

**Tuesday, August 27**

**PM**

**Hearing Handouts**



# HA15: Fisheries Habitat Protection on Strategic North Central Minnesota Lakes – Phase XI

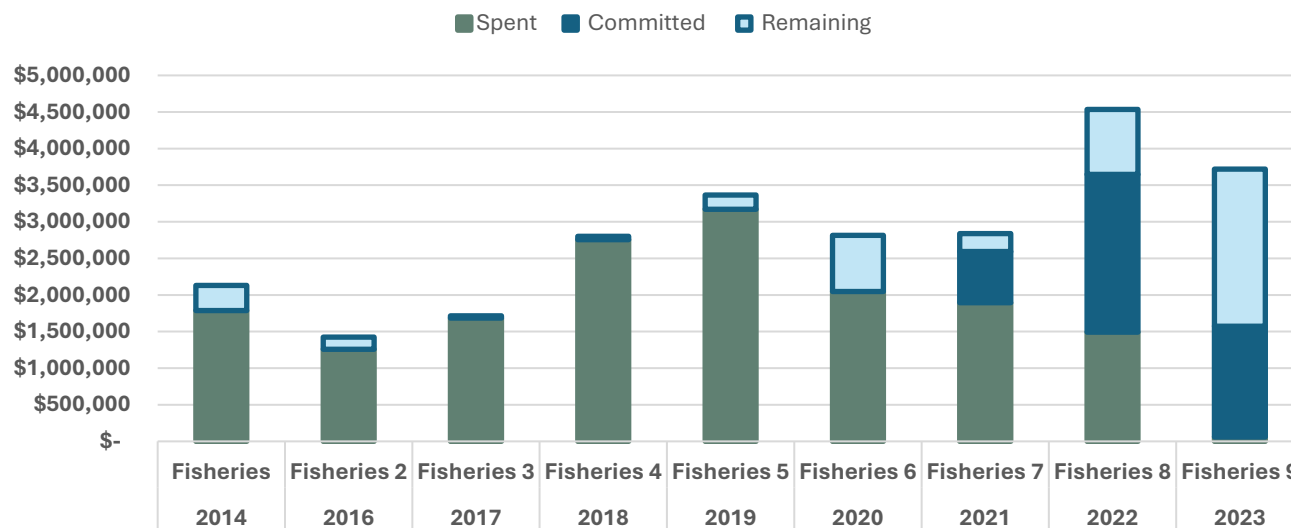


Grant Phase	Amount Awarded	Spent	Committed	Remaining	Proposed Acreage	Actual Acreage	% of Goal
2014, Phase I*	\$2,130,000	\$1,786,200		\$343,800	505	765	152%
2016, Phase II*	\$1,425,000	\$1,258,300		\$166,700	429	630	147%
2017, Phase III*	\$1,716,000	\$1,685,000		\$31,000	400	690	173%
2018, Phase IV*	\$2,801,000	\$2,765,335		\$44,665	485	509	105%
2019, Phase V*	\$3,365,000	\$3,171,425		\$193,575	636	1,090	171%
2020, Phase VI	\$2,814,000	\$2,046,409		\$767,591	456	1,300	285%
2021, Phase VII	\$2,838,000	\$1,894,892	\$698,000	\$245,108	615	754	123%
2022, Phase VIII	\$4,536,000	\$1,491,098	\$2,156,674	\$888,228	750	1,703	227%
2023, Phase IX	\$3,719,000	\$60,314	\$1,511,800	\$2,146,886	476	-	-
2024, Phase X	\$2,687,000	-	\$1,000,000	\$1,687,000	327	-	-

