name	Partnership	Request	Spent	Cash Leverage (anticipated)	Cash Leverage (received)	Leverage Source	Original AP Total	Total Spent
Personnel	Ducks Unl.	$100,000	$188,000	$50,000	$50,000	Ducks Unlimited	$150,000	$238,000
Contracts	Ducks Unl.	$1,875,000	$1,761,000	$0	$0		$1,875,000	$1,761,000
Fee Acquisition w/ PILT	Ducks Unl.	$0	$0	$0	$0		$0	$0
Fee Acquisition w/o PILT	Ducks Unl.	$0	$0	$0	$0		$0	$0
Easement Acquisition	Ducks Unl.	$0	$0	$0	$0		$0	$0
Easement Stewardship	Ducks Unl.	$0	$0	$0	$0		$0	$0
Travel	Ducks Unl.	$10,000	$16,000	$0	$0		$10,000	$16,000
Professional Services	Ducks Unl.	$5,000	$5,000	$0	$0		$5,000	$5,000
Direct Support Services	Ducks Unl.	$0	$16,000	$0	$0		$0	$16,000
DNR Land Acquisition Costs	Ducks Unl.	$0	$0	$0	$0		$0	$0
Capital Equipment	Ducks Unl.	$0	$0	$0	$0		$0	$0
Other Equipment/Tools	Ducks Unl.	$0	$0	$0	$0		$0	$0
Supplies/Materials	Ducks Unl.	$10,000	$6,000	$0	$0		$10,000	$6,000
DNR IDP	Ducks Unl.	$0	$7,000	$0	$0		$0	$7,000
Total		$2,000,000	$1,999,000	$50,000	$50,000		$2,050,000	$2,049,000

Personnel - Ducks Unl.

Position	FTE	Over # of years	Spent	Cash Leverage	Leverage Source	Total
DU Professional Bioengineering Staff	1.60	2.00	$188,000	$50,000	Ducks Unlimited	$238,000
Total	1.60	2.00	$188,000	$50,000		$238,000

Explain any budget challenges or successes:

Ducks Unlimited staff provided regular and accurate accounting of their expenditures throughout the project. It was easy to follow the budget status and to anticipate when budget amendments were needed to accommodate project work activities.

All revenues received by the recipient that have been generated from activities on land with money from the OHF:

Total Revenue: $0

Revenue Spent: $0

Revenue Balance: $0

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

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands (original)	Wetlands (final)	Prairies (original)	Prairies (final)	Forest (original)	Forest (final)	Habitats (original)	Habitats (final)	Total (original)	Total (final)
Restore	0	0	0	0	0	0	0	0	0	0
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	3,800	3,800	0	0	0	0	0	0	3,800	3,800
Total	3,800	3,800	0	0	0	0	0	0	3,800	3,800

Table 2. Total Funding by Resource Type

Type	Wetlands (original)	Wetlands (final)	Prairies (original)	Prairies (final)	Forest (original)	Forest (final)	Habitats (original)	Habitats (final)	Total (original)	Total (final)
Restore	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
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	$2,000,000	$1,999,000	$0	$0	$0	$0	$0	$0	$2,000,000	$1,999,000
Total	$2,000,000	$1,999,000	$0	$0	$0	$0	$0	$0	$2,000,000	$1,999,000

Table 3. Acres within each Ecological Section

Type	Metro Urban (original)	Metro Urban (final)	Forest Prairie (original)	Forest Prairie (final)	SE Forest (original)	SE Forest (final)	Prairie (original)	Prairie (final)	N Forest (original)	N Forest (final)	Total (original)	Total (final)
Restore	0	0	0	0	0	0	0	0	0	0	0	0
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	3,800	3,800	0	0	0	0	0	0	0	0	3,800	3,800
Total	3,800	3,800	0	0	0	0	0	0	0	0	3,800	3,800

Table 4. Total Funding within each Ecological Section

Type	Metro Urban (original)	Metro Urban (final)	Forest Prairie (original)	Forest Prairie (final)	SE Forest (original)	SE Forest (final)	Prairie (original)	Prairie (final)	N Forest (original)	N Forest (final)	Total (original)	Total (final)
Restore	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
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	$2,000,000	$1,999,000	$0	$0	$0	$0	$0	$0	$0	$0	$2,000,000	$1,999,000
Total	$2,000,000	$1,999,000	$0	$0	$0	$0	$0	$0	$0	$0	$2,000,000	$1,999,000

Automatic system calculation / not entered by managers

Target Lake/Stream/River Feet or Miles (original)

0

Target Lake/Stream/River Feet or Miles (final)

0

Explain the success/shortage of acre goals:

Not Listed

Parcel List

Section 1 - Restore / Enhance Parcel List

Wright

Name	TRDS	Acres	Total Cost	Existing Protection?	Description
Pelican Lake	12024211	3,800	$2,000,000	Yes	Construction

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.

