

3 Watershed Success Stories in the Mississippi Headwaters

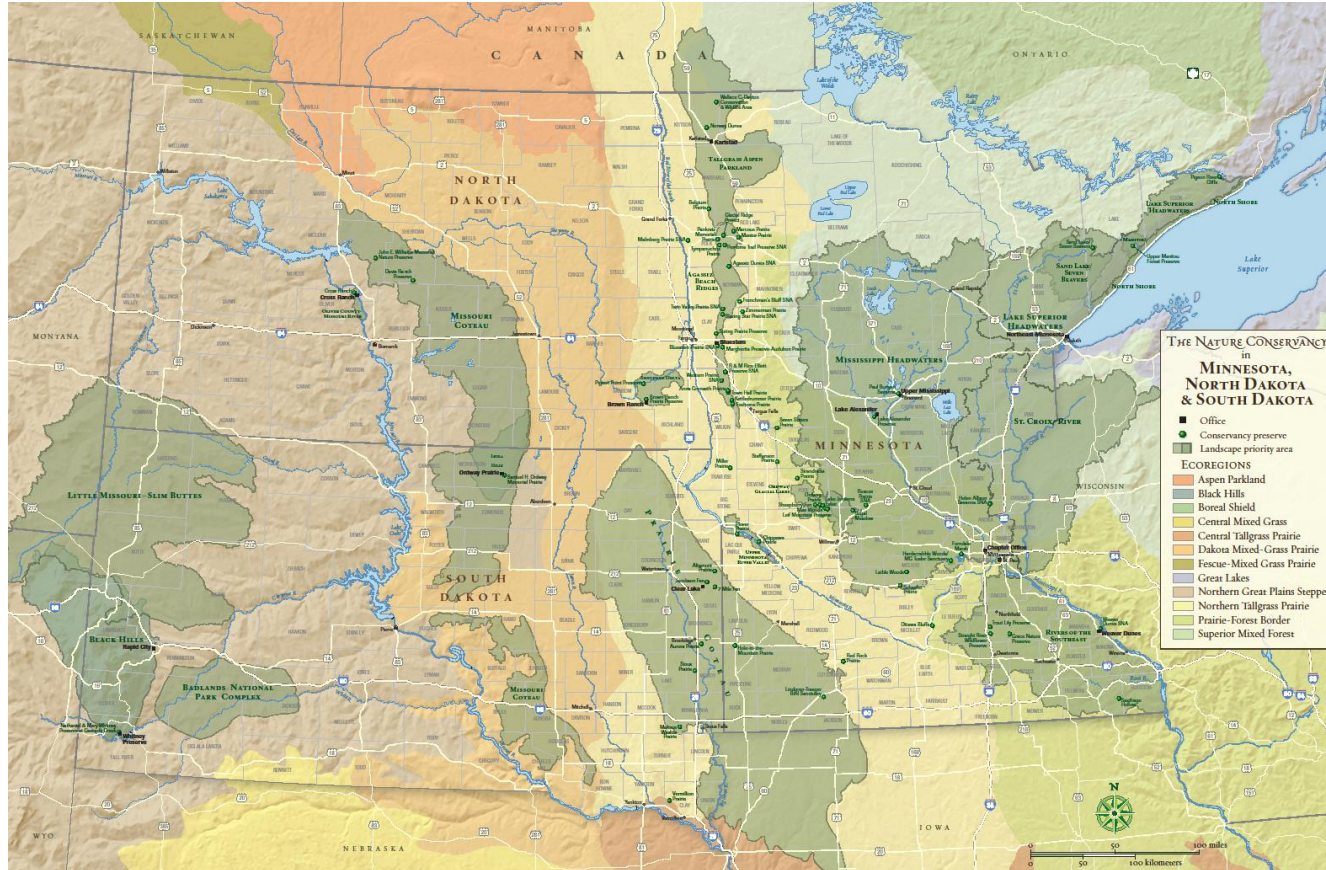


Todd Holman

Mississippi Headwaters Program Director



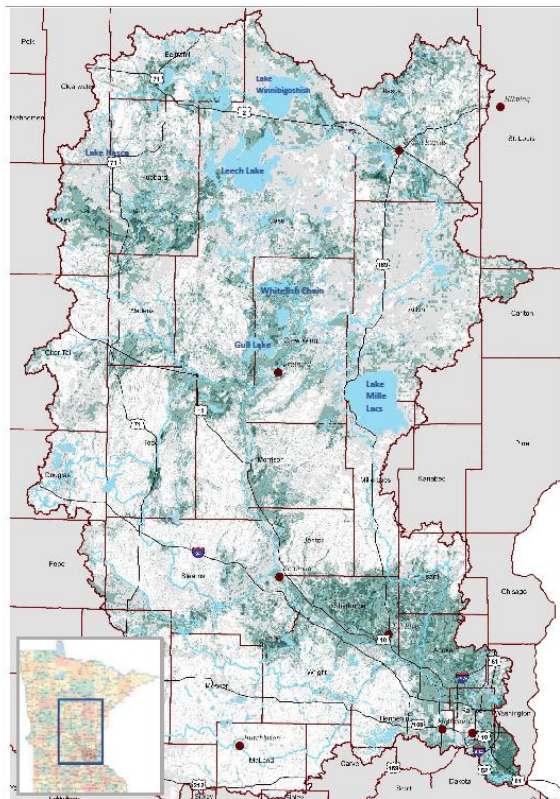
MN-ND-SD Chapter of The Nature Conservancy



The science behind our freshwater blueprint:

We look at key factors that our research tells us will result in protecting the most critical habitat for people and nature. These factors are layered atop one another to create a visual guide – the darker the color, the greater the benefit. These include:

- ✓ Fish & wildlife habitat
- Surface & ground water resources including drinking water
- Wetlands that manage flooding and act as nature water filters



Upper Mississippi River Basin: 20,000 Square Miles

By prioritizing our work, we can protect this critical resource—safe, clean water—needed for human health, and for the values we all hold.



Multiple Benefits^{v2.0} Methods and Data Layers

The tool is composed of 4 primary modules:

1. Fish and Wildlife
2. Drinking Water and Groundwater Quality
3. Flooding and Erosion
4. Groundwater Quantity

The Shoreland module was not used; shoreland protection is identified as a priority for its own sake.

Fish & Wildlife Habitat Benefits

Ecological patches and connections
Protected lands
Rare features
Areas of biodiversity significance
Lakes of biological significance
High quality wild rice lakes
High quality cisco lakes
Forest conservation value/
Drinking water value

Drinking Water/Source Water Benefits

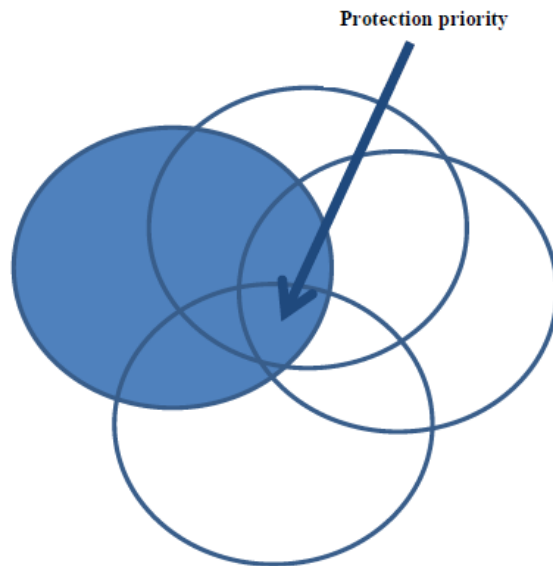
Drinking water management supply
area vulnerability
Groundwater contamination
susceptibility
Proximity to water

Reduce Erosion, Enhance Storage, and Reduce Hydrologic Alteration

Existing wetlands, riparian areas, and
floodplains providing storage and
retention benefits
Areas vulnerable to erosion

Protect Groundwater Quantity – Protect

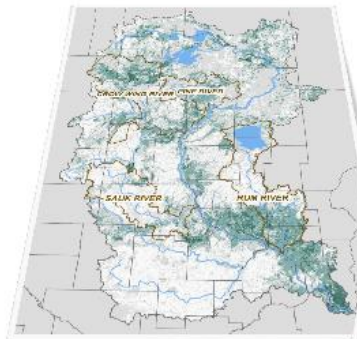
recharge and manage withdrawals
Groundwater recharge
Water use intensity relative to sustainable supply





We start with deliberate planning.

