

SUBCOMMITTEE ON WATER POLICY

July 15, 2024

Noon

Jim Stark, Director

MEETING AGENDA

SUBCOMMITTEE ON MINNESOTA WATER POLICY: JULY 15

- **Call to order: Representative Hemmingsen- Jaeger**
- **Approval of minutes from June 10**
- **Funding water storage in the Red River basin: Rob Sip, Red River Water Management Board**
- **Flooding update, DNR staff**
- **Water quality treatment innovation***
- **Update on Minnesota River congress, Scott Sparlin**
- **Field trip to the Upper Mississippi river watershed- August 19 and 20, Crystal Mathisrud, Hubbard co SWCD Jim Stark**
- **Adjourn**

***Dan Larson, WQ3D Government Affairs, Clarence Johnson partner and Craig Wilson, president**

RAPIDAN DAM FAILURE

ABC NEWS



RAPIDAN DAM

- **THE DAM AND POWERHOUSE WERE COMPLETED IN 1911 AND ELECTRICITY FLOWED TO MANKATO**
- **THE OUTPUT OF THE TURBINES MORE THAN DOUBLED MANKATO'S STEAM-POWERED PLANT CAPACITY**
- **THE HYDROELECTRIC PLANT DELIVERED POWER TO MANKATO UNTIL THE SPRING FLOOD OF 1965, WHEN ICE HIT THE DAM WITH PEAK DISCHARGE OF 43,100 CUBIC FEET, OF WATER, PER SECOND**
- **THE DAM WAS DAMAGED AND THE POWERHOUSE WAS FLOODED MAKING THE HYDROELECTRIC PLANT INOPERABLE.**
- ***BLUE EARTH CO HISTORICAL SOCIETY***

RAPIDAN DAM -2

- **BASED ON THE PUBLIC UTILITIES REGULATORY POLICIES ACT OF 1978, THE HYDROELECTRIC MARKET WAS REVIVED.**
- **THE DAM WAS ONE OF THE FIRST HYDROELECTRIC FACILITIES TO BE RENOVATED AND BEGAN PRODUCING HYDROELECTRIC POWER IN 1984.**
- **IN 2002, EXTENSIVE UNDERMINING OF THE DAM'S FOUNDATION WAS DISCOVERED, AND EMERGENCY REPAIRS WERE REQUIRED TO PREVENT A DAM FAILURE.**
- **ADDITIONAL APRON, FOUNDATION, AND ABUTMENT REPAIRS HAVE BEEN CONDUCTED SINCE 2002.**
- **IN THE EARLY 2020S, THE RAPIDAN POWER STATION PRODUCES APPROXIMATELY 23 MILLION KILOWATT-HOURS OF CLEAN ENERGY IN A TYPICAL YEAR.**

RAPIDAN DAM -3

- THE RESERVOIR WAS MOSTLY FULL OF SEDIMENT, OFFERING LITTLE FLOOD PROTECTION
- MORE THAN A CENTURY'S WORTH OF SEDIMENT WAS UNLEASHED DOWNSTREAM INTO THE BLUE EARTH RIVER AFTER THE PARTIAL FAILURE OF THE RAPIDAN DAM (MPR).
- THE IMPACTS TO WATER QUALITY AND WILDLIFE MAY NOT BE KNOWN FOR YEARS
- THERE WAS AN ESTIMATED 11.6 MILLION CUBIC YARDS OF SEDIMENT BEHIND THE DAM
- IT WAS HIGH IN PHOSPHORUS AND NITROGEN (NEIL HAUGERUD, DNR)
- “WHEN YOU RELEASE THAT KIND OF SEDIMENT YOU CAN FILL UP DOWNSTREAM POOLS, COVER UP CRITICAL HABITAT FOR FISH AND MACROINVERTEBRATES,” HAUGERUD SAID.
- HOW THAT EFFECT WILL GO ON INTO THE FUTURE WILL BE YET TO BE SEEN.”

RAPIDAN DAM FAILURE-4

- **THERE WAS AN ESTIMATED 11.6 MILLION CUBIC YARDS OF SEDIMENT BEHIND THE DAM**
- **THAT'S ABOUT EQUAL TO A MILLION DUMP TRUCKS**
- **FOR SOME PERSPECTIVE, AVERAGE DAILY SEDIMENT LOAD IN THE MINNESOTA RIVER AT MANKATO, DOWNSTREAM FROM THE BLUE EARTH RIVER, IS EQUAL TO 2,700 TONS PER DAY . THAT'S ABOUT 260 DUMP TRUCKS PER DAY OR 96,000 DUMP TRUCKS PER YEAR.**



