



Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2014 Final Report

General Information

Date: 09/03/2020

Project Title: St. Louis River Restoration Initiative

Funds Recommended: \$2,290,000

Legislative Citation: ML 2014, Ch. 256, Art. 1, Sec. 2, Subd. 5(g)

Appropriation Language: \$2,290,000 in the second year is to the commissioner of natural resources to restore habitat in the lower St. Louis River estuary. Of this appropriation, up to \$500,000 is for an agreement with Minnesota Land Trust. A list of proposed restorations must be provided as part of the required accomplishment plan.

Manager Information

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Title:

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Location Information

County Location(s): St. Louis.

Eco regions in which work will take place:

- Northern Forest

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Habitat

Narrative

Summary of Accomplishments

Chambers Grove: restored a natural shoreline, improved fish spawning habitat, and planted native shoreline vegetation (completed in 2015).

Kingsbury Bay: completed engineering and design; began restoration of a wetland complex impacted by excessive sediment and non-native species (to be completed Dec 2020).

Grassy Point: completed engineering and design; began restoration of a wetland complex impacted by legacy milling waste and non-native species (to be completed Dec 2020).

Perch Lake: developed a restoration concept design and initiated the construction design process with the US Army Corps of Engineers (to be completed in 2021).

Process & Methods

All Projects:

From early concept design and feasibility assessments to on-the-ground construction, the SLRRI followed a programmatic, partner-driven approach to implement large, complex, aquatic restoration projects. Conceptual designs were developed around specific restoration goals and objectives. These designs recognized and integrated current knowledge of natural processes in the St. Louis River. Throughout the formal design process, SLRRI involved a Restoration Site Team (RST) composed of local resource managers, experts, researchers, and stakeholders. The RST contributed expertise and knowledge, reviewed the design at various points throughout the process, and provided input and recommendations. This involvement contributes greatly to the goal of designing a resilient, self-sustaining habitat that meets project goals and objectives.

Chambers Grove:

The MN Land Trust (MLT) and MNDNR worked with the US Army Corps of Engineers (USACE) and City of Duluth to complete the final project design in June 2015. A construction contract was awarded to Veit, Inc. in August 2015. All necessary permits, approvals, and agreements were secured and construction of the Chambers' Grove aquatic restoration project was completed on October 15, 2015. A total of 1,000 feet of shoreline habitat restoration and three in-water water control/spawning structures were completed. The shoreline portion of the project, which was restored and stabilized with toe wood, also doubles as accessible fishing stones. The toe wood will stabilize this critical section of shoreline and the in-water boulder structures will provide critical spawning habitat for Lake Sturgeon, Walleye, and Longnose Sucker. The in-water structures will also move the primary flow energies away from the bank and to the middle of the river.

Minnesota and Wisconsin DNRs have sampled the Chambers Grove project area by electrofishing during the spring of 2017, 2018, and 2019. In 2017, flow and water temperature conditions were considered more conducive for seeing Lake Sturgeon at Chambers Grove. Subsequently, sturgeon were observed very regularly over the cross-channel weir and the J-hooks and on one occasion a group of sturgeon was observed just below the weir. Flow and water temperature during the 2018 were not as desirable. Because of that, it was speculated that fewer Lake Sturgeon were observed over the Chambers Grove habitat features. In spring 2019, an unusually high number of larval sturgeon were captured in drift nets set by the Fond du Lac Band of Lake Superior Chippewa and 1854 Treaty Authority at Chambers Grove. Overall, it appears that Lake Sturgeon are utilizing the Chambers Grove area at a higher rate than prior to the construction of the habitat features.

Grassy Point and Kingsbury Bay:

SLRRI is completing restorations at Grassy Point and Kingsbury Bay as a combined project. Project objectives include excavation of accumulated sediments from Kingsbury Bay to restore open water wetlands and coastal marsh habitats. MNDNR will beneficially use the clean sediments removed from Kingsbury Bay to remediate wood waste impairments at Grassy Point and facilitate the establishment of healthy open-water wetland. The project will construct a complex of created islands that will shelter the bay behind them. The islands will also increase the overall project site diversity by supporting healthy upland and littoral functions. Funds from this appropriation were used by SLRRI and MLT staff to manage and coordinate all steps necessary to advance these large, complex restoration projects. The SLRRI also applied ML2014 funds to project design, engineering, and construction contracts.