Now we're delivering exceptional results in Minnesota's Headwaters.

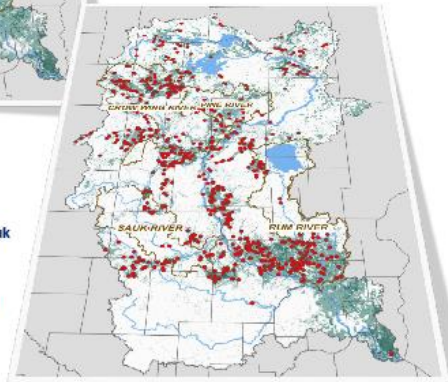


Step One: Where must we focus?

Nature Conservancy scientists identify critical places in the Mississippi River basin that will benefit the most from land protection or restoration.

Darker green areas indicate the highest priority:

- places where people, fish & wildlife live;
- lakes, rivers and ground water sources for drinking and playing;
- wetlands that filter and soak up rainwater.



Step Two: Where will we have the most impact?

Dark brown boundaries describe watersheds of the Crow Wing, Pine, Sauk and Rum Rivers, all of which flow into the Mississippi.

Each dot represents specific places that our scientists feel will help keep our water healthy and vital.

Step Three: Which tools are best deployed to address the needs of that particular landscape? Here are a few examples of how they are employed.



Permanently protect shoreline and other critical features through voluntary conservation easements with private landowners in the Pine River watershed.

Restore poorly performing farm fields with a carefully designed mosaic of fen, wetlands and grasslands that will dramatically improve water quality and reduce expenses for the City of Cold Spring.



Grow our collaboration with the Chippewa National Forest and the Leech Lake Band of Ojibwe to restore forests and protect wild rice lakes.



High impact restoration and land acquisition on the Rum River that will directly influence water quality as it meets the Mississippi River in Fridley.



Our tool box:



Permanent Habitat Protection
Conservation Easements, Outright Purchase



Habitat Restoration



Increase Partner Capacity

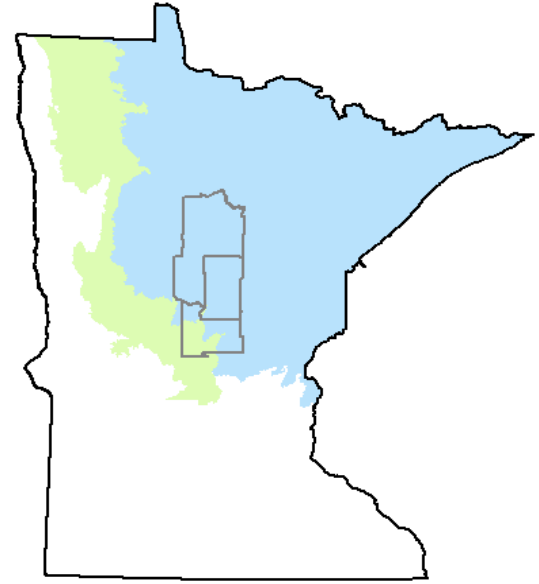


Three Projects in the Mississippi Headwaters

- Camp Ripley Sentinel Landscape
- Pine River Healthy Watershed Partnership
- Crow Wing River Healthy Watershed Partnership



Project #1: Camp Ripley Sentinel Landscape



CAMP RIPLEY
SENTINEL LANDSCAPE



The Nature
Conservancy



- *Sentinel Landscapes are working or natural lands important to the Nation's defense mission – places where preserving the working and rural character of key landscapes strengthens the economies of farms, ranches, and forests; conserves habitat and natural resources; and protects vital test and training missions conducted on those military installations that anchor such landscapes.*

2004-2016 Army Compatible Use Buffer (ACUB) Program

Program Status:

