



Lessard-Sams Outdoor Heritage Council

Fisheries Habitat Protection on Strategic North Central Minnesota Lakes - Phase IV Laws of Minnesota 2018 Final Report

General Information

Date: 11/12/2025

Project Title: Fisheries Habitat Protection on Strategic North Central Minnesota Lakes - Phase IV

Funds Recommended: \$2,801,000

Legislative Citation: ML 2018, Ch. 208, Art. 1, Sec. 2, subd 5(c)

Appropriation Language: \$2,801,000 the second year is to the commissioner of natural resources for agreements to acquire lands in fee and permanent conservation easements to sustain healthy fish habitat on coldwater lakes in Aitkin, Cass, Crow Wing, and Hubbard Counties. Of this amount, \$1,005,000 is to the Leech Lake Area Watershed Foundation and \$1,796,000 is to Minnesota Land Trust. Up to \$120,000 to Minnesota Land Trust is for establishing a monitoring and enforcement fund as approved in the accomplishment plan and subject to Minnesota Statutes, section 97A.056, subdivision 17. A list of acquisitions must be provided as part of the required accomplishment plan.

Manager Information

Manager's Name: Annie Knight

Title:

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Location Information

County Location(s): Cass, Hubbard, Crow Wing and Aitkin.

Eco regions in which work will take place:

Northern Forest

Activity types:

Protect in Easement

Protect in Fee

Priority resources addressed by activity:

Habitat

Narrative

Summary of Accomplishments

Project Partners Northern Water Land Trust (NWLTL) and Minnesota Land Trust (MLT) successfully concluded this grant, exceeding all proposed acre and leverage goals. Minnesota Land Trust and the Northern Waters Land Trust protected 520 (107% of goal) of high priority critical fish habitat and 4.86 miles of shoreline (486% of goal) associated with priority tullibee "refuge" lakes and their associated watersheds through conservation easement and fee title acquisitions. The Partnership realized \$1,470,900 in leverage (344% of goal) from lake associations and landowner donations of easement and fee title value.

Process & Methods

Protecting fisheries habitat is critical to sustaining a strong angling heritage. Shoreland development pressures and climate change are direct threats to the ecology of MN's lakes. This project focused on fisheries habitat protection on lakes that have the best biological integrity for a sustained sport fishery. Our protection efforts are focused on tullibee, a preferred forage fish of walleye, northern pike, muskellunge and lake trout. They require cold, well-oxygenated waters, a condition most common in deep water lakes with healthy watersheds. Fisheries research has shown that healthy watersheds with intact forests are fundamental to good fish habitat.

The Clean Water Critical Habitat (CWCH) Technical Committee evaluated all tullibee lakes in our project area and prioritized 16 lakes for action based on: (1) the ecological value of the lake, (2) the percent of the minor watershed currently protected, (3) the number of parcels in the watershed greater than 20 acres, (4) partner organizations available for advising on outreach efforts, and (5) investment by other agencies and organizations to protect lands and watersheds. To ensure the best conservation return on the state's investment, landowner willingness to donate a portion of the easement value was a key component of parcel evaluation.

NWLTL managed the grant, conducted landowner outreach and oversaw review of applications; NWLTL also negotiated and brought the fee title acquisitions to conclusion. MLT negotiated and closed all easements. Fee and conservation easement acquisition was supported by our partners, including County SWCDs and MNDNR Fisheries, who assisted with outreach to landowners and evaluation of projects to identify those with the greatest conservation outcomes. Eight properties were protected in easement by MLT under this grant; four fee acquisitions were concluded by NWLTL. Each of these is described briefly below and in more detail in the Project Summary Sheets uploaded into the final report.

Four fee acquisition projects totaling 91 acres were completed by NWLTL:

1. Washburn Lake Watershed – 19 ac with 1,450 ft shoreline on Lake George.
2. Louise Lake AMA – 14 ac with 1,747 ft of shoreline on Wabedo & Louise Lakes.
3. Cedar Lake Watershed – 46 ac and 1,650 ft of shoreline on Cedar Lake.
4. Roosevelt Lake (Stevens) - 6 ac on and 900 ft of shoreline, expands the Roosevelt Lake AMA.