The SLRRI awarded a contract to Barr Engineering in March 2017 to complete the project design using funds from the OHF and the USEPA - GLRI. The design process was completed with input from the public and technical partners on the RST. A Health Impact Assessment (HIA) was completed by the USEPA, which incorporated additional public input to evaluate the impact of the design on fish and wildlife habitat, water quality, and other public health-related issues. No funding from OHF was used for the HIA. The findings of the HIA showed a positive social health outcome by implementing the MNDNR Draft Final Design. A Record of Decision pertaining to the state's Environmental Review was issued, and all necessary permits and agreements were obtained.

The Final Design and bid documents were completed in March 2018. In April 2019, a construction contract was awarded to Veit, Inc. Construction began in June 2010 and continued through early December 2019. Major activities completed included: underwater buttress and berm construction at Grassy Point, sediment excavation at Kingsbury Bay with beneficial use at Grassy Point, and non-native cattail removal at Kingsbury Bay. Construction resumed in spring 2020 with the beginning of legacy wood waste removal at Grassy Point, and will continue through winter 2020. The project remains on schedule for completion in December 2020.

Perch Lake:

SLRRI continues project design activities for this project. MLT awarded contracts (using another OHF appropriation) to complete baseline water quality and fisheries assessments. MNDNR secured a Partnership Agreement with the USACE (using another OHF appropriation) in November 2018 to complete the project design. The MLT and MNDNR assembled a RST and developed a Concept Design in 2019. MLT and MNDNR continue to work with USACE to advance the project design; this process has been delayed somewhat due to the need to calibrate and run multiple hydrologic/hydrodynamic models needed to evaluate design alternatives. Construction is anticipated to start in 2021.

Explain Partners, Supporters, & Opposition

The MLT coordinated the design, contracting, construction and project oversight at Chambers Grove with assistance from MNDNR. Key partners in this process included USACE, City of Duluth, and USEPA. Funding partners included GLRI, OHF, and MN Clean Water Fund.

The MNDNR coordinated and managed the design and contracting of Kingsbury Bay and Grassy Point with assistance from MLT. Key partners in this process included USACE, City of Duluth, and USEPA. Funding partners include OHF, GLRI, and the St. Louis River/Interlake/Duluth Tar Superfund Site Natural Resources Damages Assessment Settlement.

The MNDNR is coordinating the design and contracting of Perch Lake with assistance from MLT. Key partners in

this process include USACE and the City of Duluth. Funding partners include OHF and GLRI.

There was no opposition to these projects.

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

Chambers Grove is an excellent example of restoration promoting community revitalization. Following restoration, the City of Duluth invested significantly into constructing amenities, including ADA-compliant fishing platforms, restrooms, playground, pavilion, picnic areas, improved parking, and an interpretive trail. On August 24, 2019, the third annual Paddle the Pads Fly Fishing Bass Tournament was held at Chambers Grove, hosted by the Great Lakes Fly Shop. The project was recently highlighted in two articles discussing the connection between remediation, restoration, and community revitalization on the St. Louis River (see attachments).

Kingsbury Bay and Grassy Point represent MNDNR's largest construction contract, with challenges that would be expected for a project of this size and complexity. For example, several bidding rounds were necessary before receiving a bid meeting the state's requirements and MNDNR's budget. A unique and valuable component of the project's development was USEPA's application of a community and stakeholder-driven Health Impact Analysis.

What other funds that may contribute to this program?

- Clean Water Fund
- Parks and Trails Fund

How were the funds used to advance the program?

Clean Water Fund (CWF): To date, the CWF has been matched with funding from the USACE to characterize contaminated sediments within the entire Minnesota portion of the St. Louis River Area of Concern (AOC). The CWF is also being matched with USACE funds to complete design and environmental review on several projects on the "prioritized list of action" associated with the AOC. As related to this specific ML2014 appropriation, \$70,000 in Clean Water Funds were applied to the restoration of Chambers Grove.