PRESENTATION- ROB SIP

Funding water storage in the Red River Basin

Rob Sip, Red River Water Management Board

PRESENTATION 2

Flooding update, DNR staff

PRESENTATION-3

Water quality treatment innovations

Dan Larson: WQ3D Government Affairs

Clarence Johnson: partner

Craig Wilson: President

PRESENTATION-4

Update on Minnesota River Congress

Scott Sparlin

DISCUSSION

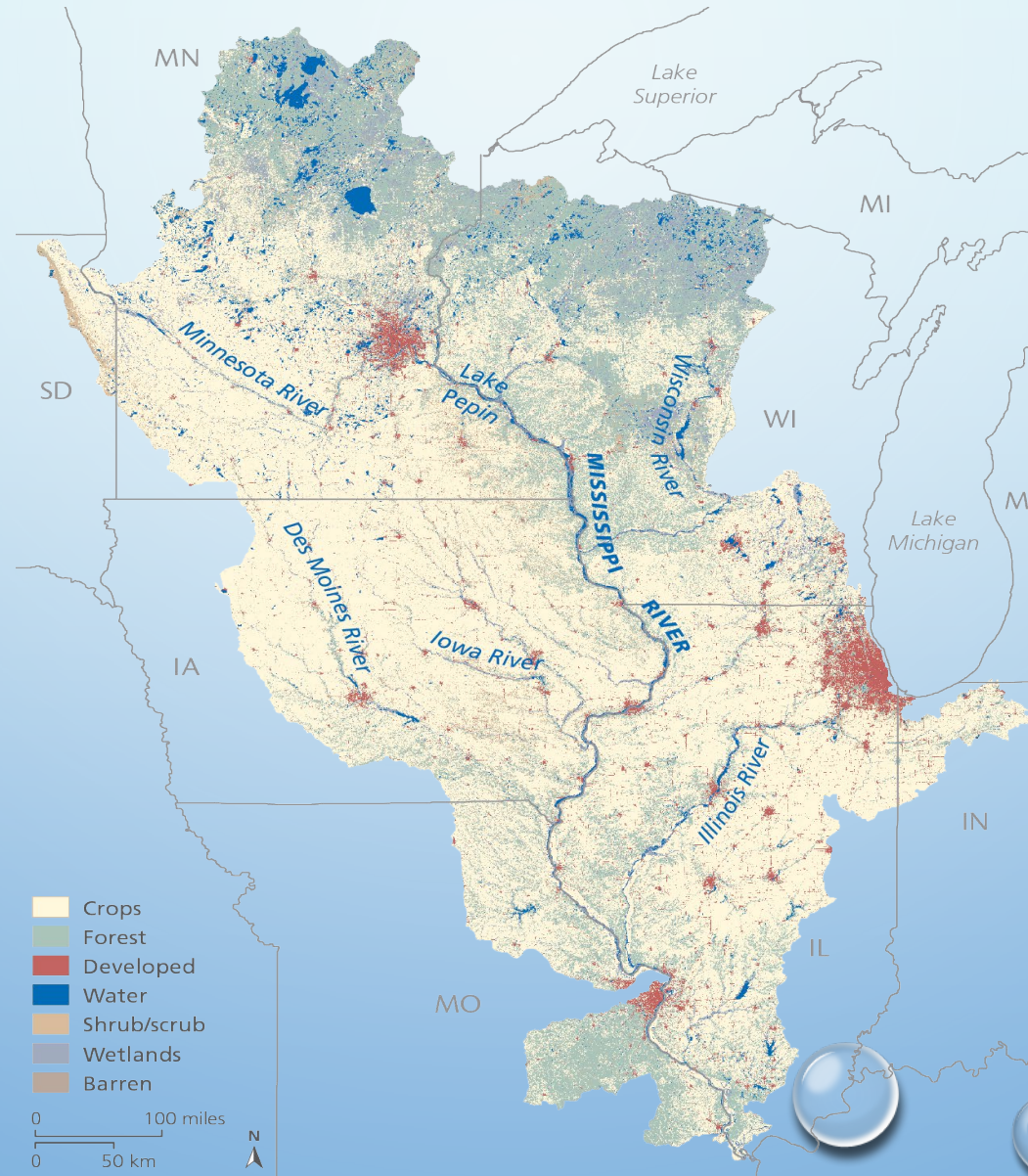
Field trip to the upper Mississippi River watershed

August 19 and 20

Crystal Mathisrud, Hubbard County SWCD

Jim Stark

UPPER MISSISSIPPI RIVER WATERSHED



UPPER MISSISSIPPI RIVER

- **AREA IS AN IMPORTANT AREA OF AGRICULTURAL PRODUCTION**
- **CONTAINS MANY COLD, DEEP, TROUT LAKES IN MINNESOTA**
- **THE AREA IS AN IMPORTANT RECREATIONAL RESOURCE**
- **LAKES NEED PROTECTION**
- **THE AREA IS THE SOURCE FOR MUCH OF THE METRO'S DRINKING WATER**
- **TWO AREAS OF GROUNDWATER CONCERN- DNR**

SITE VISIT- UPPER MISSISSIPPI RIVER

August 19-- 9:30 am: arrive Prairie Farms, Rice Minnesota. Remarks by Representative Schultz, Senator Wesenberg, DNR staff, Little Rock Project member (Anna Brevier, Host) Possible field tour (Little Rock Creek Project) and DNR Staff. Time for questions.

**11:30: Depart by bus for Park Rapids: Leave your cars at the farm,
Lunch on bus.**

2:00 pm: Arrive RD Offutt Corporation, Park Rapids: Remarks by elected officials, RD Offutt Staff, DNR staff.

4:00 pm: Bus tour of Straight River GWMA and Crow Wing River watershed area.