Eight Conservation Easements totaling 435 acres were completed by MLT:

1. Blue Lake (Smith) - 92 ac with 2,889 ft of shoreline.
2. Little Boy Lake (YMCA) - 70 ac with 1,613 ft of shoreline.
3. Wabedo Lake (Schwartz) - 28 ac with 1,762 ft of shoreline on Wabedo Lake .
4. Kabekona Lake (Rogness) - 23 ac within the Kabekona Lake watershed.
5. Cedar Lake (Watkins) - 16 ac with 4,641 ft of shoreline.
6. Star Lake (United Methodist Church) - 80 ac with 5,074 ft of shoreline on Star, Little Star, Henry and Duck Lakes.
7. Thunder Lake (Steiner) - 24 ac with 1,357 ft of shoreline.
8. Shurd Lakes - 102 ac with 2,830 ft of

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?

Tullibee (aka cisco) is the preferred forage fish for walleye, northern pike, muskellunge and lake trout. They require cold, well-oxygenated waters, - a condition most common in lakes with deep water and healthy watersheds. Tullibee populations are the "canary in the coalmine" for three significant threats to Minnesota's sport fisheries: shoreland development, watershed health and climate warming. Deep, cold water lakes with high-quality, well oxygenated waters, and natural, undisturbed land cover along the shorelines and within their watersheds will have the best chance to sustain tullibee populations in the face of these threats and will serve as a "refuge" for the tullibee as annual temperatures increase.

Minnesota DNR Fisheries research studied tullibee lakes and designated 68 lakes in Minnesota as primary "refuge lakes" for tullibee that need protection. Sixteen (16) of these lakes representing 23.5% of the designated "refuge" lakes are located in Crow Wing, Aitkin, Cass and Hubbard counties. These lakes are premier recreational and sport fishery lakes. Fisheries research has shown that healthy watersheds with intact forest are fundamental to good fish habitat. The MN DNR Fisheries Habitat Plan states that shoreland disturbance can negatively impact near shore fish habitat, and consequently, fisheries. Maintaining good water quality (water oxygen level and nutrient content) is critical to sustaining tullibee populations. Lakeshore development can negatively impact healthy ecosystems for sport fish and their forage due to increased runoff and physical alteration of shoreland habitat.

In Phase IV of this program, MLT and NWLT collectively protected 520 acres of strategically important lands through both conservation easement (7 projects; 435 acres) and fee title acquisition (4 projects; 85 acres), achieving 107% of proposed land protection acres.

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.

Timothy Cross and Peter Jacobson's white paper entitled, "Landscape factors influencing lake phosphorus concentrations across Minnesota," determined that cold-water fish communities are especially vulnerable to eutrophication from increased phosphorus concentrations. Decreases in hypolimnetic oxygen concentrations have direct negative effects on fish (like tullibee) that physiologically require oxygenated cold water to survive, grow and reproduce. Protection is viewed as the most cost-effective strategy when applied to watersheds where human activities have not significantly elevated phosphorus levels.

Peter Jacobson and Mike Duval, in "Protecting Watersheds of Minnesota Lakes with Private Forest Conservation Easements: A Suggested Strategy," stated that protecting the forests in these watersheds from development is critical for maintaining water quality in these lakes. While large areas of land in forested portions are under public ownership, a considerable amount is also owned by private individuals in some of our most critical lake watersheds. These parcels are increasingly being "split up" and sold for development. Working forest easements

allow sustainable timber harvest while protecting the land from further development.