Parks and Trails Fund: The City of Duluth in coordination with the AOC partners successfully secured \$1,000,000 in support from the Parks and Trails Fund to revitalize Chambers Grove following completion of the habitat restoration with accessible amenities, trails, and wayfinding. The City will continue to implement projects to enhance the opportunity for recreational access to natural resources within the St. Louis River AOC.

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

Habitat restoration projects completed in the St. Louis River estuary as part of the SLRRI and supported by the Legacy Amendment are designed to be maintained by the natural processes that define this system and it is not anticipated that long-term maintenance will be required. Construction contracts for all SLRRI projects include a one-year warranty period, with costs for applicable maintenance covered by the contractor. Post-project monitoring for all Area of Concern (AOC) projects will be completed through AOC delisting with funding support from the USEPA. All parcels included in this appropriation (Chambers Grove, Kingsbury Bay, Grassy Point, and Perch Lake) will be included in this AOC monitoring project. These parcels will also be included in an estuary-wide survey to document post-restoration bathymetry (separate funding and contract pending). Data collected through the AOC program will be used to compare post-project ecological health to restoration targets established for the estuary. After AOC delisting, the restored resources will be monitored and maintained under the authority of the

State of Minnesota's environmental agencies. Budget calculations for future natural resource management by MNDNR are difficult to estimate, but this work will be covered under existing state funds and programs.

Budget

Grand Totals Across All Partnerships

Item	Request	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$503,700	\$335,400	-	-	-	\$503,700	\$335,400
Contracts	\$1,617,900	\$1,477,200	\$1,369,000	\$1,600,000	GLRI, CWF, NOAA	\$2,986,900	\$3,077,200
Fee Acquisition w/ PILT	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-
Travel	\$6,000	\$1,000	-	-	-	\$6,000	\$1,000
Professional Services	-	\$410,000	-	-	-	-	\$410,000
Direct Support Services	\$147,900	\$59,900	-	-	-	\$147,900	\$59,900
DNR Land Acquisition Costs	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-
Other Equipment/Tools	\$8,500	\$4,800	-	-	-	\$8,500	\$4,800
Supplies/Materials	\$6,000	\$1,700	-	-	-	\$6,000	\$1,700
DNR IDP	-	-	-	-	-	-	-
Grand Total	\$2,290,000	\$2,290,000	\$1,369,000	\$1,600,000	-	\$3,659,000	\$3,890,000

Partner: DNR

Totals

Item	Request	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$307,700	\$235,600	-	-	-	\$307,700	\$235,600
Contracts	\$1,319,900	\$1,079,200	\$969,000	\$1,200,000	GLRI, CWF	\$2,288,900	\$2,279,200
Fee Acquisition w/ PILT	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-
Travel	\$4,000	\$300	-	-	-	\$4,000	\$300
Professional Services	-	\$410,000	-	-	-	-	\$410,000
Direct Support Services	\$147,900	\$59,900	-	-	-	\$147,900	\$59,900
DNR Land Acquisition Costs	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-
Other Equipment/Tools	\$6,500	\$3,900	-	-	-	\$6,500	\$3,900
Supplies/Materials	\$4,000	\$1,100	-	-	-	\$4,000	\$1,100
DNR IDP	-	-	-	-	-	-	-
Grand Total	\$1,790,000	\$1,790,000	\$969,000	\$1,200,000	-	\$2,759,000	\$2,990,000

Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Administrative Assistant	0.75	2.0	\$54,200	-	-	\$54,200
Project Manager	0.75	2.0	\$181,400	-	-	\$181,400

Partner: MN Land Trust

Totals

Item	Request	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$196,000	\$99,800	-	-	-	\$196,000	\$99,800
Contracts	\$298,000	\$398,000	\$400,000	\$400,000	NOAA	\$698,000	\$798,000
Fee Acquisition w/ PILT	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-
Travel	\$2,000	\$700	-	-	-	\$2,000	\$700
Professional Services	-	-	-	-	-	-	-
Direct Support Services	-	-	-	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-
Other Equipment/Tools	\$2,000	\$900	-	-	-	\$2,000	\$900
Supplies/Materials	\$2,000	\$600	-	-	-	\$2,000	\$600
DNR IDP	-	-	-	-	-	-	-
Grand Total	\$500,000	\$500,000	\$400,000	\$400,000	-	\$900,000	\$900,000

Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Project Management	0.65	2.0	\$99,800	-	-	\$99,800

Direct Support Services

How did you determine which portions of the Direct Support Services of your shared support services is direct to this program?