\*Completed/closed grants

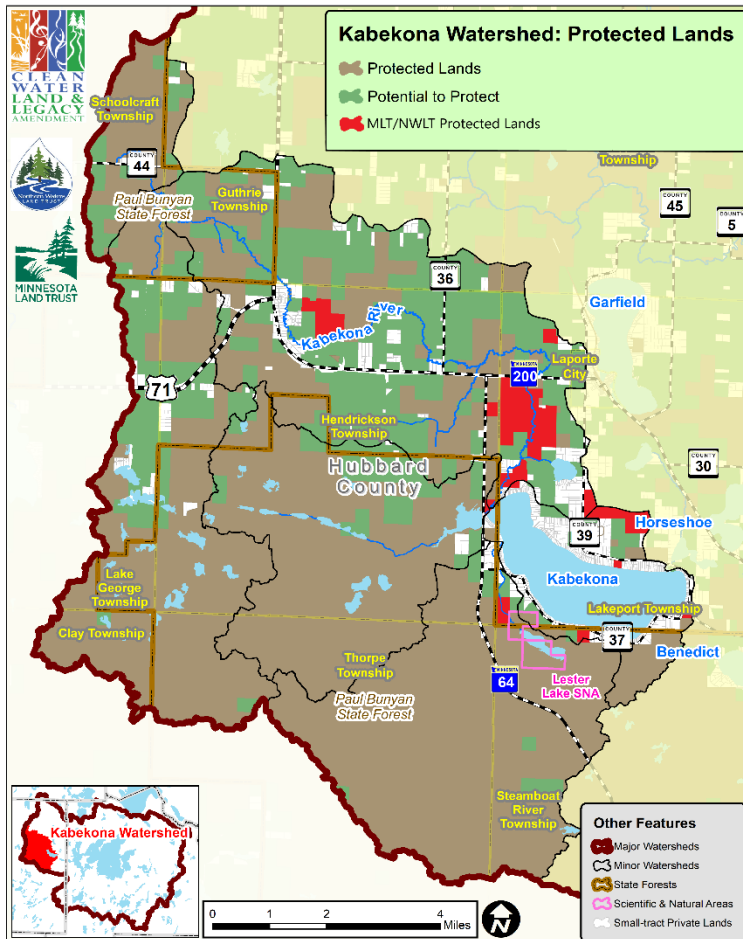


Northern Waters Land Trust and Minnesota Land Trust have protected nearly 7,500 acres of habitat to date under the Fisheries Habitat Protection Program. We have consistently exceeded our leverage and acreage goals and are seeing continued demand for land protection options for high-quality forest and shoreline habitat throughout the program's prioritized watersheds.



# HA15: Fisheries Habitat Protection on Strategic North Central Minnesota Lakes – Phase XI

The Fisheries Habitat Protection program focuses on safeguarding critical near-shore habitats, riparian areas, and key forested parcels within the watersheds of 23 priority tullibee “refuge” lakes. Through this program, Northern Waters Land Trust and Minnesota Land Trust are working to protect 75% of each targeted tullibee watershed, a measure that provides a high probability of maintaining clean water and healthy lake ecosystems.



**WATERSHED PROTECTION 75**

## Kabekona Lake

Hubbard County

Protection Partners:  
Kabekona Lake Association,  
Hubbard County, Hubbard County SWCD,  
The Nature Conservancy, The Conservation  
Fund, Trust for Public Land, Minnesota DNR

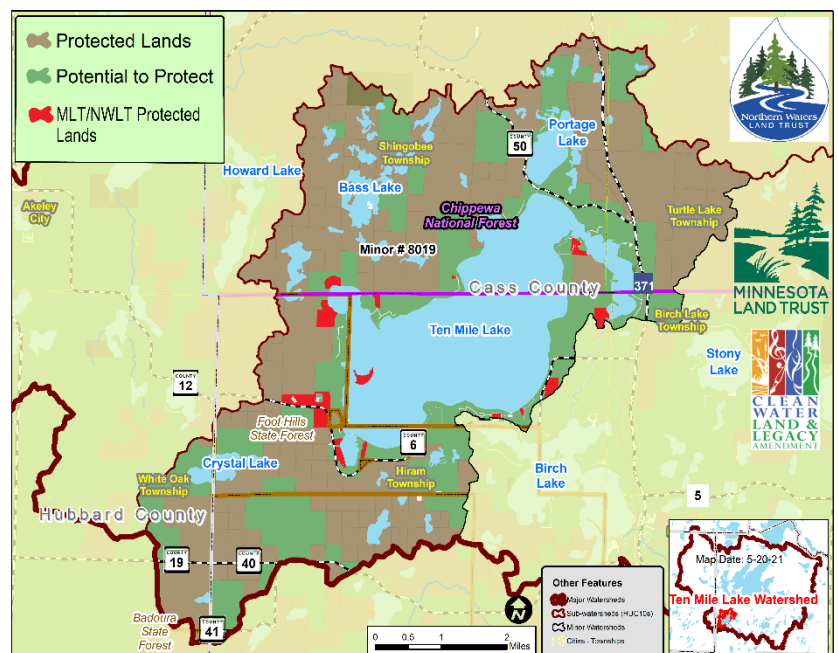
Thanks to Outdoor Heritage Funding and collaborative efforts by numerous conservation organizations and private landowners, two watersheds prioritized for protection within the Fisheries Habitat Protection program have recently reached the significant milestone of 75% protection. These are the Kabekona Lake Watershed (75% protected) and the Ten Mile Lake Watershed (78% protected).