DNR

19 Land Transactions

1,920 acres

BWSR

178 Land Transactions

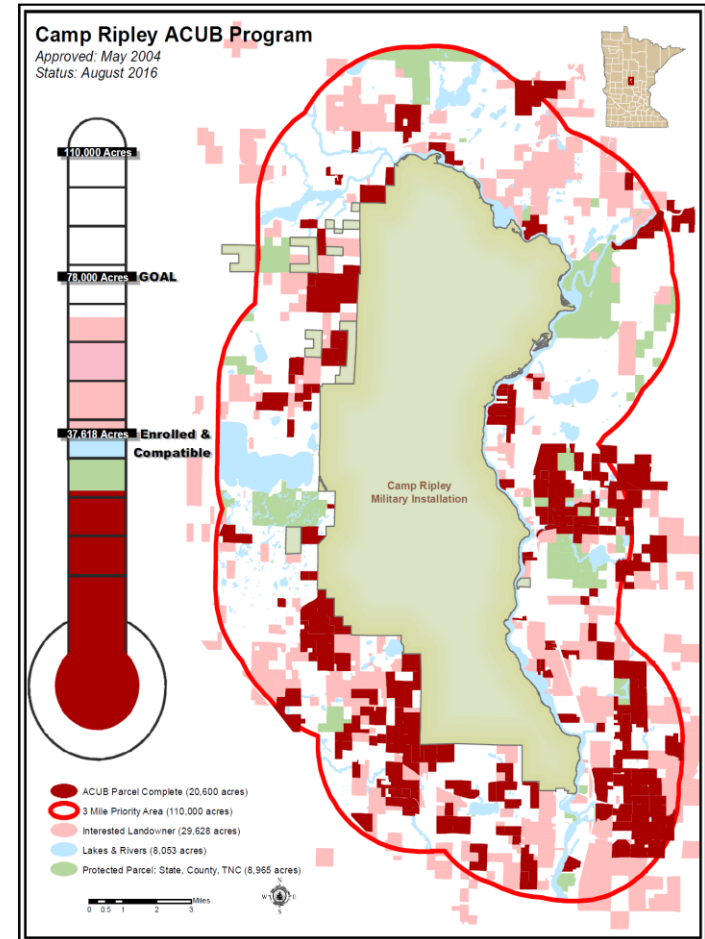
20,224 acres

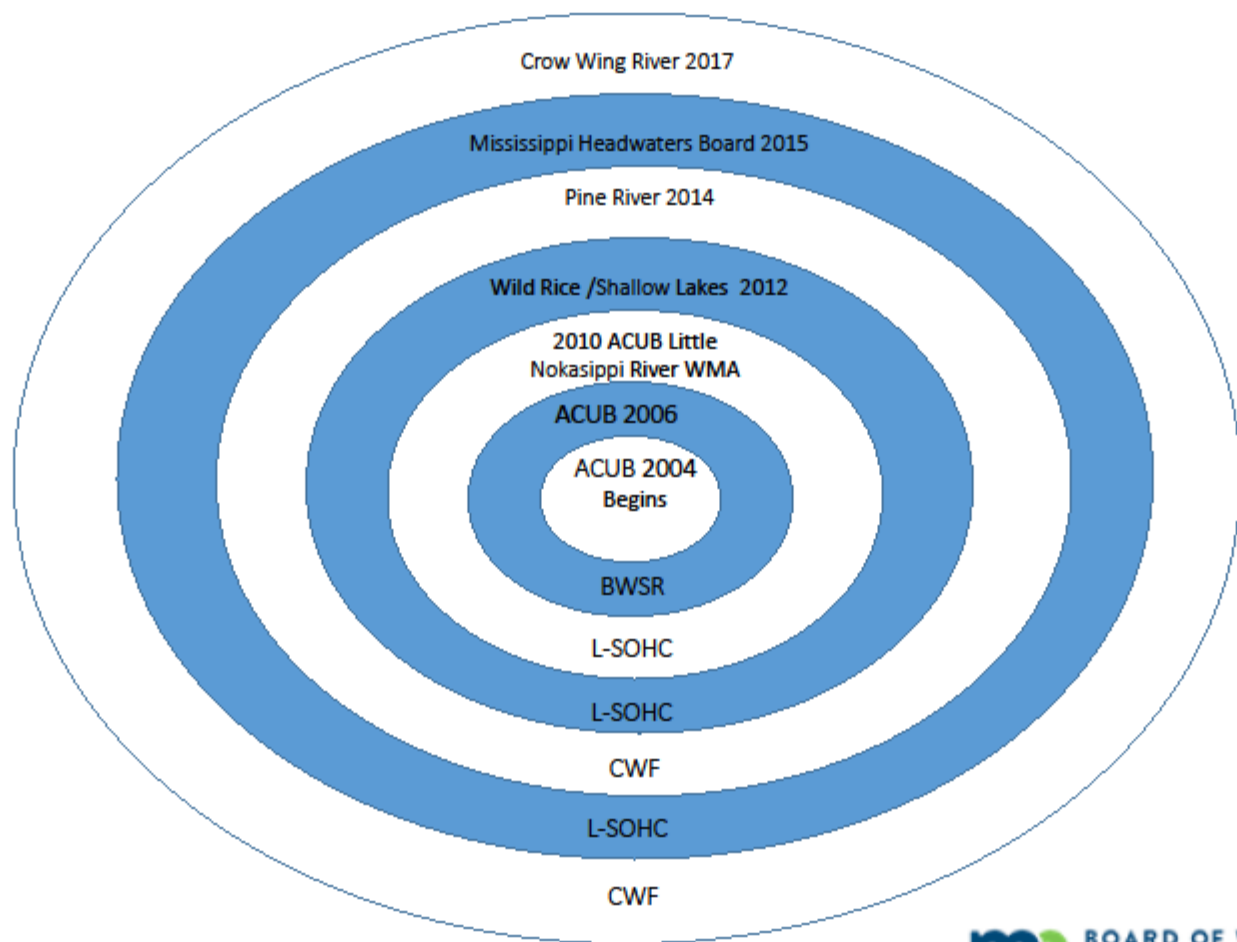
23 Pending

Funding: Federal = \$29,500,000 State = \$7,000,000

210 Interested Landowners representing 26,500 acres

Desired End State: 78,000 acres of compatible lands within the 110,000 acre 3 mile buffer.



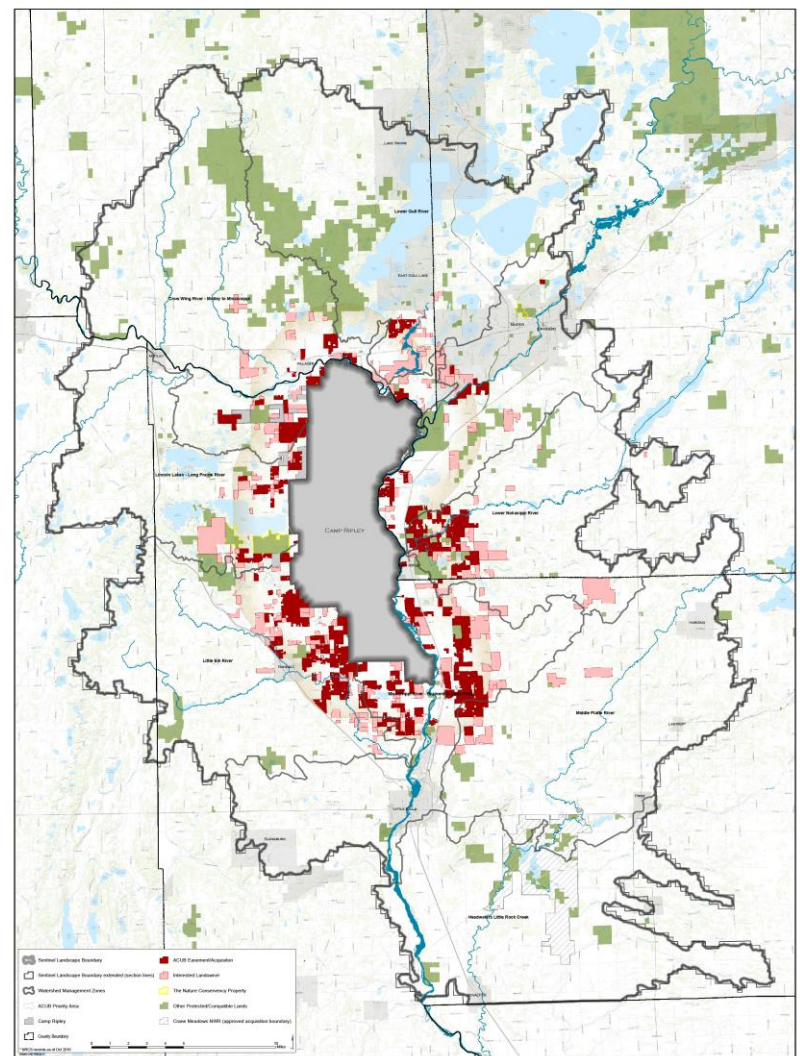


State Law 190.33 to designate Camp Ripley SL 2015

- Partner Agencies
 - Dept. Military Affairs
 - Dept. of Natural Resources
 - Board of Water and Soil Resources
 - Dept. of Agriculture
- Create Program Area Map



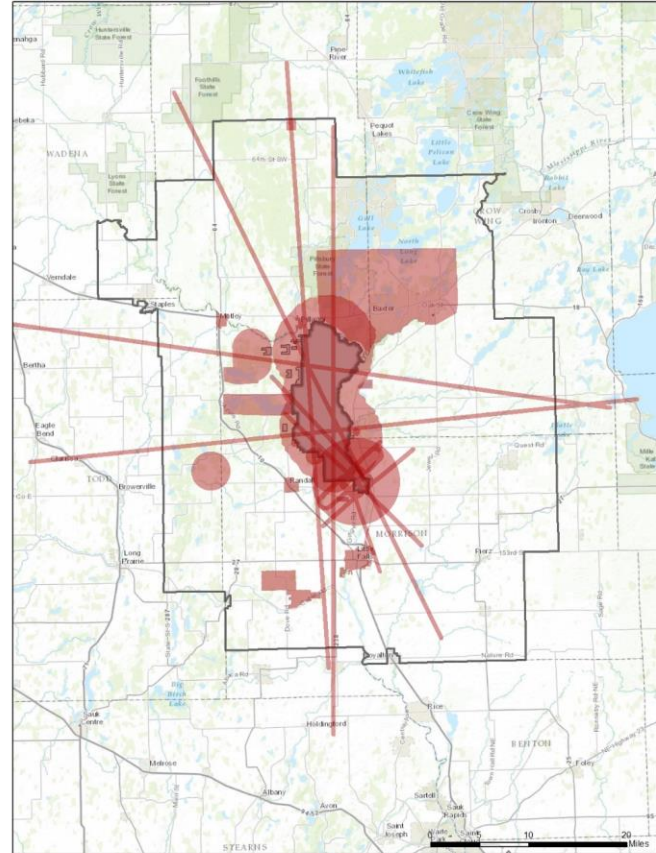
- July 2016: Federal designation as a Sentinel Landscape
- October 2016: Camp Ripley contracted with The Nature Conservancy to coordinate the CRSL program