Modeling by MN DNR Fisheries research unit suggests that total phosphorus concentrations remain near natural background levels when less than 25% of the lake's watershed is disturbed. The priority tullibee "refuge" lakes have watersheds with less than 25% disturbed land uses and are good candidates for protection. The report referenced high priority lakes could include very deep lakes with exceptional water quality and support cold-water fish populations like tullibee. Minnesota DNR Fisheries researchers studied tullibee lakes and designated 68 lakes in Minnesota as the primary "refuge lakes" for tullibee. We focused our protection efforts on the 16 highest quality tullibee lakes that will require modest to moderate levels of land protection to achieve 75% protection levels. Protecting the habitats of tullibee "refuge" lakes along the shoreline and surrounding forest lands is essential to a sustained sport fishery.

Explain Partners, Supporters, & Opposition

This Program benefited from the active involvement of several government agencies and non-governmental organizations, including local lake associations, the Minnesota DNR, Soil and Water Conservation Districts, and county staff.

The Clean Water Critical Habitat Technical Committee was crucial in prioritizing lakes for the program and evaluating/prioritizing parcels for protection. This committee included various experts from government agencies and non-governmental organizations in the program area. Their evaluation was based on ecological value, percent of watershed protected, parcel size, anticipated involvement of local organizations, and investment by other agencies to protect the lands.

Landowner outreach was conducted with the support of local lake associations, county staff, DNR staff, and community members at large. Outreach was conducted via in-person conversations, referrals from partner organizations, direct mailing, and social media promotion.

No opposition to the program was encountered, but rather a growing level of interest among landowners.

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

MLT and NWLT continued the success of this grant program by conducting effective outreach to landowners which resulted in exceeding both the land protection, restoration, and leverage goals proposed for the grant. MLT completed seven high quality conservation easements through this grant, protecting a diversity of shoreland habitats and associated uplands.

NWLT effectively completed high quality acquisition projects through this grant, conveying 19 acres to Cass County and 66 acres to the Minnesota DNR for permanent protection. NWLT also executed outreach activities, created an interactive online GIS-based "Clean Water Critical Habitat" map that prioritizes parcels for protection, and continued fostering positive relationships with local partners.

What other dedicated funds may collaborate with or contribute to this program?

N/A

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

The Wabedo, Roosevelt, and Cedar Lake Watershed Parcels are now owned and Managed by the MN DNR. The Washburn Lake Watershed parcel was conveyed to Cass County and is managed according to the Cass County

Forest Management Plan.

Minnesota Land Trust holds the conservation easements acquired. The land protected through these conservation easements will be sustained through the best standards and practices for conservation easement stewardship. Minnesota Land Trust is a nationally accredited land trust with a very successful stewardship program that includes annual property monitoring, effective records management, addressing inquiries and interpretations, tracking changes in ownership, investigating potential violations and defending the easement in case of a true violation. In addition, MLT encourages landowners to undertake active ecological management of their properties, provides them with habitat management plans, and works with them over time to secure resources (expertise and funding) to undertake these activities over time.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2025 and in perpetuity	MLT Stewardship & Enforcement Fund	Annual monitoring of conservation easements	Enforcement as necessary	-
2025 and in perpetuity	MN DNR; Cass County	Forest will be managed according to the DNR and Cass County Management Plans for respective parcels	-	-