**Ten Mile Lake**

Cass County

Protection Partners: Ten Mile Lake Association, Cass County, Cass County SWCD, Minnesota DNR, United States Forest Service

**WATERSHED PROTECTION 75**





## HRE01 – MN Statewide Trout Habitat Enhancement, Phase 2

**Stewart River (Lake County)**



**Hay Creek (Goodhue County)**



**Keene Creek (St. Louis County)**



**Vermillion River (Dakota County)**





Degraded condition of proposed Amity Creek project





## **Restoring and Enhancing Minnesota's Important Bird Areas IV**

### **Tallgrass Aspen Parklands and Prairie Parklands**

#### **Audubon Habitat Improvement Examples**

Glacial Ridge NWR – Lee Unit, 300 + ac. Before and after woody encroachment control and prescribed fire. Greater Prairie Chicken and Sandhill Crane returned to the site the spring following management.



#### **Partners**



## **Restoring and Enhancing Minnesota's Important Bird Areas IV**

### **Tallgrass Aspen Parklands Prairie Parklands**

The Tallgrass Aspen Parklands and Prairie Parklands regions of northwestern Minnesota contain a unique mix of wetlands, grasslands, and woodlands that has experienced significant landscape-level change. Through time, the region has been maintained by dynamic cycles of precipitation, fire, and grazing which provide essential habitat to declining grassland and wetland birds species. Aspen and other woody species challenge the existing grasslands through encroachment.

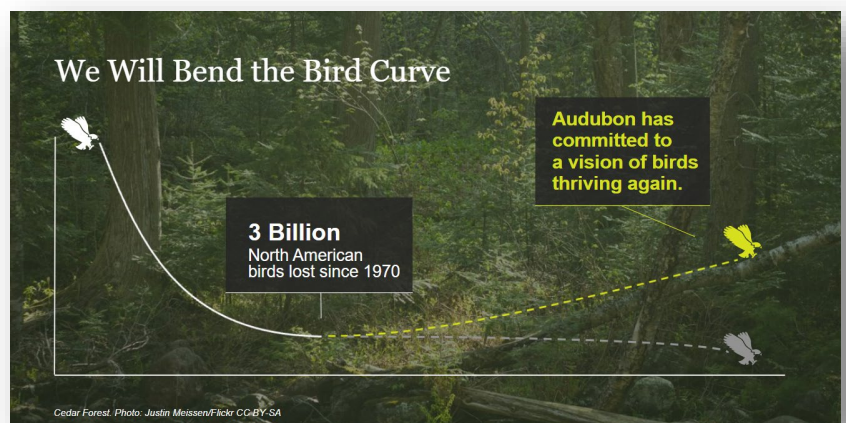
The land management actions taken by Audubon and partners within the Tallgrass Aspen Parklands and Prairie Parklands regions are critical to maintaining this unique area for grassland birds and prairie wildlife. To date, we have restored or enhanced 3,690 acres under our previous phases. Project habitat management strategies include brush and tree management, native seed enhancements, invasive species control, and prescribed fire.



Glacial Ridge NWR – Four Square Mile Restoration Site.  
Pasque flower emerging post prescribed fire.

### ***Bending the Bird Curve***

The restoration and enhancement of Minnesota's prairie regions fulfills Audubon's strategic Flight Plan goals by creating conditions for birds, people, and the planet to thrive while convening a diverse coalition of partners inspired to conserve the most important places for birds.



As a regional office of the National Audubon Society, Audubon Upper Mississippi River (UMR) directs our work to the places where birds need us the most – like the Tallgrass Aspen Parklands and Prairie Parklands regions of northwest Minnesota. Habitat loss drives bird declines across the hemisphere. In collaboration with local communities and partners, Audubon ensures the protection and restoration of the places birds and wildlife need.