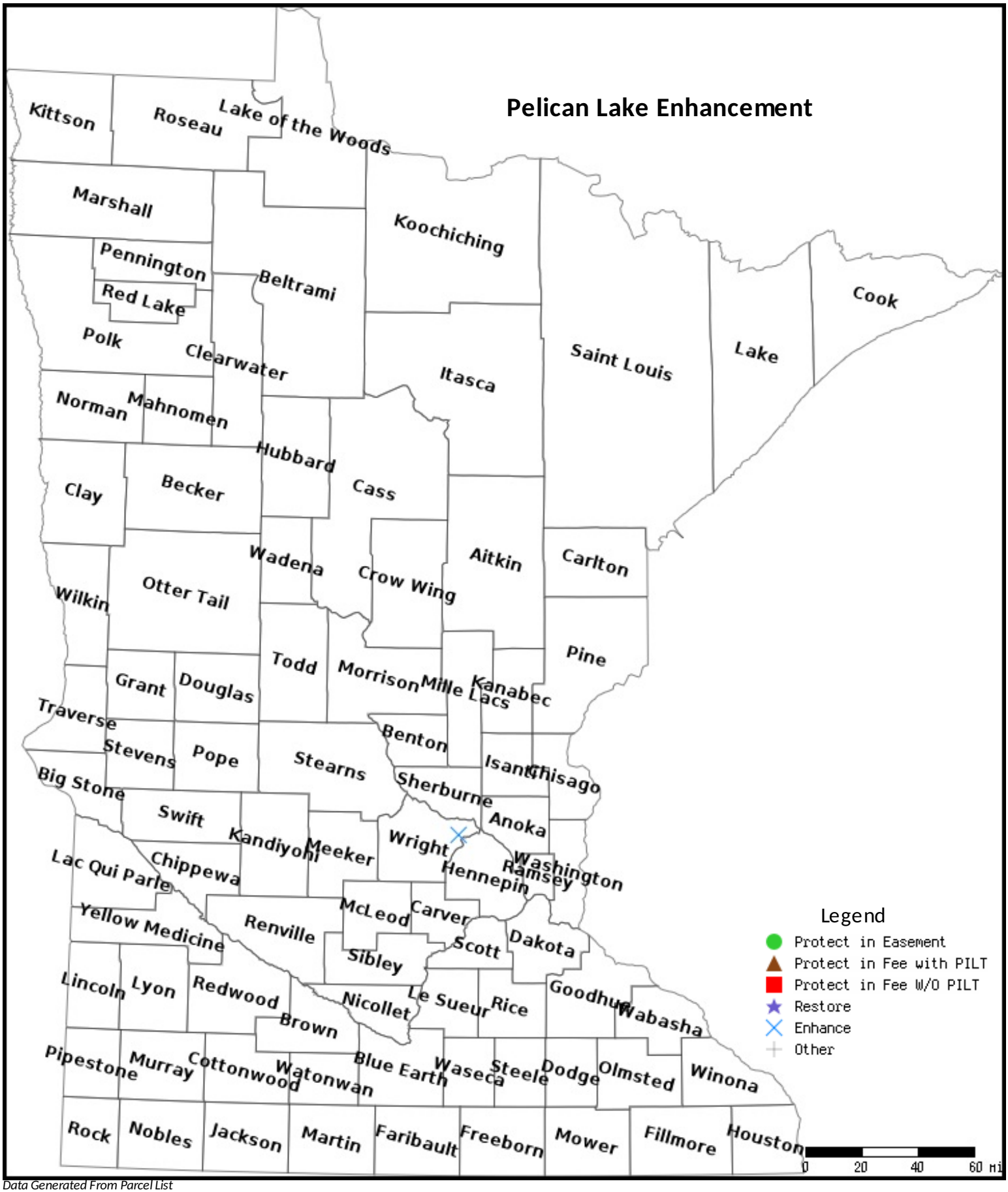
Section 3 - Other Parcel Activity

No parcels with an other activity type.

Completed Parcel: Pelican Lake

# of Total Acres:	3800
County:	Wright
Township:	120
Range:	24
Direction:	2
Section:	11
# of Acres: Wetlands/Upland:	3800
# of Acres: Forest:	
# of Acres: Prairie/Grassland:	
Amount of Shorline:	
Name of Adjacent Body of Water (if applicable):	
Has there been signage erected at the site:	Yes
Total cost of Restoration/Enhancement:	$2,000,000

Parcel Map



Data Generated From Parcel List