Lessard-Sams Outdoor Heritage Council

Minnesota Trout Unlimited Coldwater Fish Habitat Enhancement and Restoration - Phase VII

Laws of Minnesota 2015 Final Report

General Information

Date: 08/17/2025

Project Title: Minnesota Trout Unlimited Coldwater Fish Habitat Enhancement and Restoration - Phase VII

Funds Recommended: $1,890,000

Legislative Citation: ML 2015, First Sp. Session, Ch.2, Art. 1, Sec. 2, Subd. 5(c)

Appropriation Language: $1,890,000 in the first year is to the commissioner of natural resources for an agreement with Minnesota Trout Unlimited to restore and enhance habitat for trout and other species in and along coldwater rivers and streams in Minnesota. A list of proposed restorations and enhancements must be provided as part of the required accomplishment plan.

Manager Information

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Location Information

County Location(s): Wabasha, Fillmore, Dakota, Lake, St. Louis, Hubbard, Houston and Winona.

Eco regions in which work will take place:

Northern Forest

Metro / Urban

Southeast Forest

Activity types:

Enhance

Priority resources addressed by activity:

Forest

Habitat

Narrative

Summary of Accomplishments

Minnesota Trout Unlimited and its partners, chapters and volunteers enhanced habitat for trout, as well as other fish, game and wildlife, in or along 16 miles of coldwater streams around the state. We also worked with Lake County to enhance Forest habitat on a 76 acre parcel through which the Stewart River flows. We exceeded our target for acres of enhanced habitat.

Process & Methods

We enhanced habitat on fourteen different streams. The scope of work varied to match the site conditions, watershed characteristics, and address the specific limiting factors.

Severely degraded or unstable stream sections received comprehensive, large-scale habitat enhancements to restore stream function and in-stream trout habitat. These included intensive projects on Amity Creek and Chester Creek in Duluth, the Stewart River near Two Harbors, the Vermillion River in southern Dakota County, and the Root River in Preston. These projects required extensive grading and modification of stream channel patterns to create habitat-filled, stable channels and restored floodplains. The increased pool habitat created is particularly important for northern projects, where lack of pools was a key limiting factor for native trout populations.

Streams in northeast Minnesota need healthy riparian forests to provide shade and improve summer base flows. North Shore streams lack significant groundwater flows and instead are kept cold by the shade provided by trees along their banks. Unfortunately, outbreaks of two tree pests (spruce bud worm and emerald ash borer) are decimating riparian forests near Duluth and the North Shore. To address this we cleared numerous gaps of dead or dying trees along the Stewart River and French River. These areas were then planted with a mixture of long-lived tree species, both coniferous and deciduous. The trees are on their way to providing critical shade and other habitat benefits.

We also worked with Lake County to enhance a 76-acre parcel of forest which straddles the upper Stewart River, converting it from brushland to a forest of long-lived trees dominated by pines. Changing the stand's trajectory in this way is improving the long-term ability of the forest to store water and slowly release cool base flow to sustain the important trout and steelhead fisheries.

In the sandy central part of Minnesota, we used the conservation corps to thin alder thickets and strategically place brush bundles in overly wide sections of Kabekona Creek. These are capturing sand and narrowing and deepening the stream channel.

In southeast Minnesota, we completed projects on Camp Creek, Daley Creek, Duschee Creek, Little Pickwick Creek, Trout Run Creek, and West and East Indian Creeks. These project sites had very cold water temperatures and decent in-stream habitat but suffered from the negative effects of dense corridors of buckthorn, boxelder and other invasives. Here significant habitat gains were realized by removing these invasive trees and shrubs, which do a poor job holding streambanks. We removed invasive trees and shrubs and seeded corridors with grasses and forbes. This allowed native grasses and forbs, which better secure soils, to become reestablished and let beneficial sunlight reach the stream beds and boost stream productivity. Similarly, near Farmington, MN TU volunteers

spent numerous Saturday mornings to cutting buckthorn from 20 acres along the Vermillion River and set the table for prairie plantings following the in-stream habitat work completed in 2019.

By work with partners and tailoring the habitat enhancement methods to each project site we have maximized long term benefits to the trout populations at the lowest possible costs.

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?