Agency Priorities

MNARNG

- ▶ Aviation Routes
- ▶ Regulated Airspace
- ▶ Noise Zone
- ▶ Fly Neighborly



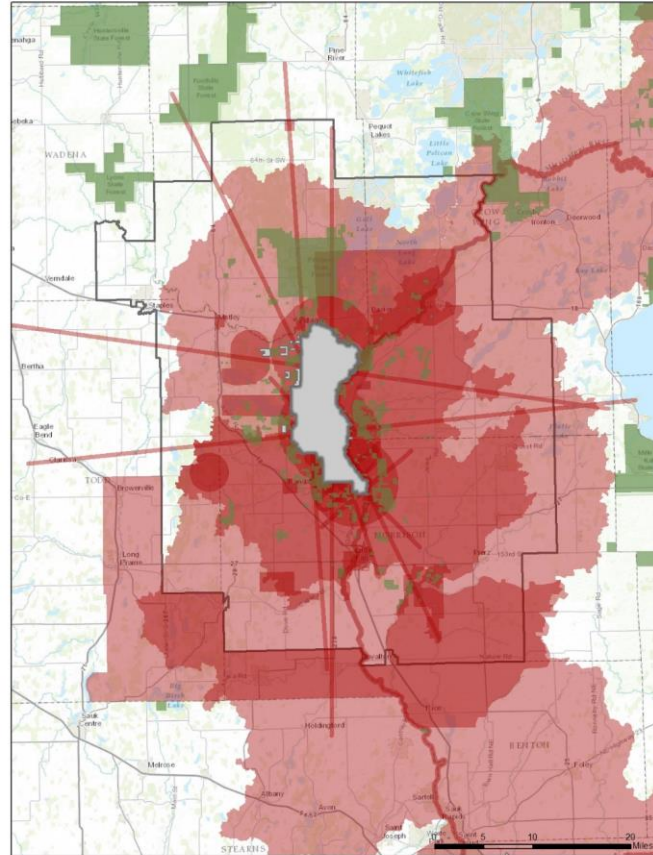
CAMP RIPLEY
SENTINEL LANDSCAPE



Agency Priorities

Consolidated Priorities

- ▶ MNARNG
- ▶ DNR
- ▶ USFWS
- ▶ MHB

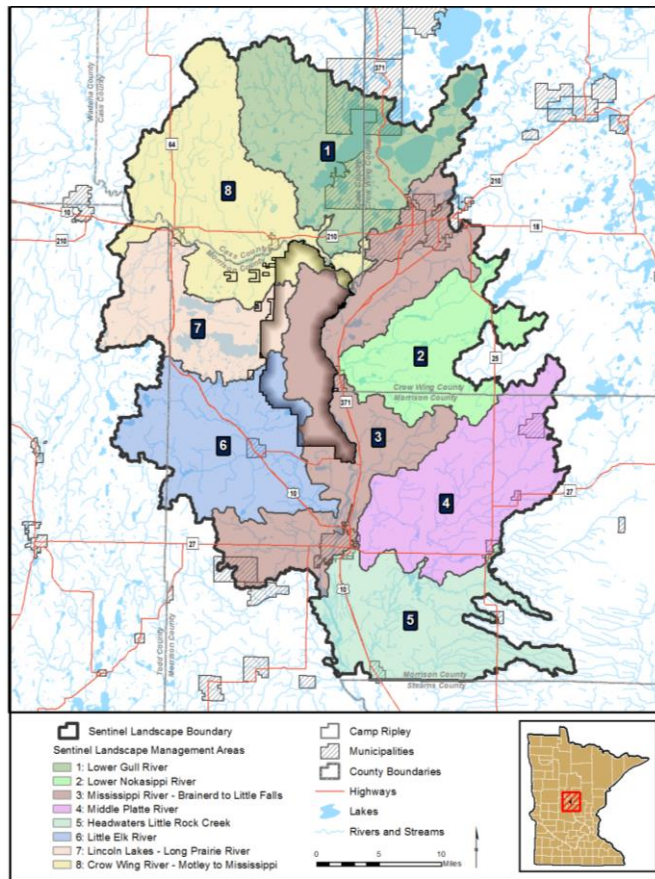


CAMP RIPLEY
SENTINEL LANDSCAPE



Water Resources Project Area

- 50-miles of Miss. River
- 748-miles of streams
- 243-miles of river(s)
- 3997 lakes and ponds
- 40-minor watersheds (HUC12)
- 8-Watershed Mgmt. Units



CAMP RIPLEY SENTINEL LANDSCAPE



Sentinel Landscape Strategy

ACUB Strategy

EDUCATE		IMPROVE / MANAGE			ACQUIRE		
#1 General Advice & Assistance Factsheets Posters / Mailers Workshops Website / Social Media	#2 Specific Advice & Assistance Site Visits Forest Stewardship Plans Project Plans	#3 Grants / Cost-share Projects Clean Water Fund EQIP CSP	#4 Land Use Controls Storm water Buffers BMPs County Water Plan County Zoning	#5 Incentive Programs to Enroll Land SFIA CRP Coops Forest Banks CREP III	#6 Donated, Land & Easements NGOs Public Agencies	#7 Purchased Easements LSOHC ACUB RIM FFF NGOs ACEP HFRP	#8 Fee Title Acquisition LSOHC ACUB Public Agencies

Lower Costs, Less Permanent

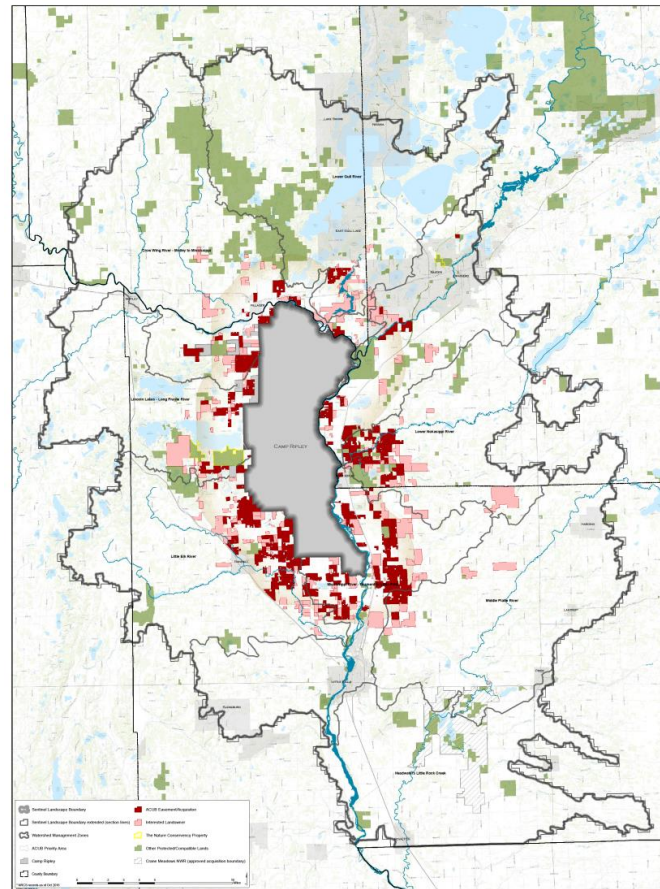
Higher Costs, More Permanent

Camp Ripley Sentinel Landscape Program

- 25,000-ac. in RIM complete
- Strategic Planning underway
- Phase 8 LSOHC proposal
- Landowner support (500+ list)
- Federal, State, Local and NGO partnerships working together

