



# Lessard-Sams Outdoor Heritage Council

## Laws of Minnesota 2019 Accomplishment Plan

**Date:** October 11, 2018

**Program or Project Title:** Pig's Eye Lake Islands Habitat Restoration and Enhancement

**Funds Recommended:** \$ 4,337,000

**Manager's Name:** Scott Yonke

**Organization:** Ramsey County Parks and Recreation

**Address:** 2015 Van Dyke St

**City:** Maplewood, MN 55109

**Office Number:** 651-363-3786

**Email:** scott.yonke@co.ramsey.mn.us

**Website:** <https://www.ramseycounty.us/residents/parks-recreation>

**Legislative Citation:** ML 2019, Ch. X, Art. 1, Sec. 2, subd, X(x)

**Appropriation Language:**

**County Locations:** Ramsey

**Eco regions in which work will take place:**

- Metro / Urban

**Activity types:**

- Enhance
- Restore

**Priority resources addressed by activity:**

- Forest
- Habitat
- Prairie
- Wetlands

### Abstract:

Ramsey County and the U.S. Army Corps of Engineers propose to enhance and restore habitat in Pigs Eye Lake by building islands and marsh to benefit migratory birds, waterfowl, and fish. Island construction would restore wetland habitat and functions that have been lost in the 640-acre backwater due to erosion and degradation and enhance the surrounding area by reducing turbidity, preventing further erosion, and increasing habitat diversity. The project would protect areas of biodiversity significance and improve the Mississippi River wildlife corridor in the heart of the St. Paul metropolitan area.

### Design and scope of work:

**Problem:** Pigs Eye Lake is a large backwater of the Mississippi River, located in the southeast corner of St. Paul. The lake is shallow, open water, with a maximum depth of about 4 feet. The shallow depth and mucky lake bottom mean that the wind-generated waves cause a significant adverse effect on water quality and substrate stability. The waves also continuously erode the valuable vegetation on the edges of the lake, which has led to an estimated loss of 111 acres of wetland shoreline habitat since 1951. The conditions have created a negative feedback loop with no foreseeable improvements without intervention. Another 37.5 acres of biologically significant marsh and bottomland forest is at risk over the next 50 years, and new vegetation is unable to establish under the current conditions.

**Resource Significance:** Despite the present poor conditions of Pigs Eye Lake, the area is a rare resource in this stretch of the

Mississippi River where the floodplain is narrow and urban development is heavy. The shorelines and floodplain protected by this project have been identified by the Minnesota Biological Survey as areas of either outstanding or moderate biodiversity significance. The adjacent heron rookery is one of the largest in the state. Pigs Eye Lake is part of a network of aquatic corridors with connections to the Mississippi River, the Minnesota River, and Battle Creek. This project would restore, protect, and enhance these resources.

**Proposed Plan:** The proposed plan is to construct a complex of 7 islands in Pigs Eye Lake. The features were designed to provide a variety of floodplain habitat types, blend in with the natural environment, and create barriers for wind, waves, and visual disturbances to visiting wildlife. Twenty acres of islands would be constructed and planted with a mix of native floodplain species. Shallow sandbar habitat is incorporated into the island perimeters. Three of the islands were specially-designed to establish 18 acres of wetland by creating enclosed, protected spaces in their interiors that would be planted with native wetland plants. The islands were strategically placed to serve as barriers to wind and protect the existing valuable shoreline habitat from further erosion.

**Outcomes for wildlife:** The project would result in numerous habitat improvements, including: protected stopover areas for migrating ducks and waterfowl; preservation of the existing valuable shoreline; cover, spawning, and structural habitat for native fish; sandy areas for turtle nesting; shallow and more stable substrate to encourage macroinvertebrate colonization; water quality improvement due to reduced sediment re-suspension; and incorporation of depth and habitat diversity within the lake.

**Collaboration:** The project has been extensively coordinated with natural resource agencies and other stakeholders, and has received widespread support. Stakeholder meetings were held throughout the planning process, and representatives from the Minnesota DNR, National Park Service, U.S. Fish and Wildlife Service, and Ramsey County participated in discussions to provide recommendations specific to habitat needs. Federal and State environmental review processes have been completed. Permitting agencies have not indicated obstacles with the issuance of permits for project construction.