Budget

Grand Totals Across All Partnerships

Item	Requested	AP Amount	Spent	Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$180,000	\$145,000	\$134,400	-	-	-	\$180,000	\$134,400
Contracts	\$45,000	\$24,000	\$19,500	-	-	-	\$45,000	\$19,500
Fee Acquisition w/ PILT	\$811,000	\$799,000	\$799,000	\$87,500	\$375,300	Cedar Lake Conservancy	\$898,500	\$1,174,300
Fee Acquisition w/o PILT	-	\$32,500	\$32,100	-	\$3,600	Cass County	-	\$35,700
Easement Acquisition	\$1,400,000	\$1,380,000	\$1,434,600	\$330,000	\$1,092,000	-, Landowner donation	\$1,730,000	\$2,526,600
Easement Stewardship	\$120,000	\$120,000	\$96,000	-	-	-	\$120,000	\$96,000
Travel	\$16,000	\$9,000	\$3,800	-	-	-	\$16,000	\$3,800
Professional Services	\$152,000	\$185,600	\$151,000	-	-	-	\$152,000	\$151,000
Direct Support Services	\$55,000	\$56,400	\$49,000	-	-	-	\$55,000	\$49,000
DNR Land Acquisition Costs	\$16,000	\$28,000	\$28,000	-	-	-	\$16,000	\$28,000
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	\$4,000	\$4,000	\$100	-	-	-	\$4,000	\$100
Supplies/Materials	\$2,000	\$500	-	-	-	-	\$2,000	-
DNR IDP	-	\$17,000	\$17,000	-	-	-	-	\$17,000
Grand Total	\$2,801,000	\$2,801,000	\$2,764,500	\$417,500	\$1,470,900	-	\$3,218,500	\$4,235,400

Partner: Minnesota Land Trust

Totals

Item	Requested	AP Amount	Spent	Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$90,000	\$120,000	\$109,400	-	-	-	\$90,000	\$109,400
Contracts	\$30,000	\$20,000	\$15,500	-	-	-	\$30,000	\$15,500
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	\$1,400,000	\$1,380,000	\$1,434,600	\$330,000	\$1,092,000	Landowner donation	\$1,730,000	\$2,526,600
Easement Stewardship	\$120,000	\$120,000	\$96,000	-	-	-	\$120,000	\$96,000
Travel	\$8,000	\$8,000	\$3,600	-	-	-	\$8,000	\$3,600
Professional Services	\$118,000	\$111,600	\$107,000	-	-	-	\$118,000	\$107,000
Direct Support Services	\$26,000	\$32,400	\$29,500	-	-	-	\$26,000	\$29,500
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	\$4,000	\$4,000	\$100	-	-	-	\$4,000	\$100
Supplies/Materials	-	-	-	-	-	-	-	-
DNR IDP	-	-	-	-	-	-	-	-
Grand Total	\$1,796,000	\$1,796,000	\$1,795,700	\$330,000	\$1,092,000	-	\$2,126,000	\$2,887,700

Personnel

Position	Annual FTE	Years Working	Amount Spent	Leverage	Leverage Source	Total
Protection Staff - MLT	0.33	3.0	\$109,400	-	-	\$109,400

Partner: Northern Waters Land Trust

Totals

Item	Requested	AP Amount	Spent	Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	\$90,000	-	\$25,000	-	-	-	\$90,000	\$25,000
Contracts	\$15,000	-	\$4,000	-	-	-	\$15,000	\$4,000
Fee Acquisition w/ PILT	\$811,000	-	\$799,000	\$87,500	\$375,300	Cedar Lake Conservancy	\$898,500	\$1,174,300
Fee Acquisition w/o PILT	-	-	\$32,100	-	\$3,600	Cass County	-	\$35,700
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	\$8,000	-	\$200	-	-	-	\$8,000	\$200
Professional Services	\$34,000	-	\$44,000	-	-	-	\$34,000	\$44,000
Direct Support Services	\$29,000	-	\$19,500	-	-	-	\$29,000	\$19,500
DNR Land Acquisition Costs	\$16,000	-	\$28,000	-	-	-	\$16,000	\$28,000
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	-	-	-	-	-	-	-	-
Supplies/Materials	\$2,000	-	-	-	-	-	\$2,000	-
DNR IDP	-	-	\$17,000	-	-	-	-	\$17,000
Grand Total	\$1,005,000	-	\$968,800	\$87,500	\$378,900	-	\$1,092,500	\$1,347,700

Personnel

Position	Annual FTE	Years Working	Amount Spent	Leverage	Leverage Source	Total
Conservation	0.33	3.0	\$25,000	-	-	\$25,000

Direct Support Services

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

MLT - In a process that was approved by the DNR on March 17, 2017, Minnesota Land Trust determined our direct support services rate to include all of the allowable direct and necessary expenditures that are not captured in other line items in the budget, which is similar to the Land Trust's proposed federal indirect rate. We will apply this DNR-approved rate only to personnel expenses to determine the total amount of direct support services.