5:30 arrive at hotel, Park Rapids

Staying at: Heartland Inn and Suites, Park Rapids

Dinner at the Inn- Discussion and presentations

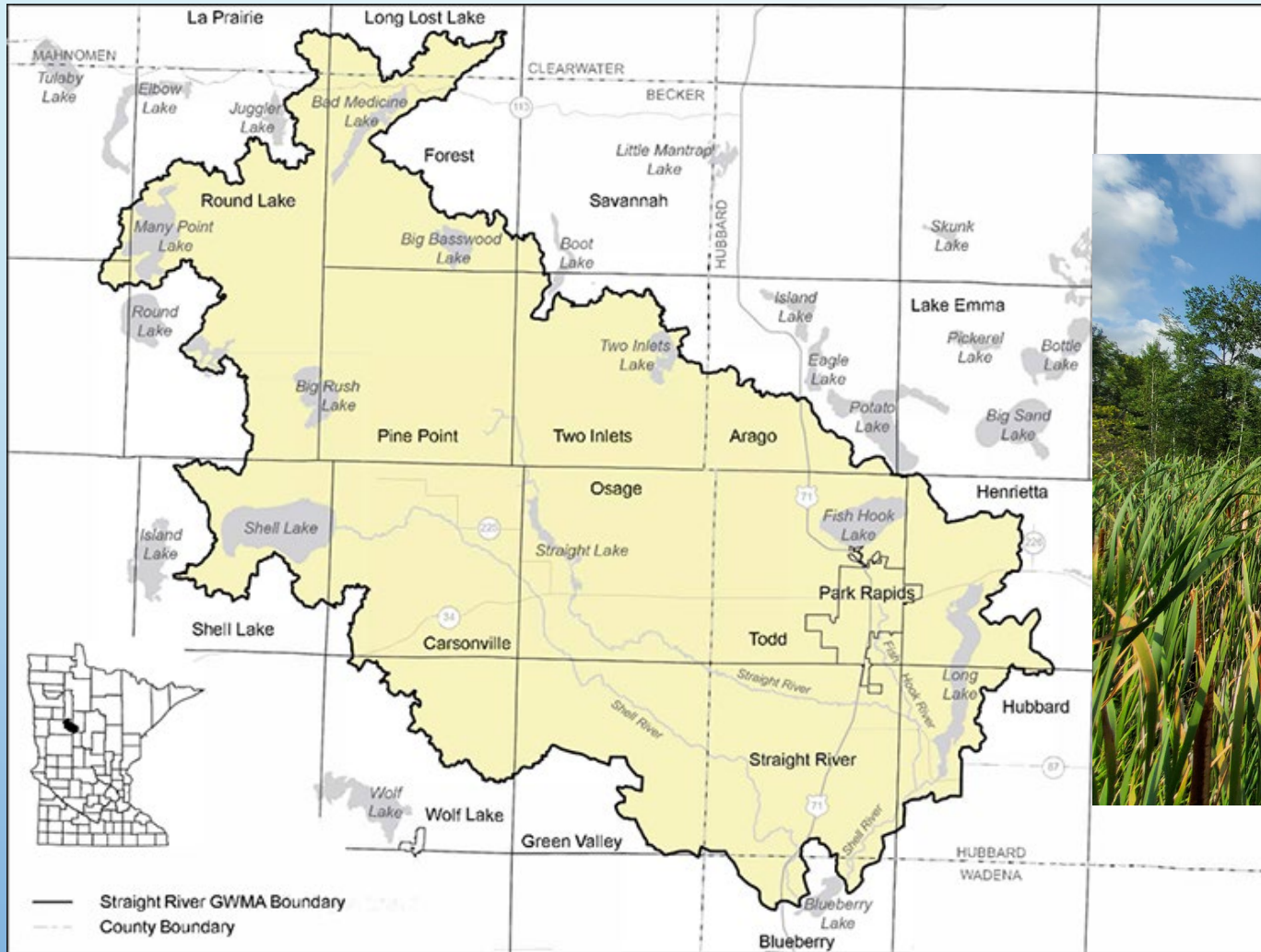
LITTLE ROCK CREEK



LITTLE ROCK CREEK-2

- DNR set a commissioner's order to protect the ecology of Little Rock Creek
- The order recognizes that water use has a negative impact on the stream ecosystems and does not meet the sustainability standard and other provisions of Minnesota statutes in section 103g.287.
- Establishes a sustainable diversion limit for Little Rock Lake
- Provides an opportunity to permit holders to submit a plan to resolve the water use conflict that will keep water use impacts below the sustainable diversion limit
- Withholds consideration of applications for additional water use within the zone of irrigation influence until the conflict is resolved.
- DNR is collaborating with irrigators to resolve water use conflicts