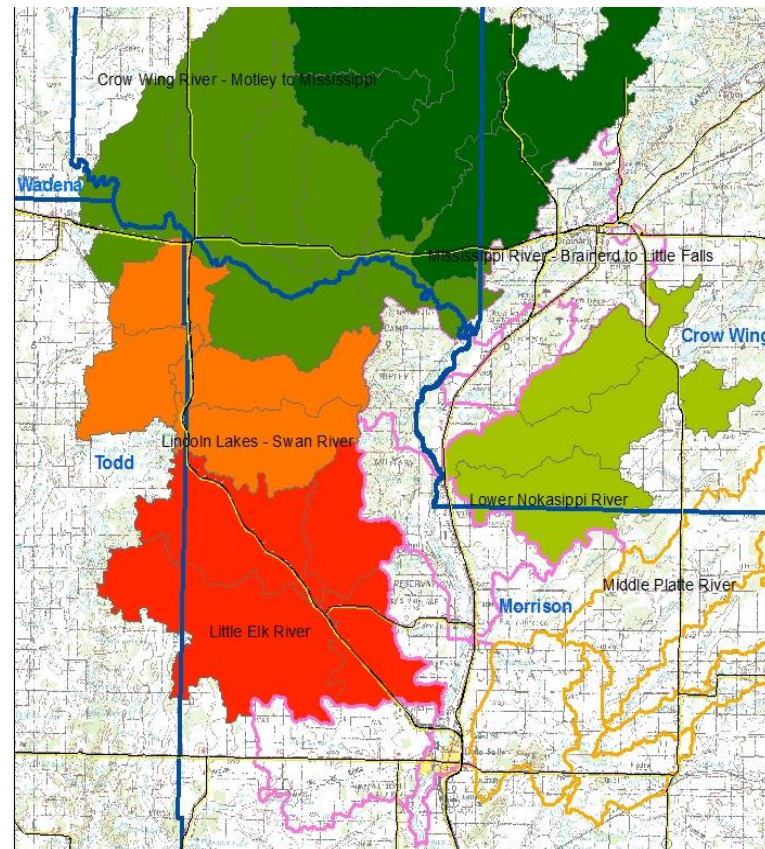
CAMP RIPLEY
SENTINEL LANDSCAPE

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Crow Wing SWCD Private Forest Mgmt.

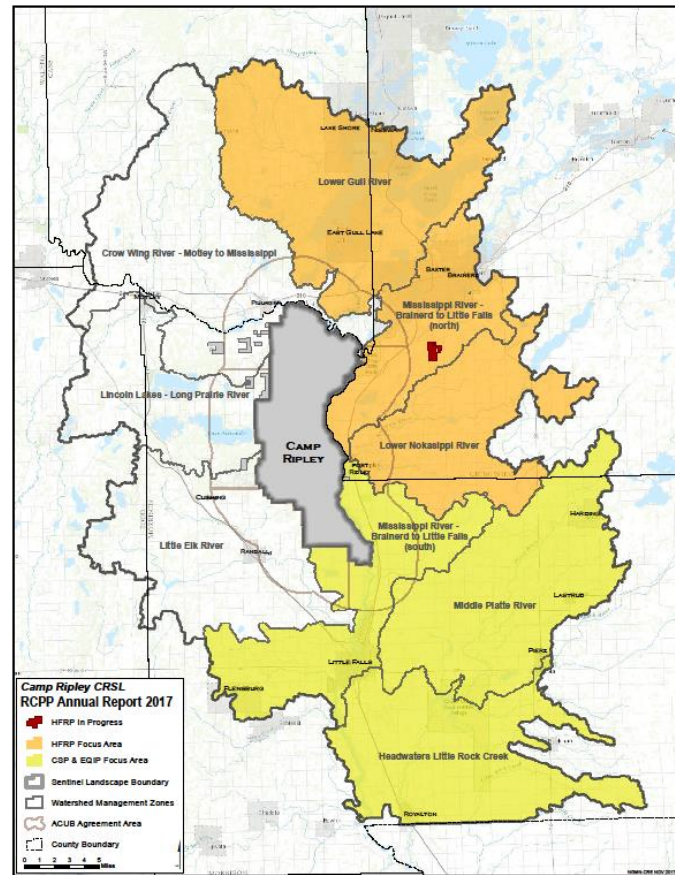
- Environment and Natural Resources Trust Fund grant
- Forest management plans
- Riparian restoration
- Education and Outreach
- USFS additional grant support



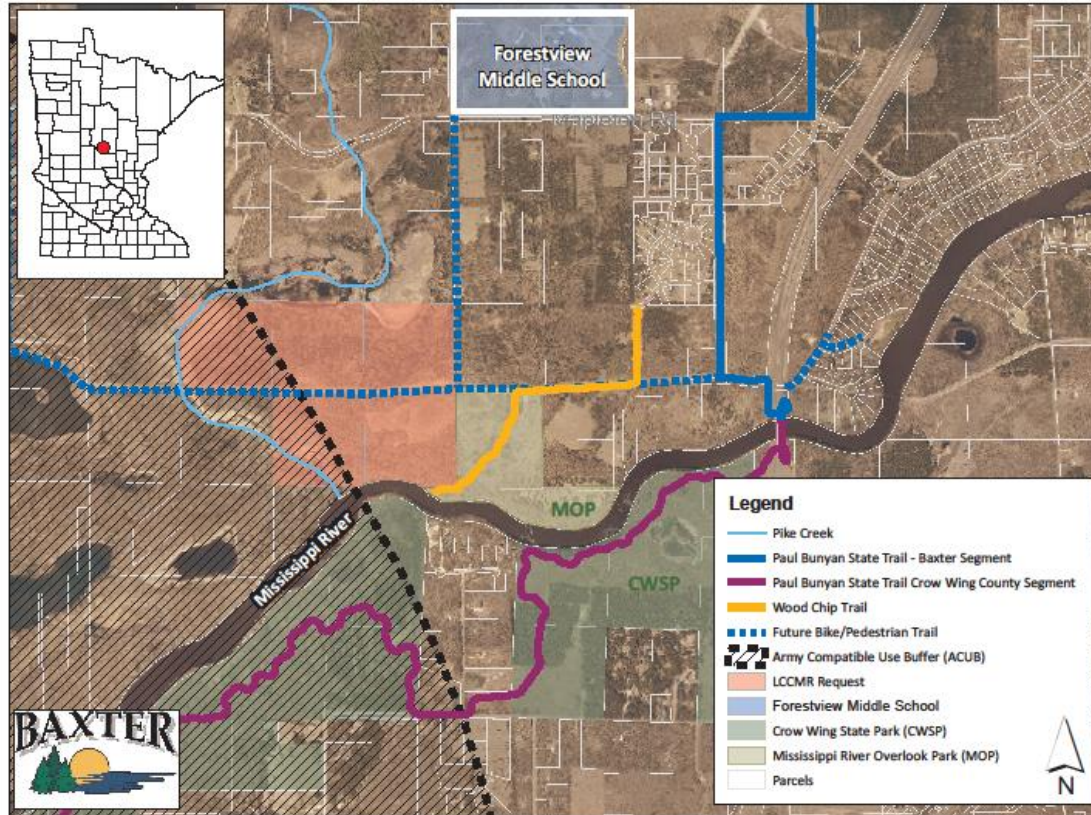
NRCS: Regional Conservation Partnership Program