## **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:**

The proposed project's habitat-based approach would benefit numerous species in conservation need. Minnesota's Wildlife Action Plan for 2015-2025 identified that habitat loss, degradation, and fragmentation are the primary stressors affecting Species of Greatest Conservation Need in Minnesota. Restoring and enhancing Pigs Eye Lake would add value to hundreds of acres of floodplain habitat within a major aquatic corridor and avian migratory route. The improved habitat would benefit many species, throughout different critical times of the year, and would increase habitat diversity and resilience to climate change and other future stressors.

Many bird species of conservation need have been documented nearby that rely upon aquatic and wetland habitats would benefit from the project's enhancements, including: northern pintail, American black duck, Sprague's pipit (endangered), common nighthawk, northern harrier, belted kingfisher, black-crowned night heron, and American white pelican (special concern). Because of the proximity to the Pigs Eye Island Heron Rookery SNA, the project would be expected to increase the number of birds supported at the rookery or improve their nesting success. Sandy areas incorporated into the islands would serve as valuable nesting areas for threatened turtle species, including the Blanding's turtle and wood turtle.

## **Describe the science based planning and evaluation model used:**

Pigs Eye Lake is located within several nationally- and locally-recognized important habitat corridors. The area is central to the Mississippi Flyway, the migratory corridor used by forty percent of North America's waterfowl and shorebirds. Pigs Eye Lake lies within the "Mississippi River Twin Cities Important Bird Area" designated by the Audubon Society, where over 200 bird species have been observed. The lake is directly adjacent to an area designated as a site of outstanding biodiversity significance by the Minnesota Biological Survey – the Pigs Eye Island Scientific and Natural Area – which supports a mixed-species heron rookery totaling over 1,600 nesting pairs, and is one of four locations within Minnesota where the yellow-crowned night herons are known to nest. Pigs Eye Lake has a direct connection to 32 miles of the Mississippi River and almost 250 miles of the Minnesota River. At least 72 species have been recently documented in Mississippi River Pool 2.

At a local level, Pigs Eye Lake is one of few large, off-channel areas within the floodplain near St. Paul that has been mostly preserved from development, but which continues to be degraded by unaddressed stressors such as wind-induced waves. The shoreline habitat being degraded includes 327 acres of that is recognized by the Minnesota Biological Survey as a site of moderate biodiversity significance. Significant gains in habitat can be made by protecting and preserving the existing quality habitat around the lake from further erosion and by enhancing the shallow open-water interior. Both of these goals can be met by strategically constructing habitat within the center of the lake which also would then serve as a wind barrier to protect the existing shoreline.

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

- H2 Protect critical shoreland of streams and lakes
- H6 Protect and restore critical in-water habitat of lakes and streams

**Which other plans are addressed in this program:**

- Managing Minnesota's Shallow Lakes for Waterfowl and Wildlife
- Minnesota DNR Strategic Conservation Agenda

**Which LSOHC section priorities are addressed in this program:**

**Metro / Urban:**

- Protect habitat corridors, with emphasis on the Minnesota, Mississippi, and St. Croix rivers (bluff to floodplain)

**Relationship to other funds:**

- Parks and Trails Fund
- USACE Continuing Authorities Program, Beneficial Use of Dredged Material, Section 204 of the Water Resources Development Act of 1992, as amended. USACE Channel Management Budget.

**Describe the relationship of the funds:**

Parks and Trails Fund: A key component for providing sustainability to the project is environmental education. Ramsey County is in the process of preparing a master plan update for Battle Creek Regional Park including the Pigs Eye Lake section with multiple agencies and stakeholders to ensure protection of sensitive cultural resources within the Mississippi River corridor by Pigs Eye Lake. As part of master planning activities, a conceptual plan will be developed for vehicular and pedestrian access, additional park and recreational features such as a parking area, trails, observation platform/viewing areas, interpretive signage, and environmental programming. These features will allow increased access and environmental education for the project area. Funding for master planning activities and potential recreational development will be provide through the Legacy Amendment Parks and Trails fund.

**Does this program include leverage in funds:**

Yes

The main portion of the leverage funds will come from the USACE Continuing Authorities Program, Beneficial Use of Dredged Material, Section 204 of the Water Resources Development Act of 1992, as amended. With additional funds coming from the USACE Channel Management Budget. These funds are confirmed.

USACE Continuing Authorities Program, Beneficial Use of Dredged Material, Section 204 of the Water Resources Development Act of 1992, as amended. USACE Channel Management Budget.

**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:**

Lessard-Sams funding request for the Pig's Eye Lake Islands Habitat Restoration and Enhancement Project is not supplanting existing funds from a previous project.