STRAIGHT RIVER, PARK RAPIDS

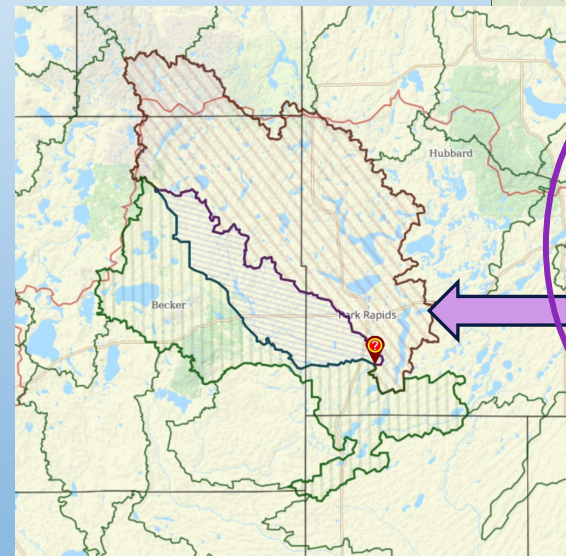
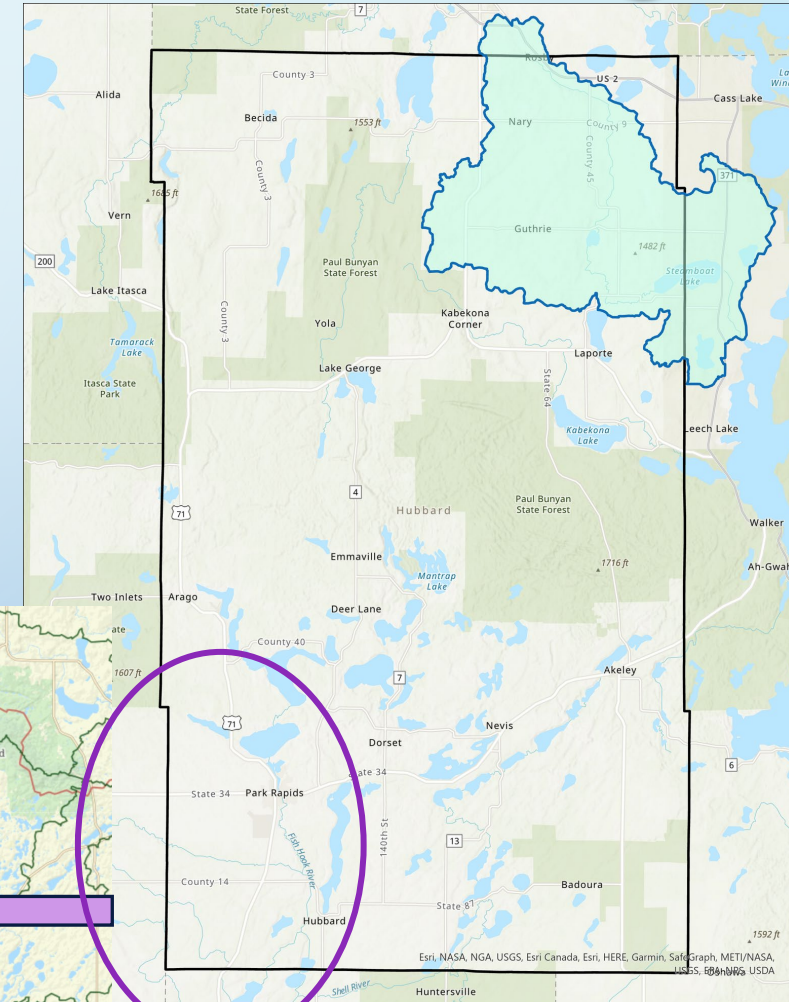
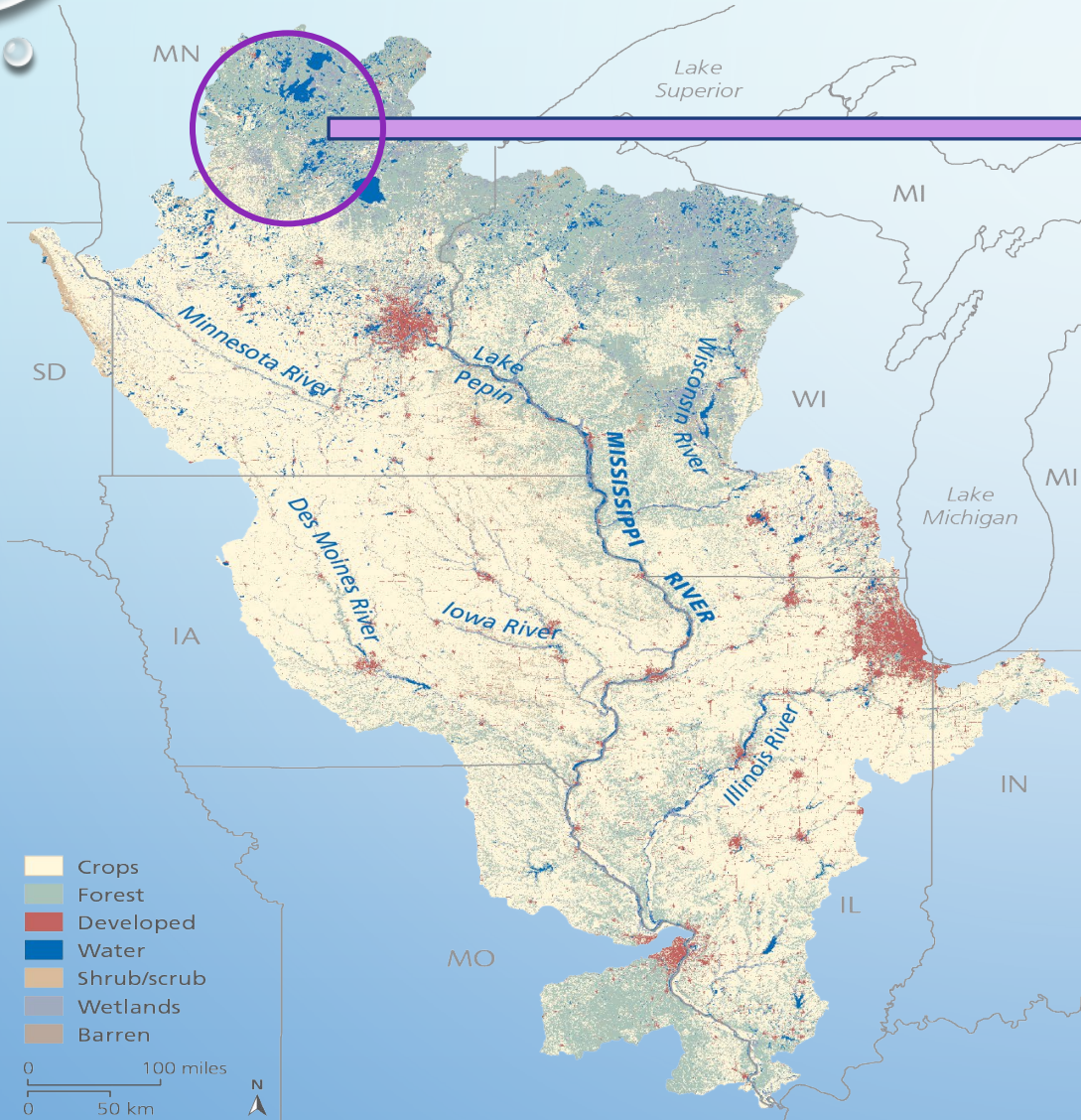


- THE STRAIGHT RIVER GWMA STRETCHES ACROSS 236,142 ACRES, OR 369 SQUARE MILES.
- MAP FROM DNR GWMA WEBSITE [STRAIGHT RIVER GROUNDWATER MANAGEMENT AREA \(GWMA\) | MINNESOTA DNR \(STATE.MN.US\)](https://www.dnr.state.mn.us/gwma/straight_river/), PHOTO FROM HCSWCD 2023 REPORT

STRAIGHT RIVER GWMA

- **DNR report: Groundwater use has a minimal effect on streamflow**
- **Summer stream flows show no downward trend**
- **Aquifer levels are stable**
- **Nitrates are exceeding drinking water standards in some wells, and pesticide degradation chemicals are detected in some domestic wells.**
- **Groundwater modeling is needed to quantify streamflow diversion from high-capacity wells closest to the Straight River, determine whether there is a need for diversion limits**
- **Monitoring will continue: If a sustainable diversion limit is needed, it will be developed using methods being used elsewhere in the state**
- **DNR wants individuals, communities, and businesses to be able to continue using groundwater in a way that complies with the sustainability standard as described statute 103g.287, subd. 5.**
- **Jeremy Rivord and Nathan Kestner (DNR) are available for questions**