The projects enhanced degraded habitat for fish and wildlife in and along 16 miles of coldwater streams and rivers which historically supported naturally reproducing trout or steelhead populations that are highly valued by anglers. While trout are the apex predator and key indicator species in coldwater systems, a host of rare aquatic and riparian species uniquely associated with these systems also benefited from the habitat work. The enhanced habitat will also provide great recreational opportunities for anglers and citizens.

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.

MNTU reviews DNR watershed specific fisheries management plans and other conservation planning efforts, consults with DNR area managers, and applies ranking criteria developed by the DNR. Projects must have the potential to increase the carrying capacity (fish numbers), the streams must have natural reproduction, and the sites must be accessible by the public. Improving the connectivity of good aquatic and riparian habitat is an important consideration and the projects selected expand or connect gaps in these riparian corridors.

Explain Partners, Supporters, & Opposition

The MNDNR provided valuable input and support on every project, and were a major partner on several. Soil & Water Conservation Districts were major partners on projects in northeast Minnesota. We partnered with the City of Preston on the Root River projects, which the improved habitat through the middle of that community has become a showpiece and gathering place. We encountered no opposition to these projects, only anglers happy with the results.

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

A major partner withdrew from projects in the Duluth area. Despite the challenges this caused, we adapted and met our acreage and stream mileage targets.

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?

Construction contracts included maintenance/warranty provisions to ensure habitat work is well established. After this period and once riparian vegetation well established, major maintenance work is not typically required to sustain the habitat outcomes for many years. However, we anticipate that long-term monitoring of the integrity of the improvements will be done every three years in conjunction with routine inspections and biological monitoring conducted by local MNDNR staff and MNTU members as appropriate.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3

1 to 3 years after the grant ends	MNDNR base and MNTU volunteers	Inspect structural elements and vegetation.	If needed, develop action plan with DNR.	Conduct maintenance with volunteers and/or contractors if DNR does not.
Every 3 years thereafter	MNDNR base and MNTU volunteers	Inspect structural elements and vegetation.	If needed, develop action plan with DNR.	Perform or assist DNR with maintenance if needed

Budget

Totals

Item	Requested	AP Amount	Spent	Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	$90,000	$150,000	$130,400	-	-	-	$90,000	$130,400
Contracts	$1,051,000	$1,067,000	$1,126,300	$1,540,000	$860,300	SWCD, DNR	$2,591,000	$1,986,600
Fee Acquisition w/ PILT	-	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-	-
Easement Acquisition	-	-	-	-	-	-	-	-
Easement Stewardship	-	-	-	-	-	-	-	-
Travel	$5,000	$5,000	$4,000	-	-	-	$5,000	$4,000
Professional Services	$63,000	$63,000	$42,100	-	-	-	$63,000	$42,100
Direct Support Services	-	-	-	-	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-	-
Other Equipment/Tools	$10,000	$5,000	$2,600	-	-	-	$10,000	$2,600
Supplies/Materials	$671,000	$600,000	$584,600	$1,300,000	$573,600	SWCD, DNR	$1,971,000	$1,158,200
DNR IDP	-	-	-	-	-	-	-	-
Grand Total	**$1,890,000**	**$1,890,000**	**$1,890,000**	**$2,840,000**	**$1,433,900**	**-**	**$4,730,000**	**$3,323,900**

Personnel

Position	Annual FTE	Years Working	Amount Spent	Leverage	Leverage Source	Total
program manager	0.4	3.0	$49,800	-	-	$49,800
watershed coordinator	0.1	3.0	$15,600	-	-	$15,600
program assistant	0.25	3.0	$65,000	-	-	$65,000

Explain any budget challenges or successes:
Despite challenges caused by partners' changed circumstances, we adapted and met our acreage and stream mileage targets. A major partner withdrew from projects in the Duluth area and as a result our original estimates of anticipated leverage, which we indicated were anticipated only, were lower than originally anticipated.