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

Appropriation Year	Source	Amount
FY15-FY17	Section 204 of the WRDA of 1992, as amended	\$650,000

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

Ramsey County and the Corps will maintain the project to ensure sustainability of the islands. A post-construction monitoring and adaptive management plan has been prepared that will guide monitoring and maintenance actions for 10 years following construction. Ramsey County will then assume responsibility for long-term maintenance and will integrate it into the master plan update for the Pigs

Eye Lake section of Battle Creek Regional Park. Shared short-term and long-term management actions will be funded with County budget through Regional Park and Trail Operation and Trail Maintenance funds.

Initial short-term management will be conducted by the Corps and costs would be shared between the Corps and Ramsey County. Performance indicators include waterbird counts, vegetation establishment, island elevation surveys, water quality monitoring, and shoreline erosion analyses. These actions are detailed in the project outcomes table. The long-term maintenance would focus on vegetation maintenance, erosion control, and wildlife management to include removal of invasive species and replanting as required.

Maintenance needs are anticipated to be low because the island design has incorporated lessons learned from island building projects on the Mississippi over the past 30 years. The islands are designed to be geotechnically stable and to withstand flooding, waves, and ice.

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

Year	Source of Funds	Step 1	Step 2	Step 3
2021	USACE/Ramsey County	Upland Seedling Survival and Growth Monitoring	Supplemental planting or targeted herbivory control, as necessary	
2026	USACE/Ramsey County	Marsh and Wet Prairie Establishment Monitoring	Supplemental planting, chemical control, etc., as necessary	
2030	USACE/Ramsey County	Upland Long-term Seedling Survival and Growth Monitoring	Supplemental Planting, fencing, herbicide application, or mowing, as necessary	
2030	USACE/Ramsey County	Marsh and Wet Prairie Establishment Monitoring	Supplemental planting, chemical control, etc., as necessary	
2030 and beyond	Ramsey County	Monitor vegetation, stability, and wildlife use	Removal of invasive species and replanting as necessary to maintain ecological success.	
2021	USACE/Ramsey County	Marsh and Wet Prairie Establishment Monitoring	Supplemental planting, chemical control, etc., as necessary	
2021	USACE/Ramsey County	Water Quality (Turbidity or TSS) Monitoring	Adaptive Management as necessary	
2021-2025	USACE/Ramsey County	Fall Migratory Waterbird Use Survey	Adaptive Management as necessary	
2022 & 2025	USACE/Ramsey County	Island Settlement and Geotechnical Monitoring	Adaptive Management as necessary	
2023	USACE/Ramsey County	Upland Long-term Seedling Survival and Growth Monitoring	Supplemental Planting, fencing, herbicide application, or mowing, as necessary	
2023	USACE/Ramsey County	Marsh and Wet Prairie Establishment Monitoring	Supplemental planting, chemical control, etc., as necessary	
2025 & 2030	USACE/Ramsey County	Shoreline Erosion Monitoring	Adaptive Management as necessary	
2026	USACE/Ramsey County	Upland Long-term Seedling Survival and Growth Monitoring	Supplemental Planting, fencing, herbicide application, or mowing, as necessary	

**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 (County/Municipal, Public Waters, Mississippi National River and Recreational Area)**

## Accomplishment Timeline:

Activity	Approximate Date Completed
Execute Project Partnership Agreement with USACE	December 2018
Begin Plans and Specifications	January 2019
Complete Plans and Specifications	June 2019
Advertise Project for Bids	October 2019
Award Contract	November 2019
Complete island construction	July 2020
Complete topsoil placement and planting of islands	June 2021

**Date of Final Report Submission:** 11/1/2024

## Federal Funding:

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

Are the funds confirmed - **Yes**

### Documentation

What are the types of funds?

**Cash Match** - \$

**In-Kind Match** - \$11232800

**Other** -

## Outcomes:

### Programs in metropolitan urbanizing region:

- A network of natural land and riparian habitats will connect corridors for wildlife and species in greatest conservation need *There is limited availability of habitat in the St. Paul metro area due to heavy development and the naturally narrow floodplain. Pigs Eye Lake is one of the few large backwaters in the area but is currently degraded, windswept, and devoid of vegetation or habitat diversity. The proposed project would enhance and restore the area to provide important and locally rare stopover habitat for migrating waterfowl and other birds along the Mississippi Flyway. The project would result in increased vegetation and improved substrate for spawning, shelter, and food resources for fish, reptiles, and other species of conservation need.*

# Budget Spreadsheet

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

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

The appropriation recommendation was nearly equal to the original proposed requested amount. Thus no changes are planned.