Used MNDNR LSOHC direct cost table

Explain any budget challenges or successes:

Construction of one project (Chambers Grove) was completed under this appropriation; any contract or budget alterations were typical and covered with available funds. Project outcomes at Chambers Grove were magnified within the landscape through a City of Duluth partnership (see narrative). As described in the narrative, additional federal funds were obtained to account for an increased budget to construct the Kingsbury Bay and Grassy Point projects (construction in progress). All ML2014 budget adjustments requiring amendments were done to move unneeded funds from non-construction categories into construction-related categories (e.g. contracts, professional services).

Total Revenue: -

Revenue Spent: -

Revenue Balance: \$0

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

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	45	31	45	31
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	7	7	7	7
Total	0	0	0	0	0	0	52	38	52	38

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	-	-	-	-	-	-	\$2,290,000	\$2,290,000	\$2,290,000	\$2,290,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	\$2,290,000	\$2,290,000	\$2,290,000	\$2,290,000

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	0	0	0	0	0	45	31	45	31
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in	0	0	0	0	0	0	0	0	0	0	0	0

Fee w/o State PILT Liability												
Protect in Easement	0	0	0	0	0	0	0	0	0	0	0	0
Enhance	0	0	0	0	0	0	0	0	7	7	7	7
Total	0	0	0	0	0	0	0	0	0	52	38	52

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	-	-	-	-	-	-	-	-	\$2,290,000	\$2,290,000	\$2,290,000	\$2,290,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	\$2,290,000	\$2,290,000	\$2,290,000	\$2,290,000

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	-	-	-	-	-	-	\$50,888	\$73,870
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	\$0	\$0

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	-	-	-	-	-	-	-	-	\$50,888	\$73,870
Protect in Fee with	-	-	-	-	-	-	-	-	-	-

State PILT Liability										
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	-	-	\$0	\$0

Target Lake/Stream/River Feet or Miles

0.19 mi/1000 ft

Outcomes

Programs in the northern forest region:

- Healthy populations of endangered, threatened, and special concern species as well as more common species ~ *MNDNR Fisheries monitors the St. Louis River Estuary annually for recruitment and species abundance/diversity. Lake Sturgeon and Muskellunge were tagged beginning in 2016 and netting & electrofishing assessments are conducted every three years for Black Crappie, Bluegill, Smallmouth Bass and Muskellunge since 2008. Chambers Grove is routinely included in spring drift net surveys of larval Lake Sturgeon (see narrative). The MPCA is administering a contract to sample and assess the post-project benthic macroinvertebrate communities, aquatic vegetation, and sediment quality at all St. Louis River AOC sites. A future MPCA contract will complete a post-restoration bathymetric survey of the entire estuary.*
- Greater public access for wildlife and outdoors-related recreation ~ *MNDNR Fisheries monitors the St. Louis River Estuary annually for recruitment and species abundance/diversity. Lake Sturgeon and Muskellunge were tagged beginning in 2016 and netting & electrofishing assessments are conducted every three years for Black Crappie, Bluegill, Smallmouth Bass and Muskellunge since 2008. Chambers Grove is routinely included in spring drift net surveys of larval Lake Sturgeon (see narrative). The MPCA is administering a contract to sample and assess the post-project benthic macroinvertebrate communities, aquatic vegetation, and sediment quality at all St. Louis River AOC sites. A future MPCA contract will complete a post-restoration bathymetric survey of the entire estuary.*