## Fall River Restoration Project

Restoring stream connectivity and fish habitat for naturally occurring brook trout in the Lake Superior Basin



### Project Lead:

Cook County

### Project Partner:

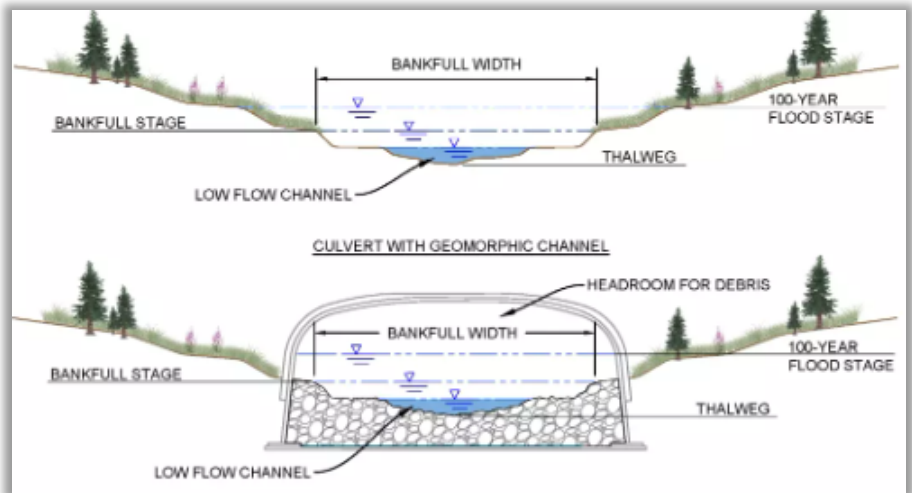
Cook County Soil and Water Conservation District

**The proposed project is another in a series of projects where transportation and environmental projects intersect. Leveraging funding from both sources allows projects like this to proceed.**

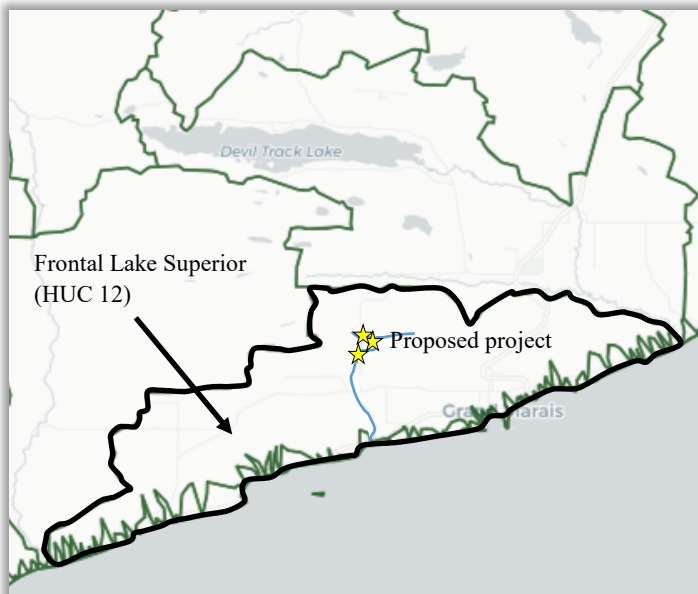
Changes in regional precipitation patterns have led to alternating flood and drought conditions that negatively impact aquatic habitat. *It is predicted that climate change will reinforce and amplify these patterns.* Removing these fish barriers, and restoring the river to bankfull condition will improve the watershed's climate change resiliency. By doing the improvements now, the river and aquatic habitat will have more time to revegetate and stabilize, further increasing that resiliency.

The proposed project will address habitat fragmentation and reduce sediment loading. Once the barriers are removed additional river will be opened up for fish passage and sediment loading due to erosion will decrease. Crossings will be correctly sized to meet bankfull requirements, stream velocities will decrease, and habitat will improve. This project is in direct alignment with the high priority goals of restoring fish passage laid out by MN DNR fisheries. Leveraging state transportation dollars the entire project will be fully funded with support from this council.