UPPER MISSISSIPPI RIVER WATERSHED-2 CONTEXT



SITE VISIT- UPPER MISSISSIPPI RIVER BASIN

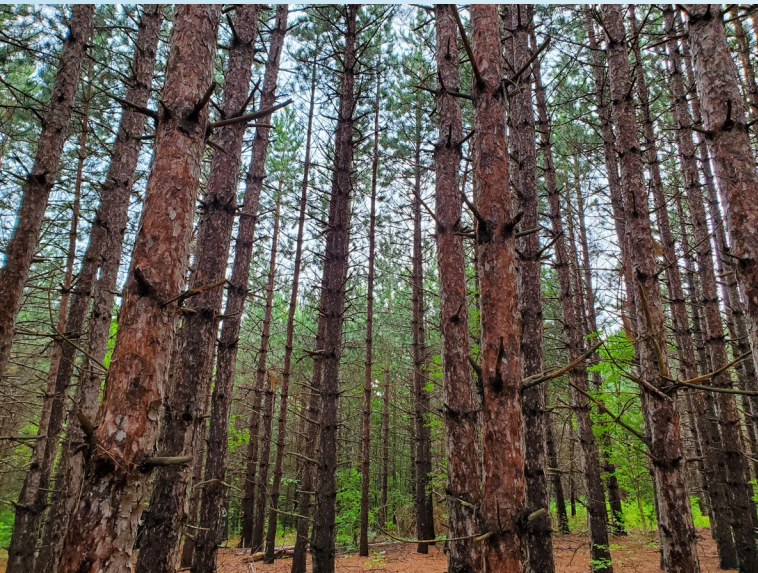
August 20 Park Rapids by bus (8:30)

- 1. Former Potlatch Parcels now under active forest management with landowner who is engaged with DNR, NRCS and HCSWCD for practice implementation, forest stewardship, tree planting, conservation easement and an adjacent reforestation/Memorial Forest Project**
- 2. Steamboat Lake and Necktie River protection and restoration project vision and overview of partnerships/activities to date. Connection between Priority Lakes, source water streams, shore & forest land management.**
- 3. Kabekona Lake & River stop & success story discussion.**
- 4. Camp Wilderness, Northern Lights Council Boy Scout Camp Project highlight active land protection, forest land and pollinator habitat management, youth and community engagement (NLBCA, MLT, NRCS, HCSWCD).**
- 5. Deep Lake Park, new Hubbard County Park in development which includes forestland protection, hiking trail recreation and a future county campground. This was an abandoned ski resort. The total project has involved Hubbard Co, TPL, and Conservation Fund.**
- 6. Mississippi Headwaters Board project highlight and success story (working with Paula West on potential stop location or evening discussion – Ten Mile Lake, Cass Co. Indian Jack, Crow Wing Co TBD)**

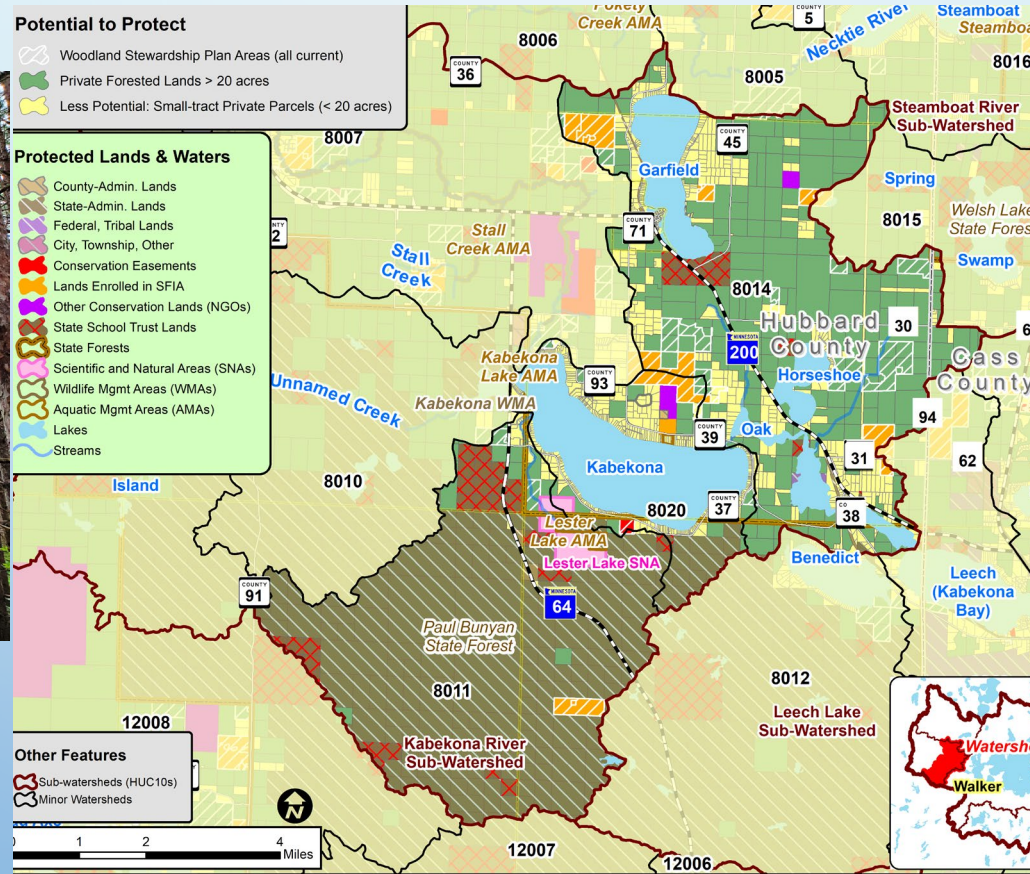
3:30 Depart for Heartland Inn (local shuttle if needed) and Rice (bus)

SITE VISITS DAY 2- UPPER MISSISSIPPI RIVER BASIN

FORMER POTLATCH LAND PROJECT
CONSERVATION & INNOVATION IN
A WORKING FOREST



KABEKONA LAKE SUCCESS STORY
MEETS 75% PROTECTION GOAL!