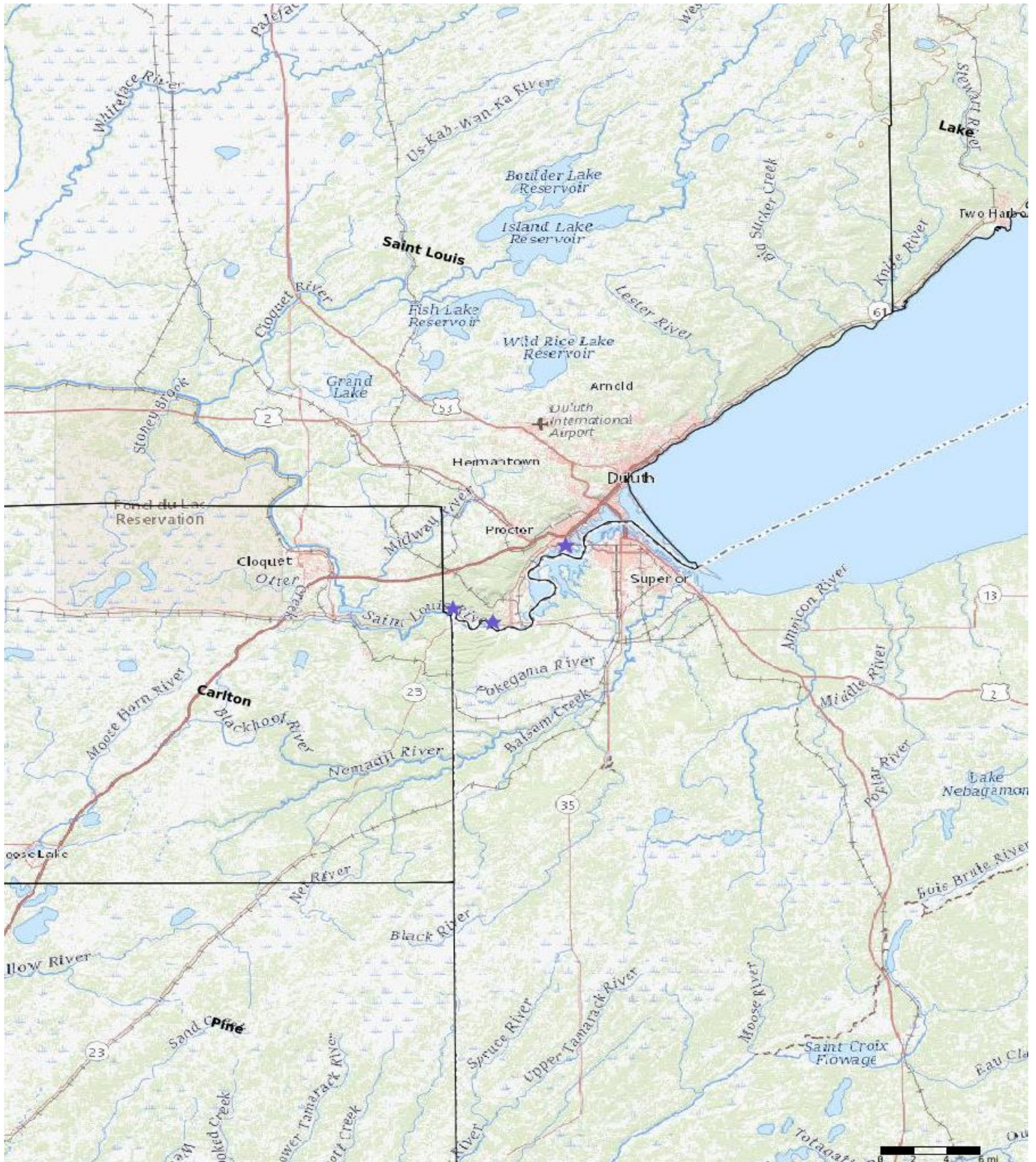
Parcels

Sign-up Criteria?

No

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Chambers Grove Shoreline Restoration and Spawning Habitat Improvement	St. Louis	04815206	7	\$398,000	Yes
Kingsbury Bay	St. Louis	04914218	16	\$529,800	Yes
Perch Lake	St. Louis	04815209	0	\$0	Yes
Grassy Point	St. Louis	04914218	15	\$1,589,400	Yes



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

Parcel Map
St. Louis River Restoration Initiative
(Data Generated From Parcel List)