**Below:** Example of what the proposed project will achieve.



**Below:** Map of Frontal Lake Superior watershed and adjacent watersheds



### Project Benefits

- A minimum of 2 miles of the river will open up as an upstream, cold-water refuge for fish in the river and connecting tributaries.
- Expanded fish habitat will encourage a more diverse genetic pool and, ultimately, healthier, more resilient, fish populations.
- Increased climate resiliency through restored stream geomorphology, restored bankfull conditions, restored riparian corridor, additional riparian planting with resilient, native species, and the reduction of sedimentation.

Cook County has adopted the Lake Superior North One Watershed, One Plan. The County has been working with partners towards accomplishing activities in the plan. The project achieves the following activities in the plan:

- SC 1.2 - Based on stream network inventory results, initiate implementation of projects that remove anthropogenic barriers, with the goal of removing ten barriers within ten years
- SM 41. - Utilize culvert inventory results to update one problematic culvert per year in priority watersheds in terms of stream connectivity, aquatic organism passage, and erosion.
- SM 2.1 - Address existing erosion problems by conducting targeted erosion control projects using current natural resource engineering methodologies in order to reduce sedimentation and nutrient loading into surface waters and wetlands.

The proposed project is developed to be a permanent solution to provide fish habitat and maintain water quality.

Measurability of the project is long term. The most immediate outcome is the reconnection of at least 2 miles of the river downstream to upstream, including tributaries.

Partners in the watershed have a history of collecting data on fish and aquatic invertebrates in the river. The trend to collect the data is expected and will provide information to compare before and after the project data.

Support for this project is broad at the county, SWCD, MN DNR fisheries, Grand Portage Band, and even House and Senate members. This support shows how important these types of projects are to Cook County and how committed we are to delivering them.

**Right:** Severe erosion at the outlet of the southern crossing. The culvert is perched and undersized. This cross directly prevents AOP and creates a “dam” during storm events.



Partnerships locally are strong and ready to work together to benefit the resources, pooling together efforts, schedules, and staff. Cook County, Cook SWCD, and local DNR Fisheries are committed to creating long-term sustainable solutions to maintain and preserve our natural resources.

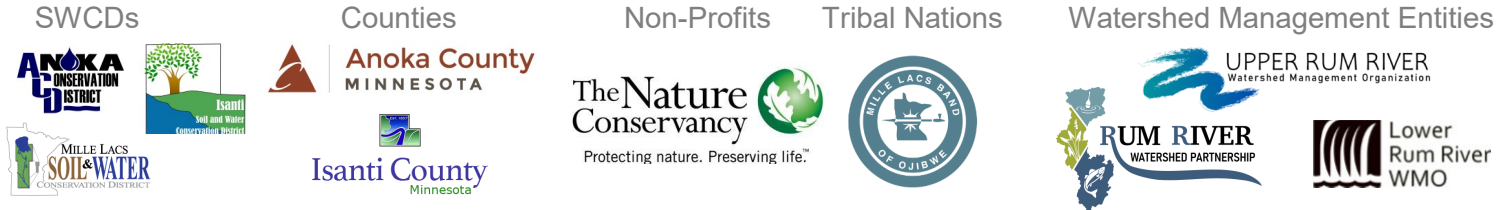
**Left:** Native Brook Trout





## WORKING TOGETHER

Many partners have come together to enhance the Wild, Scenic, and Recreational Rum River. From below the water line, to the top of the bluff, and into the watershed, this endeavor addresses the needs of the Rum River as a whole.



### PHASE 1 UPDATE - Projected by end of 2024

CURRENT STATUS	IN-STREAM 2,250 LF	CORRIDOR 2.55 Acres	OHF GRANT \$816K
COMPLETE (3)	1,120	1.63	\$501K
CONTRACTED (2)	730	0.83	\$384K
IN DESIGN (1)	200	0.23	\$200K
TOTAL	2,050	2.69	\$1,085K

### PHASE 2 UPDATE - Projected by end of 2026

CURRENT STATUS	IN-STREAM 1,920 LF	CORRIDOR 45 Acres	OHF GRANT \$1,699K
COMPLETE (1)		8	\$40K
IN DESIGN (3)	1,665	11	\$1,175K
PLANNING (4)	1,500	27	\$930K
TOTAL	3,165	46	\$2,145K