- RCPP award 2016
- \$1.6M for HFRP started
- \$1.2M for EQIP/CSP 2018
- Morrison SWCD lead
- NRCS Forester: Ginger Koop

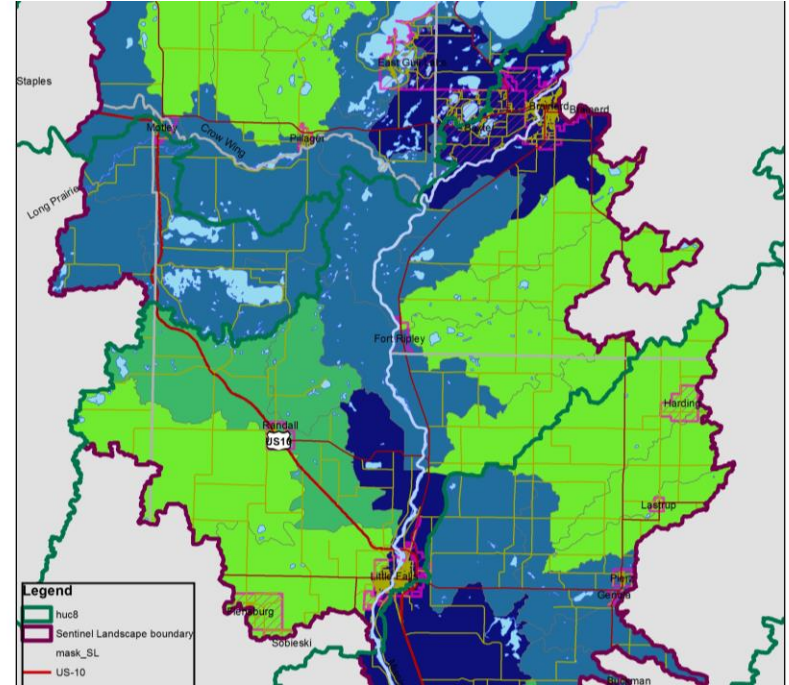
CAMP RIPLEY
SENTINEL LANDSCAPE



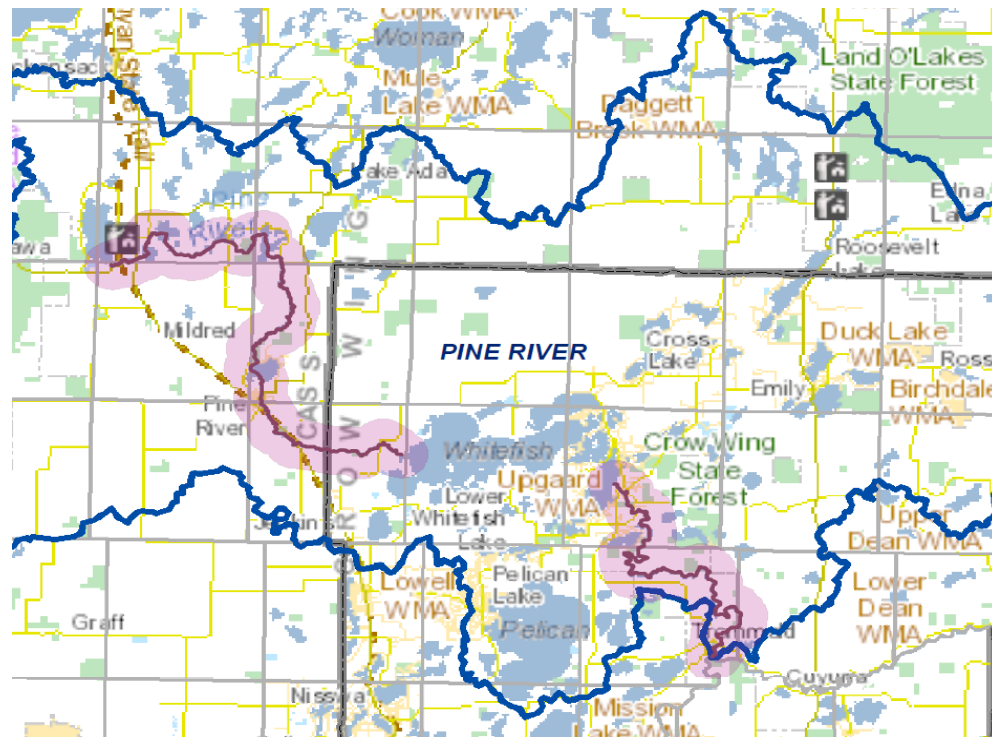
City of Baxter: LCCMR proposal, 200-ac. Potlatch land



20



21



Criteria Ranking Sheet for easements:

Healthy Waters Protection - Pine River Watershed Ranking			
Max Score	Criteria	Guidelines:	Our Guidelines
30	# Feet of Shoreline	5 points for minimal river frontage on Little Pine, Upper Pine, or Lower Pine Rivers (<500ft) 10 points for at least 500 - 999 feet of shoreland on a Little Pine, Upper Pine, or Lower Pine Rivers 15 points for 1,000 - 2,000 feet of shoreland on a Little Pine, Upper Pine, or Lower Pine Rivers 20 points for 2,000 - 3,000 feet of shoreline on a Little Pine, Upper Pine, or Lower Pine Rivers 30 points for more than 3,000 feet of shoreland on a Little Pine, Upper Pine, or Lower Pine Rivers	
15	% of Tract Developable	1-15 points base on the proportion of the tract that is developable (10%=1.5pts)	
10	Wetland fringe width	1-10 points based on the distance between upland & the bank/water (0'=10pts, 300'=0pts, -1pt/30'	
20	Urgency	Property opportunity is likely to be lost if we do not act quickly	
20	Professional Judgement	0-20 Points based on Landowner actively managing their land & Riparian/Streamshore Needs	
15	Drinking Water Score	5 Points for Second Quartile Drinking Water Benefits 10 Points for Third Quartile Drinking Water Benefits 15 Points for Fourth Quartile Drinking Water Benefits	TNC Arc GIS Map
15	Adjoining Applications	15 points for land adjoining another application	
15	Adjoining Public Land	15 points for land adjoining public land on the Little Pine, Upper Pine, or Lower Pine Rivers adjoining land permanently protected by other easement program	
5	Habitat Value	1-5 points based on the habitat value of the property, uniqueness, and lack of existing development and shoreline alterations	Wild Rice, Cisco, TNC Maps
10	% of Parcel/Tract	1-10 points based on the proportion of the parcel enrolled (10% = 1 pt)	
10	% Forest of the parcels	1-10 points based on the proportion of parcel that is forest (10% = 1 pt)	
15	Minor Watershed Risk Classification County Waterplan	1-15 Points for Classification Enhancement and Protection. Less points for Villigance. Additional points for moving that needle.	
20	Bargain Sale/Leverage	1-20 Points based on percent discount or other funds leveraged	
200	TOTAL GROSS SCORE	*Other factors may raise or lower the priority of a parcel	
100	Final Score (Total / 2)		