KABEKONA RIVER BUFFER
IMPROVEMENT & E.COLI
REDUCTION PROJECT



SITE VISITS DAY 2- UPPER MISSISSIPPI RIVER BASIN

STEAMBOAT RIVER WATERSHED IMPROVMENT OVERVIEW



FOREST

Forests are a key ingredient to keeping soils and waters naturally healthy. It is private forests that hold the most potential for providing holistic benefits to the ecosystem of this watershed.

Protective Actions:

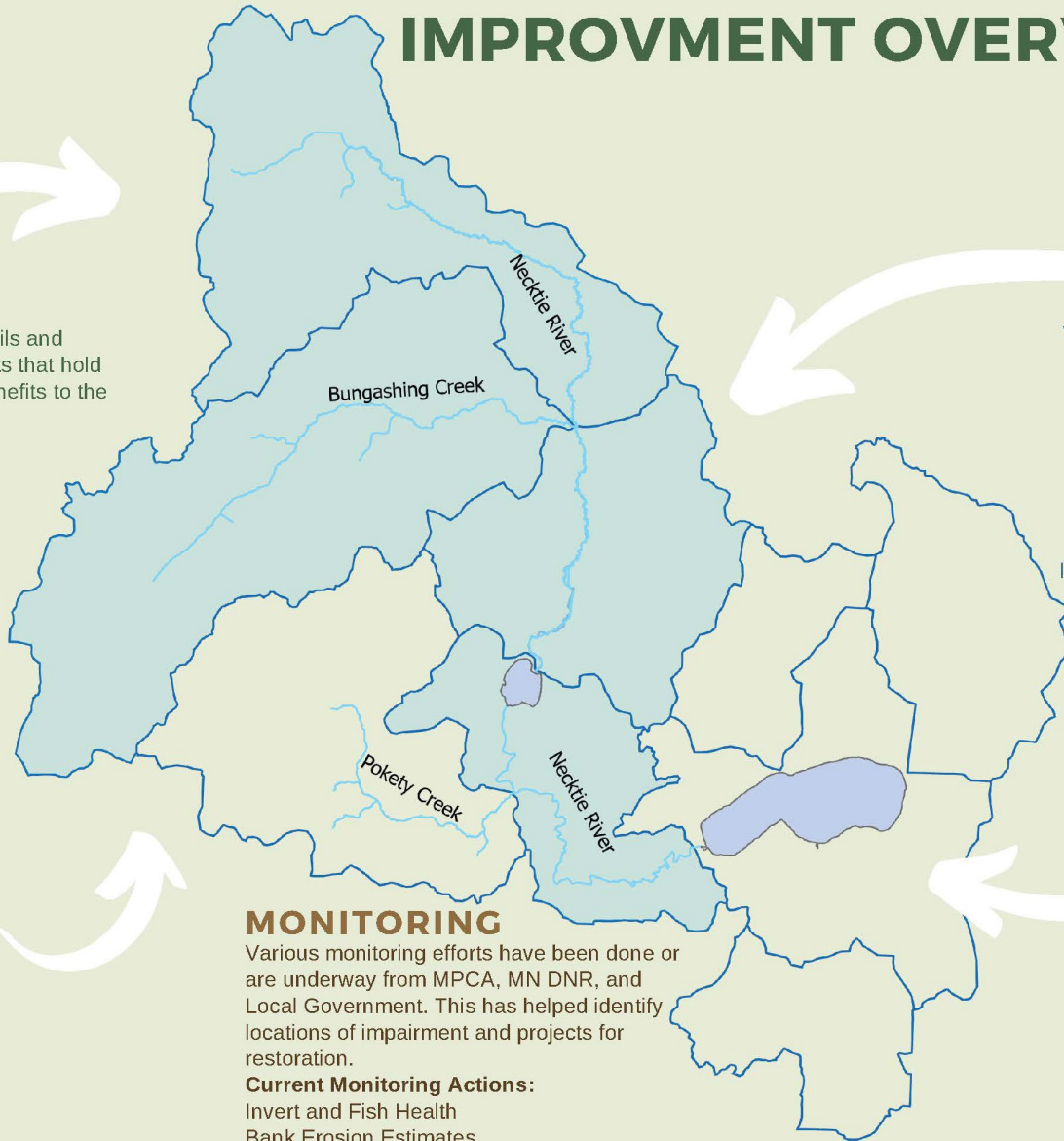
- Private Forest Management (PFM)
- Carbon Sequestration
- Reforestation
- Conservation easements
- Prescribed burning

SOIL

Managing soil health and erosion impacts water quality. Keeping nutrients on the land protects both surface and ground water resources.

Protective Actions:

- Reduce Agricultural Runoff
- Community Gardens
- Soil Erosion
- Wetland Protection
- Stream Bank Stabilization

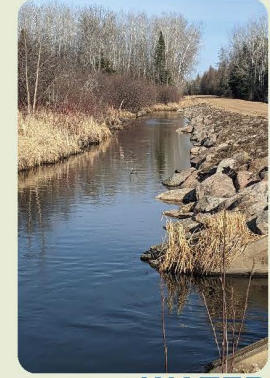


MONITORING

Various monitoring efforts have been done or are underway from MPCA, MN DNR, and Local Government. This has helped identify locations of impairment and projects for restoration.