### PHASE 3 PROPOSAL

ELEMENT	IN-STREAM (Lin. Ft.)	CORRIDOR (Acres)	OHF GRANT \$1,974K
FISH HABITAT	800	0.6	\$395K
RIPARIAN		25	\$270K
STREAMBANK	1,650	1.3	\$1,105K
WETLAND		10	\$356K
WILD RICE		10	\$72K
TOTAL	2,450	47	\$2,198K

### Dellwood site example - completed in 2024

Before - severe erosion, lack of in-stream and riparian habitat



After (low water) - stable, enhanced habitat with rock barbs, root wads, cedar tree revetment, shrub staking, and native vegetation

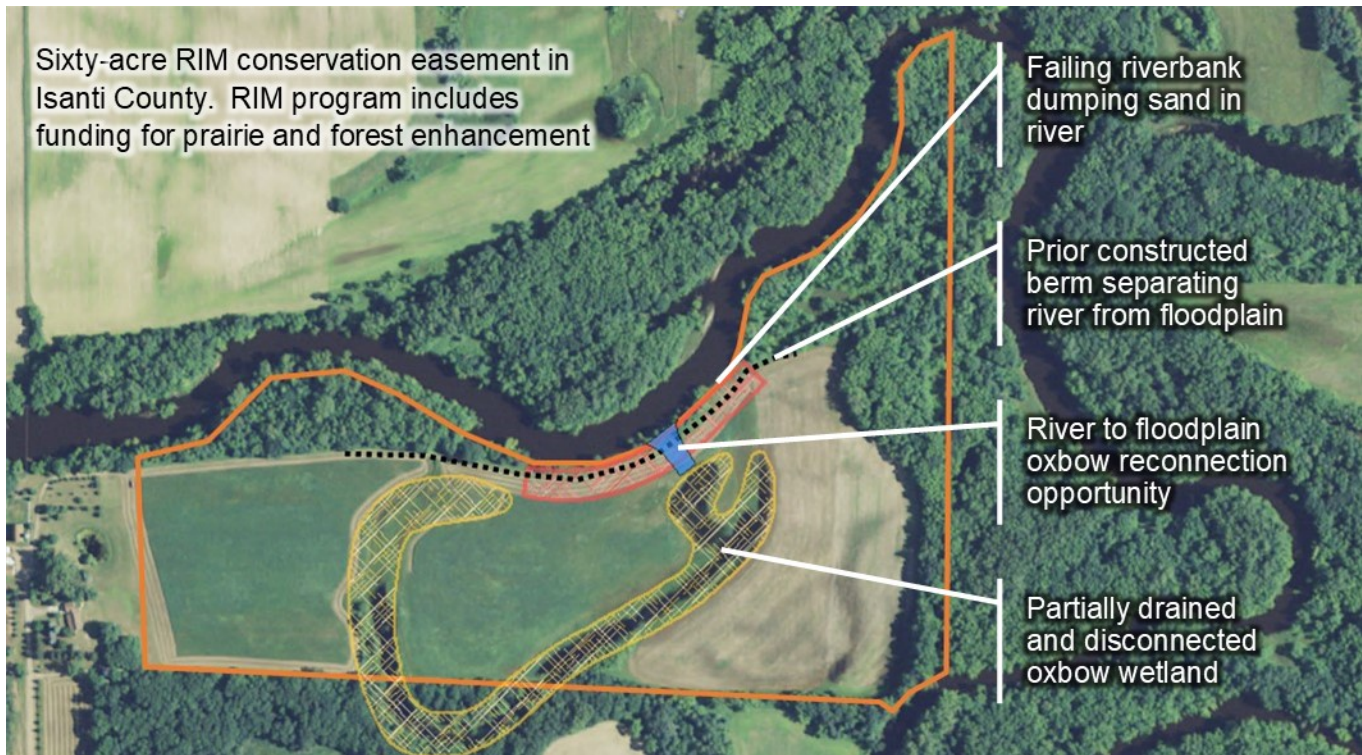




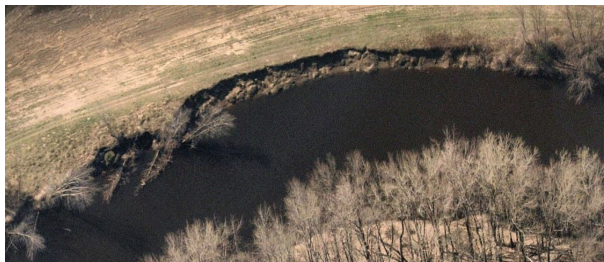
### PHASE 3 - EXAMPLE

#### COMPREHENSIVE HABITAT RESTORATION THROUGHOUT THE RUM RIVER CORRIDOR

Healthy and resilient rivers need healthy banks, interconnected floodplains, and habitat structure and diversity. The example below showcases multiple benefits of a corridor-scale approach to Rum River enhancement.