NWLT - In a process approved by MNDNR on September 13 2021, Northern Waters Land Trust used a simplified allocation methodology that resulted in MNDNR approving an indirect rate of allowable expenses. NWLT anticipates a similar rate for this proposal.

Explain any budget challenges or successes:

Project partners were successful in using available grant funding to exceed proposed acreage and leverage goals. Leverage funds allowed us to stretch existing state funding, enabling Partners to exceed our collective land protection goal by 107%.

Total Revenue: \$0

Revenue Spent: \$0

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	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	45	66	45	66
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	19	0	19
Protect in Easement	0	0	0	0	0	0	400	435	400	435
Enhance	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	445	520	445	520

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	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	\$851,000	\$891,100	\$851,000	\$891,100
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	\$67,700	-	\$67,700
Protect in Easement	-	-	-	-	-	-	\$1,950,000	\$1,805,700	\$1,950,000	\$1,805,700
Enhance	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	\$2,801,000	\$2,764,500	\$2,801,000	\$2,764,500

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	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	45	66	45	66
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	19	0	19
Protect in Easement	0	0	0	0	0	0	0	0	400	435	400	435
Enhance	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	445	520	445	520

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	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	\$851,000	\$891,100	\$851,000	\$891,100
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	\$67,700	-	\$67,700
Protect in Easement	-	-	-	-	-	-	-	-	\$1,950,000	\$1,805,700	\$1,950,000	\$1,805,700
Enhance	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	\$2,801,000	\$2,764,500	\$2,801,000	\$2,764,500

Target Lake/Stream/River Feet or Miles

4.86 miles

Explain the success/shortage of acre goals

The Partnership exceeded all grant objectives, protecting 85 acres in fee and 435 acres in conservation easements, and achieved 107% of the proposed acreage goal for this grant. We can attribute this success to strategic planning and strong partnerships. We had strong interest in our land protection programs from landowners that aligned closely with our conservation priorities as a result of targeted outreach efforts. Additionally, we were able to leverage matching funds from land/easement donations and partner organizations to increase our purchasing power.

Outcomes

Programs in the northern forest region:

Other ~ Shoreline habitat and forested parcels totaling 520 acres were permanently protected from development and fragmentation through conservation easements and fee acquisition. Riparian forest lands under easement will maintain healthy habitat complexes for upland and aquatic species; forest cover will enhance water quality habitat for tullibee lakes. Greater public access for wildlife and outdoors-related recreation will be attained through Fee Title acquisition open to the public for hunting and fishing. Conservation easement and fee properties will protect fish habitat to ensure high quality fishing opportunities. Measures: Acres protected.

Parcels

Sign-up Criteria?

No

Fee Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Cedar Lake watershed	Aitkin	04627207	46	\$703,000	No
Washburn Lake watershed	Cass	13927201	19	\$35,700	No