Tracking Landowner easement progress: SWCD

Crow Wing SWCD RIM Healthy Waters Protection - Pine River Easements								Updated 4/10/18 by Sheila Boldt	
Landowner (Last, F)	ID #	Start	Score	Stretch	Acres	Shore (ft)	Cost (60%)	Status	Notes
Landowner	18-06-16-13	7/12/2016	64.5	L	75	1500	\$65,215.23	Recorded	
Landowner	18-08-16-13	7/11/2016	66.5	L	23	1500	\$32,896.67	Recorded	
Landowner	18-11-16-13	7/12/2016	45	L	13.5	50	\$14,948.15	Recorded	
Landowner	18-12-16-13	7/14/2016	52.5	L	25	640	\$84,760.62	Recorded	
Landowner	18-10-17-13	5/17/2017	64.5	L	37.5	1600	\$44,498.00	Recorded	
		Complete Total:			174	5290	\$242,318.67		
Landowner	18-08-17-13	6/12/2017	66	L	305.9	4200	\$172,645.00	Pending Deed	Putting into Trust & then will re-apply
Landowner			66	L	31	1110	\$125,010.92	Pending Deed	Cost will change for 2018 values
Landowner	11-02-18-13	1/31/2018	66	U	28	3800	37,412.76	Application	Mailed to BWSR 4/10/18
		Estimated Total:			538.9	14400	\$577,387.35		
Landowner	18-13-16-13	7/25/2016	80.5	U	45.8	4250	\$230,000.00	May re-apply	Pending Satisfaction of Mortgage
		Potential Total:			758.7	23940	\$1,049,706.02		

Pictures tell the story...



Towering Pines in a well-managed woodland (Quade)

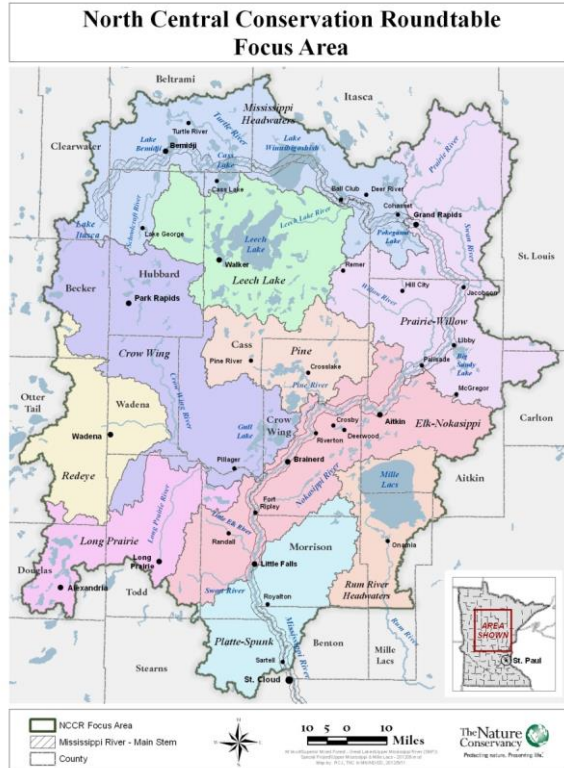


4,000 + Ft Shoreline, Turkeys appeared here soon after (Quade)

Pine River Dam restoration: Norway Brook project



#3 Crow Wing River Healthy Watershed Partnership





Partnership Leads: Technical Advisory Committee

Crow Wing River Healthy Waters Partnership



CASS COUNTY

Still More To Explore!

Minnesota



Becker
Soil & Water
Conservation District



<http://wadenaswcd.webs.com/SWCDUnifiedLogo.png>



Project Description:

- 28 Focus near-shore forest easement program on the Straight, Fish Hook, Shell and Crow Wing Rivers to implement local county water plan and agency goals for water quality protection

Partners:

- Local

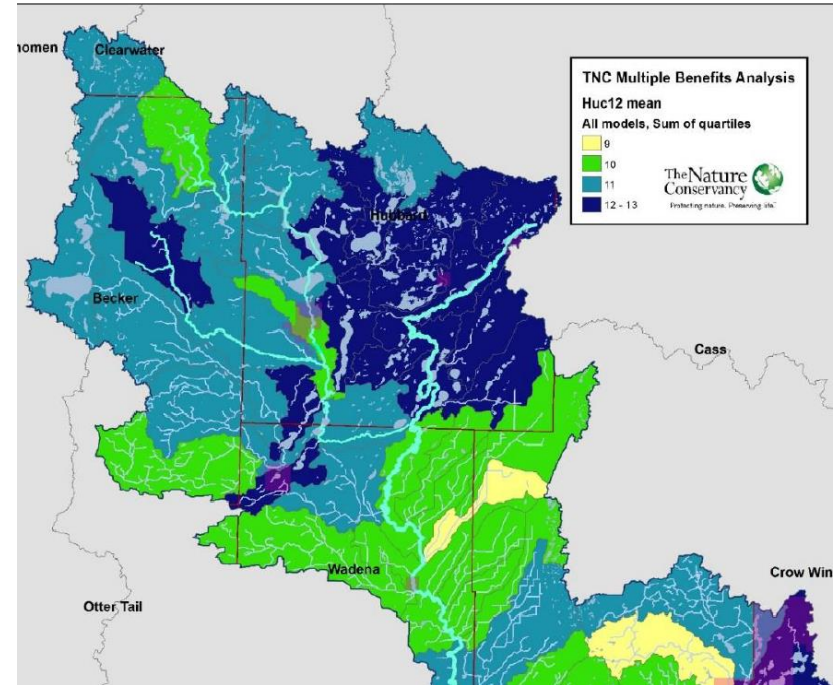
- Becker SWCD
- Hubbard SWCD
- Wadena SWCD
- Cass County ESD
- Crow Wing SWCD