Current Monitoring Actions:

- Invert and Fish Health
- Bank Erosion Estimates
- Total Suspended Solids



WATER

Water quality in this area is needed support habitat for native species like trout and to protect recreation including wild rive harvesting.

Protective Actions:

- Storm-water Mitigation
- Water Quality Monitoring
- Re-meandering of Necktie River
- Reduce Ground Water Pollution
- Improve Shore-Land Resilience Along Steamboat Lake
- Reduce Sedimentation in Hart Lake
- Reduce Streambank Erosion in Necktie
- Improve Connectivity To Tributary Headwaters

Human

Community involvement and enjoyment is an important step in realizing conservation goals. Outreach and education on managing both their public and private resources is key.

Protective Actions:

- Lawn Runoff and Phosphorus
- Interactive Trail Maps
- Informational Visitor Sites
- Public Fishing Access
- Roadway Salting Practices

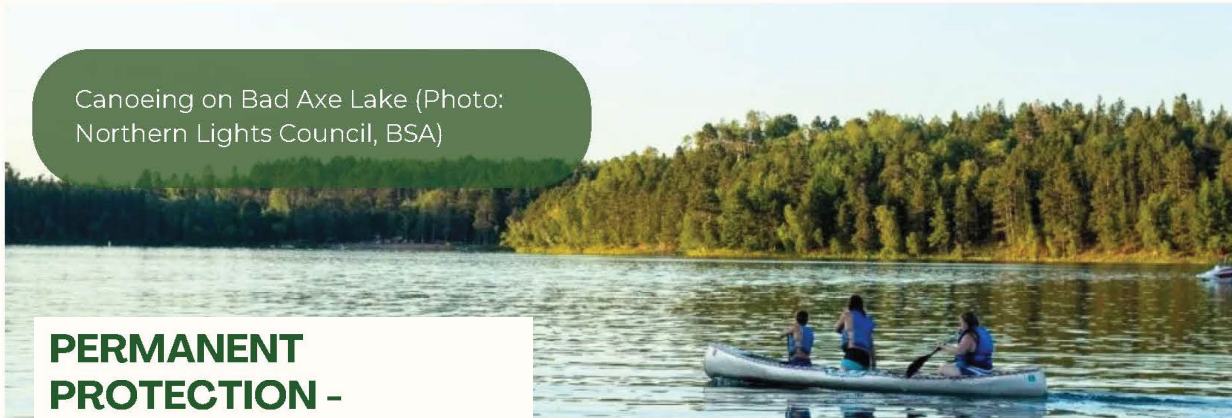


SITE VISITS DAY 2- UPPER MISSISSIPPI RIVER BASIN

CAMP WILDERNESS



Canoeing on Bad Axe Lake (Photo: Northern Lights Council, BSA)



PERMANENT PROTECTION - MINNESOTA LAND TRUST

219 ACRES PRESERVED

3,600 Feet of natural shoreline on Bad Axe Lake in northern Minnesota.

"Environmental conservation has always been a part of the Scouting Program; it's embedded in the Scout Oath and Law and codified in the Outdoor Code. We feel very fortunate to have had the opportunity to demonstrate this value by protecting Camp Wilderness, an important resource the Council has used to teach outdoor ethics for over 75 years. Our partnership with the Minnesota Land Trust ensures that this space will be protected in perpetuity." - Richard McCartney, Northern Lights Council, BSA Scout Executive

Many partners, multiple conservation and community impacts
Building resilient, strong, engaged, vibrant future together

SITE VISITS DAY 2- UPPER MISSISSIPPI RIVER BASIN

DEEP LAKE PARK

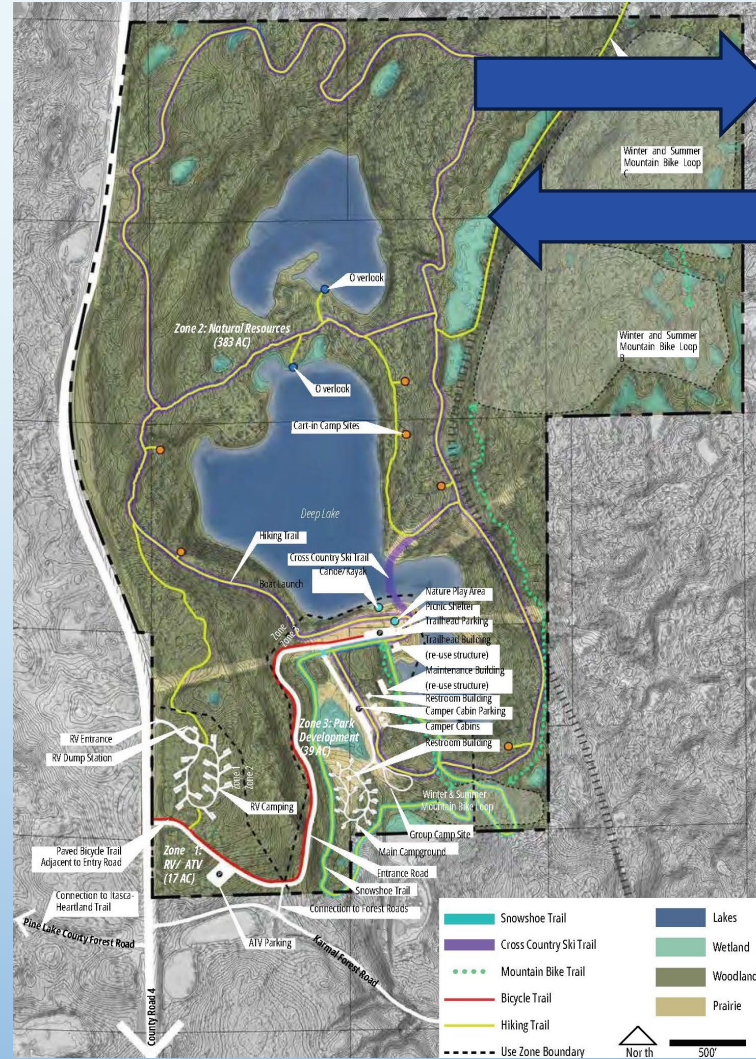


352 ACRES PRESERVED

3.5 MILES OF HIKING, SNOWSHOE, AND CROSS-COUNTRY SKI TRAILS TO BE CREATED



"A former ski area that, beginning in the 1950s, was a beloved destination for nearby residents and city folk alike. Val Chatel used to be a public ski lodge and a year-round playground rising hundreds of feet above Deep Lake. Mature white pines rimmed the long narrow valley and visitors would soak up the enchanting scenery of the wilderness. While the ski hill has since closed, the legacy of Val Chatel remains."