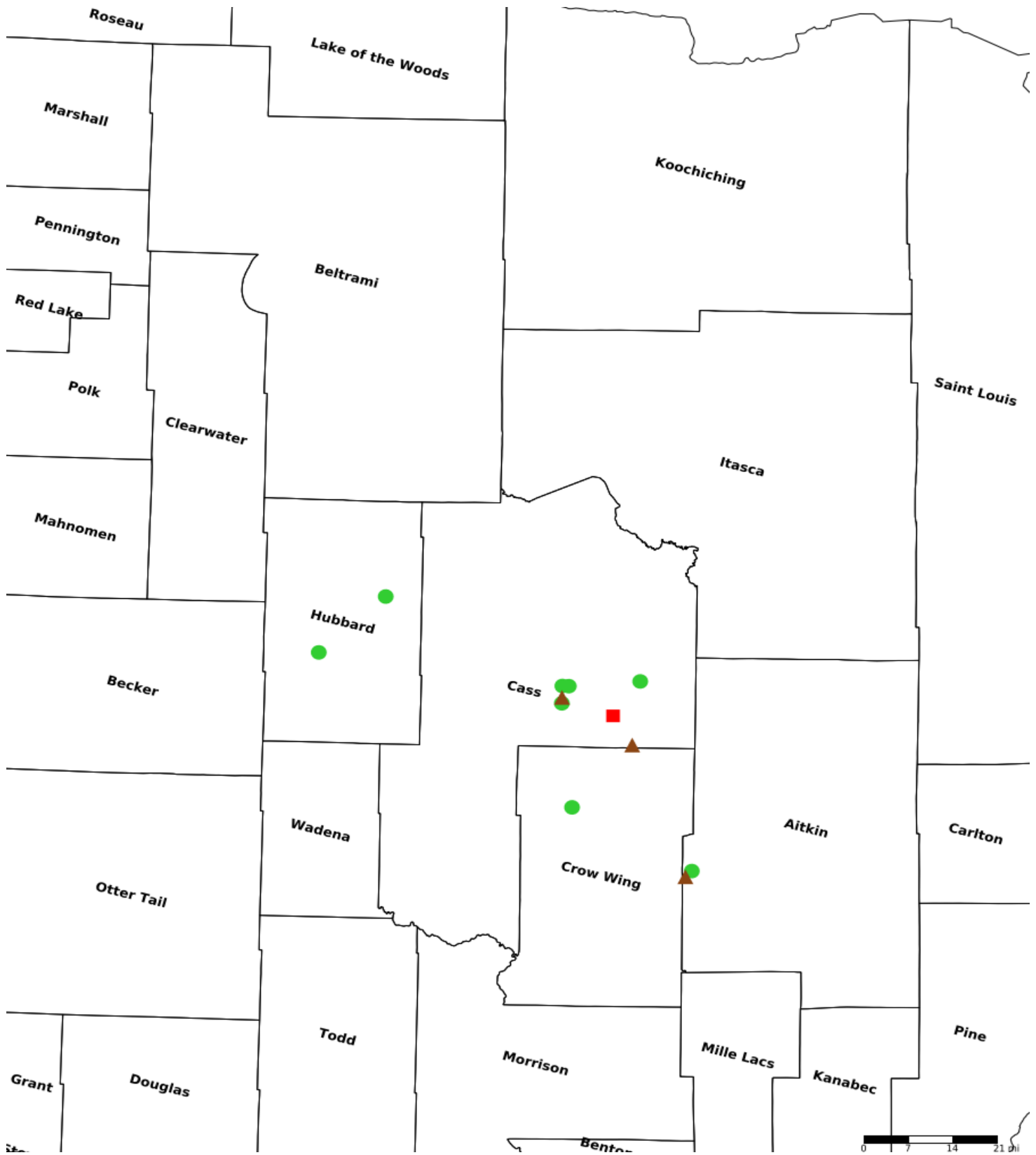
Fee Parcels with Buildings

Name	County	TRDS	Acres	Est Cost	Existing Protection	Buildings	Value of Buildings
Louise Lake AMA	Cass	14028222	14	\$232,600	No	2	\$500
Roosevelt Lake (Stevens)	Cass	13926233	6	\$0	No	2	-

Easement Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Cedar Lake (Watkins)	Aitkin	04627205	16	\$23,500	No
Little Boy Lake (YMCA)	Cass	14028211	70	\$457,000	No
Shurd Lakes (YMCA)	Cass	14028210	102	\$150,000	No
Thunder Lake (Steiner)	Cass	14026203	24	\$0	No
Wabedo Lake (Schwartz)	Cass	14028227	28	\$71,750	No
Star Lake (United Methodist Church)	Crow Wing	13728225	80	\$253,600	No
Blue Lake (Smith)	Hubbard	14134216	92	\$469,000	No
Kabekona Lake (Rogness)	Hubbard	14332230	23	\$9,750	No

Parcel Map



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