**Total Amount of Request: \$ 4337000**

**Budget and Cash Leverage**

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$0	\$0		\$0
Contracts	\$4,337,000	\$11,232,800	Federal - Army Corps of Engineers	\$15,569,800
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	\$0	\$0		\$0
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	\$4,337,000	\$11,232,800		\$15,569,800

Amount of Request: \$4,337,000  
 Amount of Leverage: \$11,232,800  
 Leverage as a percent of the Request: 259.00%  
 DSS + Personnel: \$0  
 As a % of the total request: 0.00%

**What is included in the contacts line?**

The contracts line include the contract for which the project will be constructed. The contracts line includes leveraged funds which will be utilized for transportation of the building material and the actual construction of the project.

**Describe and explain leverage source and confirmation of funds:**

The main portion of the leveraged funds will come from the USACE Continuing Authorities Program, Beneficial Use of Dredged Material, Section 204 of the Water Resources Development Act of 1992, as amended. With additional funds coming from the USACE Channel Management Budget. These funds are confirmed.

## Output Tables

**Table 1a. Acres by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	18	0	16	0	34
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	552	552
Total	18	0	16	552	586

**Table 2. Total Funding by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	\$1,084,300	\$0	\$1,084,200	\$0	\$2,168,500
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	\$2,168,500	\$2,168,500
Total	\$1,084,300	\$0	\$1,084,200	\$2,168,500	\$4,337,000

**Table 3. Acres within each Ecological Section**

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N Forest	Total
Restore	34	0	0	0	0	34
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	552	0	0	0	0	552
Total	586	0	0	0	0	586

**Table 4. Total Funding within each Ecological Section**

Type	Metro Urban	ForestPrairie	SE Forest	Prairie	N Forest	Total
Restore	\$2,168,500	\$0	\$0	\$0	\$0	\$2,168,500
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	\$2,168,500	\$0	\$0	\$0	\$0	\$2,168,500
Total	\$4,337,000	\$0	\$0	\$0	\$0	\$4,337,000

**Table 5. Average Cost per Acre by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats
Restore	\$60239	\$0	\$67763	\$0
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	\$3928

**Table 6. Average Cost per Acre by Ecological Section**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	\$63779	\$0	\$0	\$0	\$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	\$3928	\$0	\$0	\$0	\$0

*Automatic system calculation / not entered by managers*

**Target Lake/Stream/River Feet or Miles**

Pigs Eye Lake



# 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

Ramsey

Name	TRDS	Acres	Est Cost	Existing Protection?
Pigs Eye Lake NE	02822211	76	\$0	Yes
Pigs Eye Lake NW	02822210	138	\$0	Yes
Pigs Eye Lake SE	02822214	134	\$0	Yes
Pigs Eye Lake SW	02822215	394	\$0	Yes

## Section 2 - Protect Parcel List

No parcels with an activity type protect.