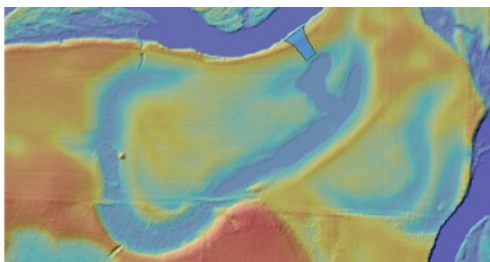
**Riverbank and In-Stream Habitat Enhancement:** Slope shaping and toe armor with rock to stabilize the bank along with upslope vegetation to provide habitat and hold soil. Rock barbs and toe wood in the water diversify in-stream habitat while further protecting the bank.



**Oxbow Wetland Enhancement:** Remove sediment in the oxbow wetland due to agriculture and restore the plant community, benefiting wildlife and water quality.



**Floodplain Reconnection:** Lower the artificial berm, restoring the Rum River's connection to the oxbow wetland, thereby increasing flood storage, improving river health, and benefiting fish and wildlife.







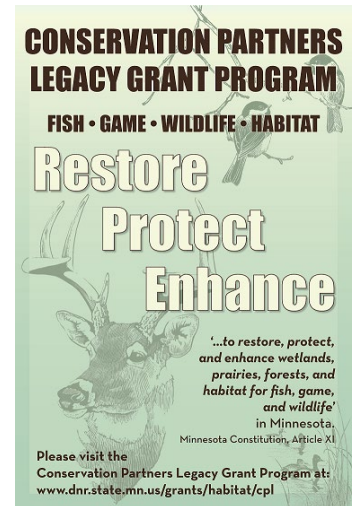
Trees planted and protected at a riparian forest restoration in Finland State Forest (Finland, MN)

# 2024 CPL Project Monitoring Overview

- 36 projects visited.
- 25 partners represented.
- 20 counties travelled to.



Restoring trout passage in Chester Creek (Duluth, MN)



Prescribed burning to restore a prairie at Three Rivers Park District (Hennepin County, MN)



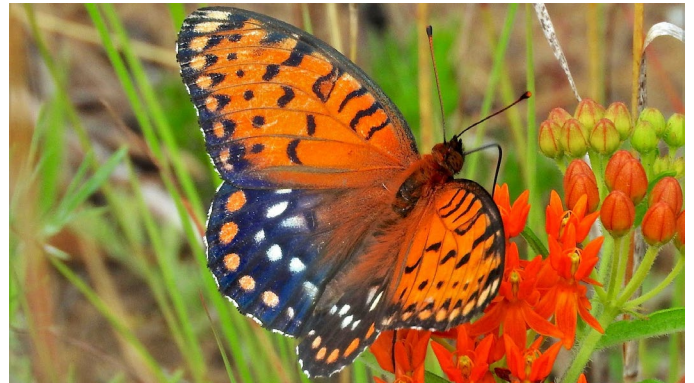




## Restoring Ecosystems

Otter Tail County Wetlands and Grassland Restorations  
Phase II (Ashby, MN)

Prairie restoration near Elizabeth, Minnesota (Elizabeth,  
MN)



## Protecting New and Rare Species

Kentucky Coffeetree sapling at the Whitewater Forest  
Enhancement Project by the Audubon Society (Altura,  
MN)

Regal Fritillary butterfly at Crow-Hassan Park Reserve  
(Hanover, MN)



### Nigh Creek Unit(s)

- Photo: June 2024
  - 3 years post-TSI;
  - 1 year post Rx Burn
- TSI'd in 2021
- Rx Burned in 2023



## Enhancing Habitats

Blueberry regeneration after TSI and prescribed burning  
at Nigh Creek Unit in the Superior National Forest  
(Tower, MN)

Invasive cattail removal and water flow enhancement  
(Rainy Lake, MN)