Total Revenue: $0

Revenue Spent: $0

Revenue Balance: $0

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

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

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	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	76	76	200	208	276	284
Total	**0**	**0**	**0**	**0**	**76**	**76**	**200**	**208**	**276**	**284**

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	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	$84,000	$62,600	$1,806,000	$1,827,400	$1,890,000	$1,890,000
Total	**-**	**-**	**-**	**-**	**$84,000**	**$62,600**	**$1,806,000**	**$1,827,400**	**$1,890,000**	**$1,890,000**

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	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	64	29	0	0	89	78	0	0	123	177	276	284
Total	**64**	**29**	**0**	**0**	**89**	**78**	**0**	**0**	**123**	**177**	**276**	**284**

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	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	$360,000	$264,500	-	-	$680,000	$910,200	-	-	$850,000	$715,300	$1,890,000	$1,890,000
Total	**$360,000**	**$264,500**	**-**	**-**	**$680,000**	**$910,200**	**-**	**-**	**$850,000**	**$715,300**	**$1,890,000**	**$1,890,000**

Target Lake/Stream/River Feet or Miles

16

Explain the success/shortage of acre goals

We surpassed our acreage targets.

Outcomes

Programs in metropolitan urbanizing region:

Improved aquatic habitat indicators ~ *Measured through surveys of fish, aquatic invertebrates and/or exposed substrates. Abundance, size structure and species diversity are considered.*

Programs in the northern forest region:

Improved aquatic habitat indicators ~ *Measured through surveys of fish, aquatic invertebrates and/or exposed substrates. Abundance, size structure and species diversity are considered.*

Programs in southeast forest region:

Rivers, streams, and surrounding vegetation provide corridors of habitat ~ *Enhancement of in-stream and riparian corridor habitat creates miles of connected habitat. Outcomes are further measured through surveys of fish and aquatic invertebrates. Abundance, size structure and species diversity are considered.*