- State

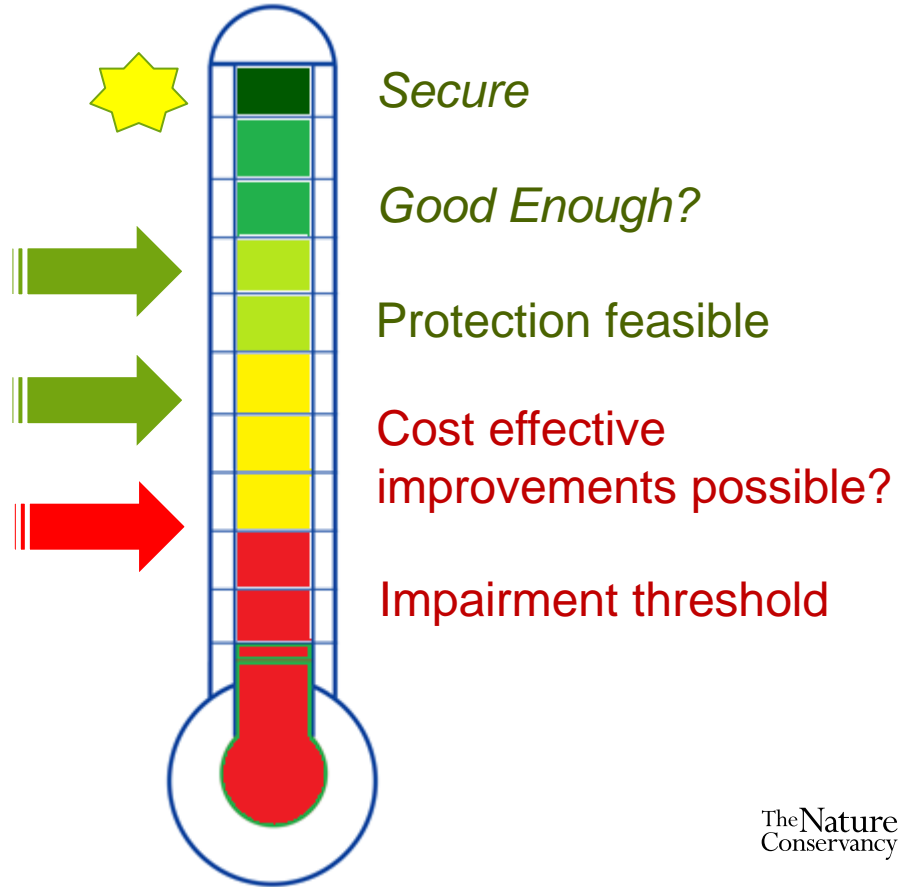
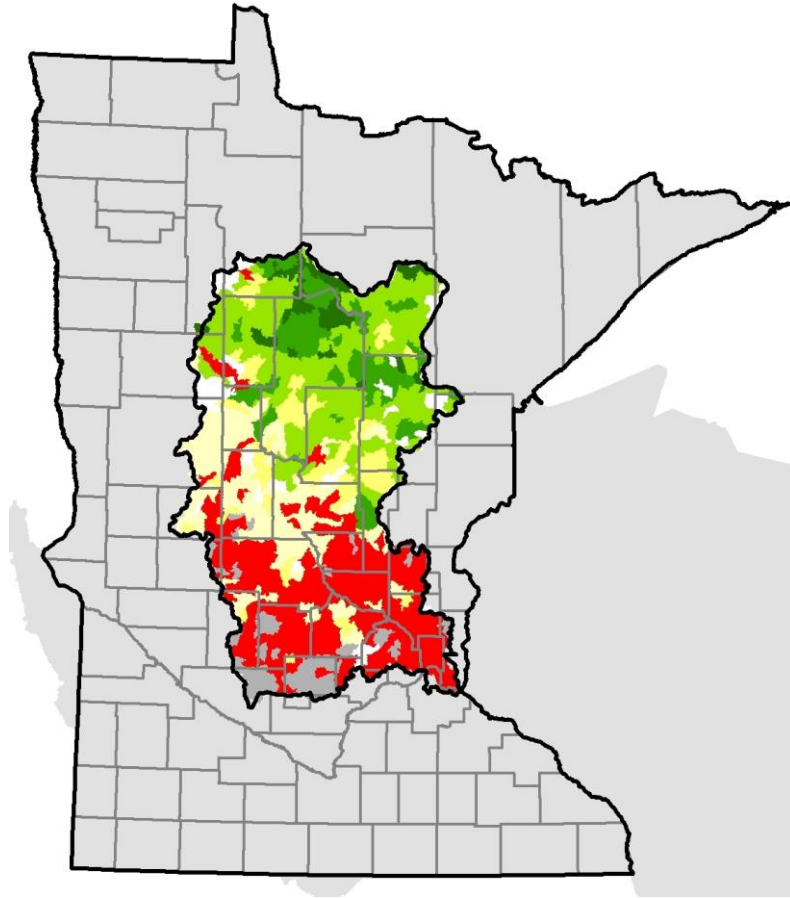
- Board of Water and Soil Resources
- Department of Natural Resources:
- MN Pollution Control Agency

- Non-Governmental Organizations

- The Nature Conservancy



Getting to Scale





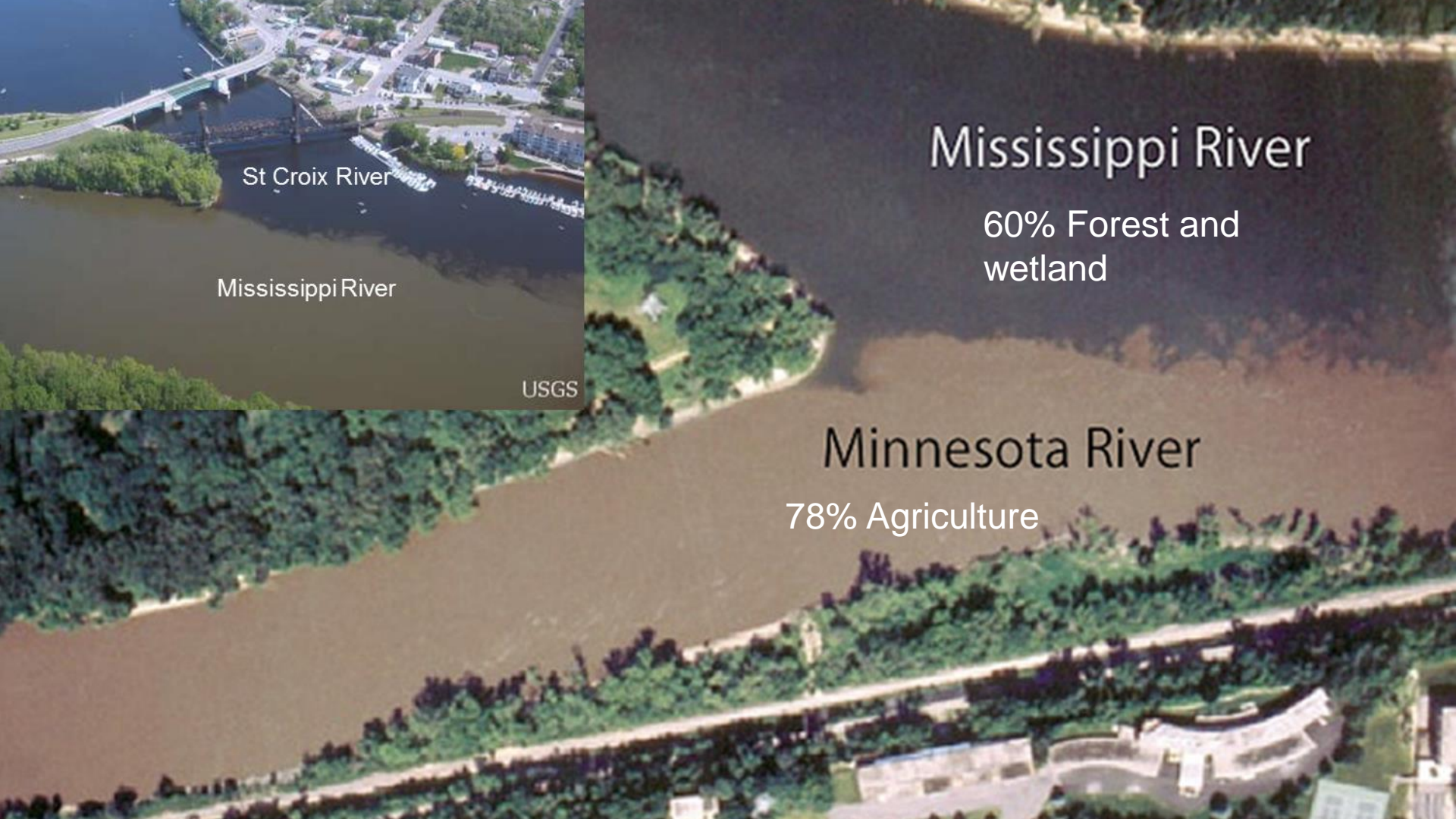
St Croix River

Mississippi River

USGS

Mississippi River

60% Forest and
wetland



Minnesota River

78% Agriculture