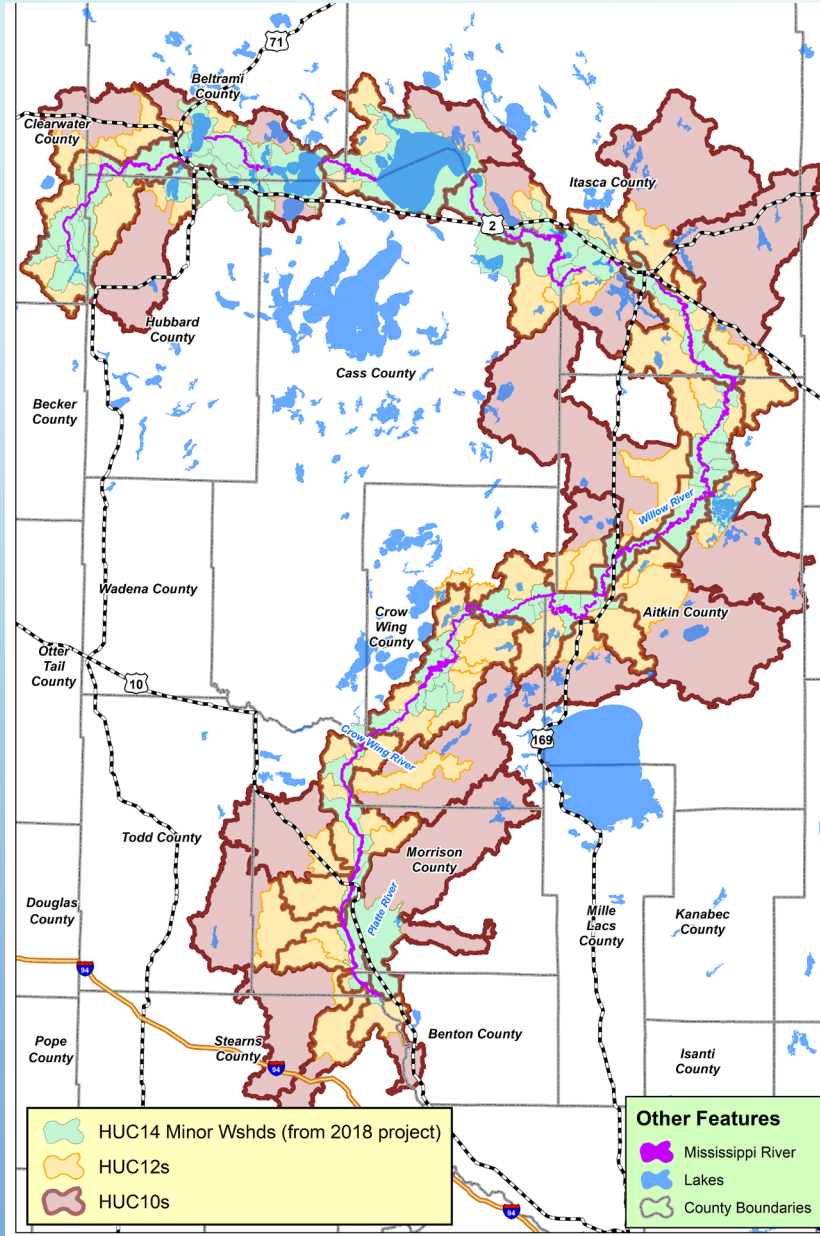
HUBBARD COUNTY PLANS for the NEW PARK include:

- hiking trails
- winter ski/snowshoe trails
- non-motorized water activities including canoeing/kayaking and fishing
- remote camp sites,
- tent and car campground
- camper cabins
- RV camping

A network of mountain bike trails is planned as are trail connections to the North Country Trail and the Itasca-Heartland Connection State Trail.

http://www.co.hubbard.mn.us/news_detail_T6_R208.php

SITE VISITS DAY 2- UPPER MISSISSIPPI RIVER BASIN



About the Mississippi Headwaters Board
Formed in 1980 as an alternative to designation of the river into the National Wild and Scenic River System, the Mississippi Headwaters Board (MHB) works to protect and preserve the first 400 miles of the Mississippi River in Minnesota.

[Mississippi Headwaters Board](https://www.mississippiheadwaters.org/)

<https://www.mississippiheadwaters.org/>

MHB Project Success Tour Highlight will be chosen by MHB staff and fall along our general bus route back to Rice on day 2

MHB Project Overview Map
provided by Paula West & Tim Terrill

ADJOURN

- **NEXT MEETING, FIELD TOUR TO THE UPPER MISSISSIPPI**
- **FOCUS ON COLD WATER LAKES, LAKE PROTECTION, IRRIGATION, STREAM- AQUIFER MANAGEMENT AND SOURCE WATER FOR THE METRO**
- **2 DAYS- ONE NIGHT**
- **AUGUST 19, 20**
- **WOULD YOU ATTEND?**
- **ADJOURN**

- **STRAIGHT RIVER PROJECT DRONE VIDEO LINK**
- **[HTTPS://YOUTU.BE/OK7GwxnyUHI](https://youtu.be/OK7GwxnyUHI)**