### Section 2a - Protect Parcel with Bldgs

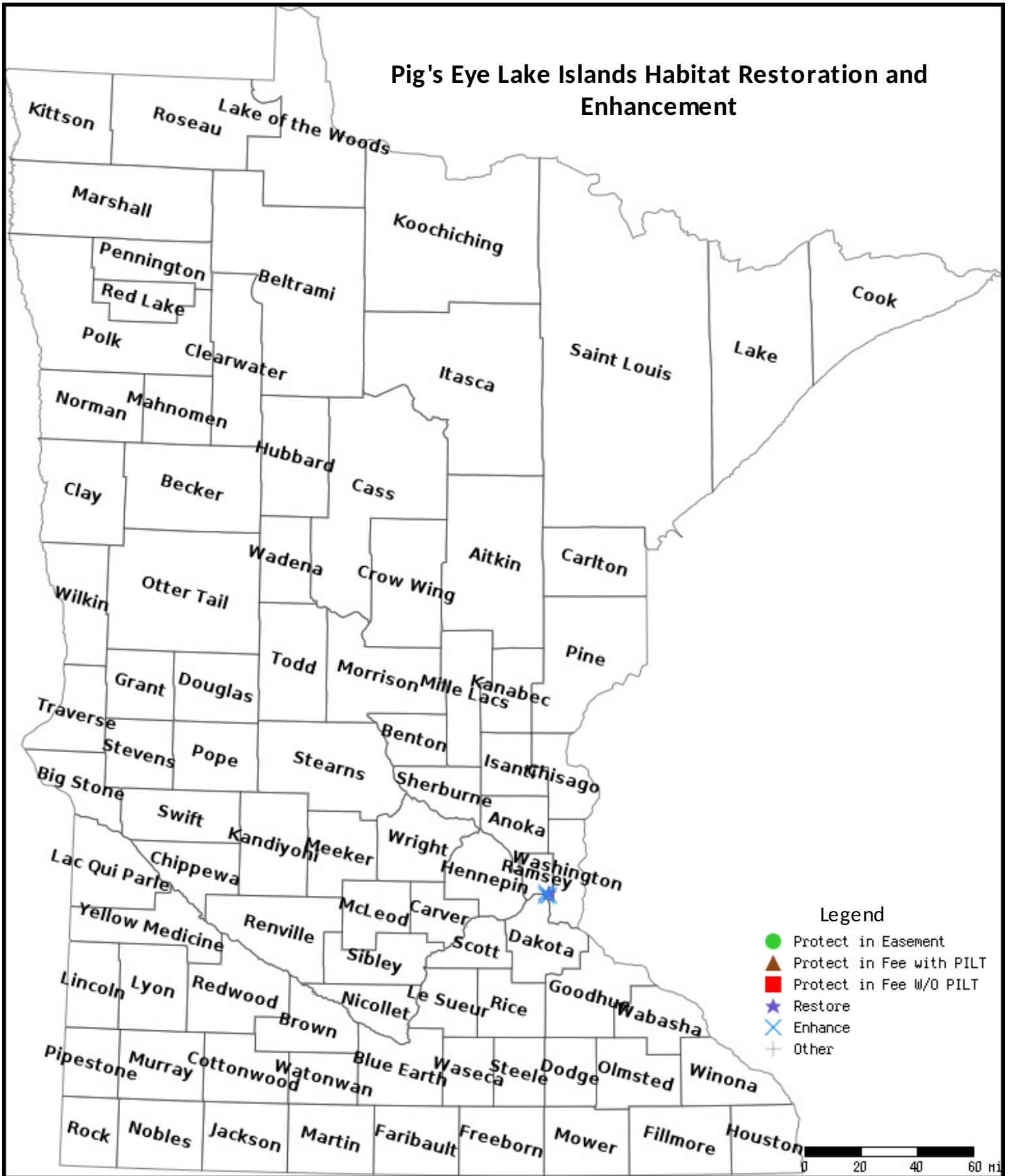
No parcels with an activity type protect and has buildings.

## Section 3 - Other Parcel Activity

No parcels with an other activity type.

# Parcel Map

## Pig's Eye Lake Islands Habitat Restoration and Enhancement



Data Generated From Parcel List

# Lessard-Sams Outdoor Heritage Council Comparison Report

**Program Title:** 2019 - Pig's Eye Lake Islands Habitat Restoration and Enhancement  
**Organization:** Ramsey County Parks and Recreation  
**Manager:** Scott Yonke

## Budget

Requested Amount: \$4,337,200  
 Appropriated Amount: \$4,337,000  
 Percentage: 100.00%

Budget Item	Total Requested		Total Appropriated		Percentage of Request	
	LSOHC Request	Anticipated Leverage	Appropriated Amount	Anticipated Leverage	Percentage of Request	Percentage of Leverage
Personnel	\$0	\$0	\$0	\$0	-	-
Contracts	\$4,337,200	\$11,232,800	\$4,337,000	\$11,232,800	100.00%	100.00%
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	\$0	\$0	\$0	\$0	-	-
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	-	-
<b>Total</b>	<b>\$4,337,200</b>	<b>\$11,232,800</b>	<b>\$4,337,000</b>	<b>\$11,232,800</b>	<b>100.00%</b>	<b>100.00%</b>

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

The appropriation recommendation was nearly equal to the original proposed requested amount. Thus no changes are planned.

# Output

**Table 1a. Acres by Resource Type**

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	34	34	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	552	552	100.00%

**Table 2. Total Funding by Resource Type**

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	2,168,500	2,168,500	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	2,168,700	2,168,500	99.99%

**Table 3. Acres within each Ecological Section**

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	34	34	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	552	552	100.00%

**Table 4. Total Funding within each Ecological Section**

Type	Total Proposed	Total in AP	Percentage of Proposed
Restore	2,168,500	2,168,500	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	2,168,700	2,168,500	99.99%