Parcels

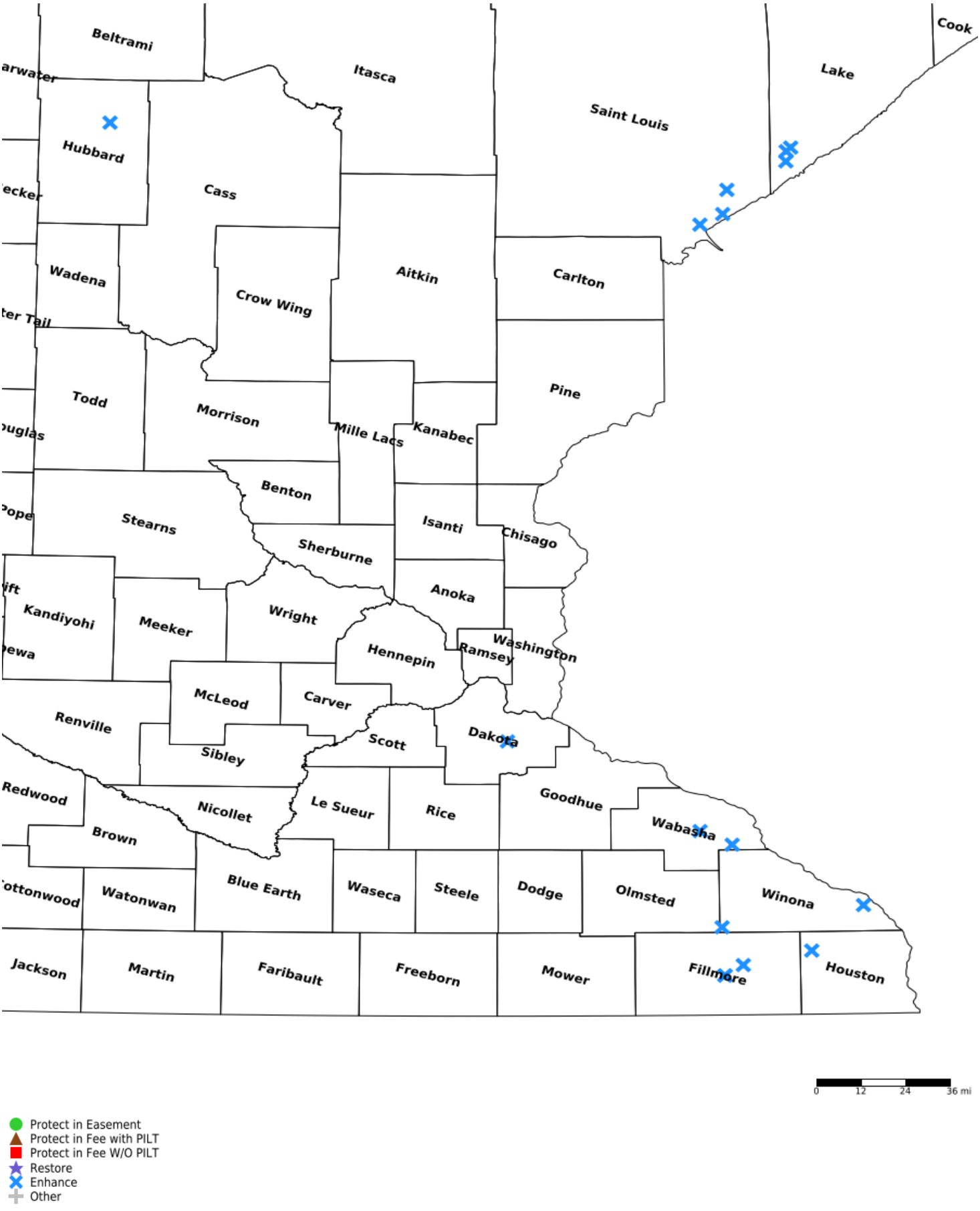
Sign-up Criteria?
No

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection	Description
Vermillion River	Dakota	11418229	29	$264,500	Yes	Enhance habitat via invasive tree removal on 20 riparian acres and in-stream enhancements on 7,200' long stream segment.
Camp Creek	Fillmore	10210205	3	$18,800	Yes	Enhance trout habitat along 1,400' via riparian vegetation management.
Duschee Creek	Fillmore	10310224	6	$27,600	Yes	Enhance trout habitat along 2,900' via riparian vegetation management.
Root River	Fillmore	10210205	19	$592,400	Yes	Enhanced habitat for brown trout in 1.5 miles in Preston (sections 5 & 6) and downstream (103-10-21).
Daley Creek	Houston	10407233	5	$28,300	Yes	Enhance trout habitat along 2,100' via riparian vegetation management; in sections 4,5, and 33.
Kabekona Creek	Hubbard	14333203	64	$12,900	Yes	Enhance habitat through brush cutting and spaced placement of bundles in stream to narrow, deepen channel along long stretch of brook trout stream; in sections 3,2, 11, & 12.
Stewart River	Lake	05411226	76	$62,600	Yes	Enhance Forest on 76 acre parcel in sections 26, 27, 34, & 35.
Stewart River	Lake	05311215	8	$75,000	Yes	Enhance in-stream trout habitat on 3,500' long reach.
Stewart River	Lake	05411234	12	$11,900	Yes	Enhance trout habitat in riparian corridor along one mile in sections 34, 26, and 27.
Amity Creek	St. Louis	05113232	1	$40,600	Yes	Enhance brook trout habitat along Seven Bridges Road.
Chester Creek	St. Louis	05014216	7	$469,800	Yes	Enhance brook trout habitat in two segments totaling 2,400'; in sections 16 & 15.
French River	St. Louis	05213228	9	$42,500	Yes	Enhance trout habitat along 3,900' segment via riparian forest management; in section 28 & 27.
East Indian Creek	Wabasha	10910228	10	$66,300	Yes	Enhance trout habitat along 4,400' via riparian vegetation management; in section 28 and into section 29.
West Indian Creek	Wabasha	10911205	10	$34,800	Yes	Enhance trout habitat along 4,300' via riparian

						vegetation management; in sections 5, 6, 7, & 8.
Little Pickwick Creek	Winona	10605229	14	$71,900	Yes	Enhance trout habitat along 6,000' via riparian vegetation management; in sections 29 and 32.
Trout Run Creek	Winona	10510230	11	$70,100	Yes	Enhance trout habitat along 5,000' via riparian vegetation management; in sections 30 & 19.

Parcel Map


Beltrami
Itasca
Saint Louis
Lake
Cook
Hubbard
Cass
Wadena
Crow Wing
Aitkin
Carlton
Todd
Morrison
Mille Lacs
Kanabec
Pine
Benton
Stearns
Isanti
Chisago
Sherburne
Anoka
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Washington
McLeod
Carver
Renville
Scott
Dakota
Sibley
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Watonwan
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
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12
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Protect in Easement
Protect in Fee with PILT
Protect in Fee W/O PILT
Restore
Enhance
Other