



◆◆ **Nemadji Comprehensive  
Watershed Management Plan**  
2021-2031



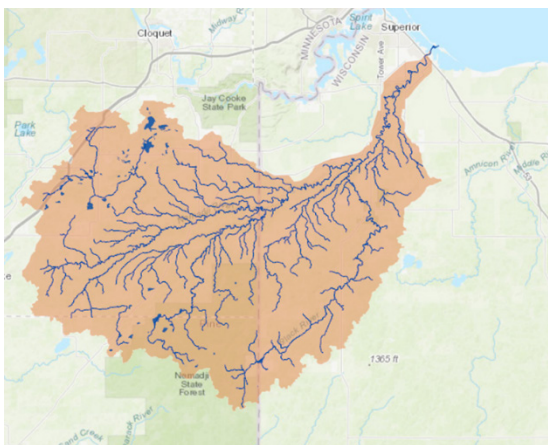


## One Watershed, One Plan

- Voluntary program and plan
- Aligns water planning along watershed boundaries
- Enhances the existing county water plans
- Local priorities, locally driven
- Uses existing authorities (county boards, SWCD boards)
- Based on current state information and data
- Progress is monitored and tracked for achieving measurable goals
- Once the plan is adopted, implementation funding follows for a non-competitive process

## Nemadji One Watershed, One Plan

- Formed a Memorandum of Understanding between four entities: Carlton County, Carlton Soil and Water Conservation District, Pine County, and Pine Soil and Water Conservation District.
- Drew upon the rich history of plans and studies that have occurred in the watershed
- Resulted in a resource-based plan that recognizes the roles of watershed partners to influence future watershed conditions and identifies specific activities that achieve common goals.



## Nemadji Watershed Highlights

- Nemadji River flows from northern Pine County to Lake Superior in Superior, WI
- Red clay rich-soils prone to slumping and erosion
- Flashy Streams, steep banks
- Abundant Forests and wetlands dotted with diverse farms
- Two counties: Carlton and Pine
- Healthy trout populations in several streams and wild rice lakes



*The Nemadji One Watershed, One Plan studies this rich portion of Minnesota nestled just south of the North Shore. This partner-led plan has created action items to protect and invest in priceless resources.*

## STREAM



### Goal: Streams

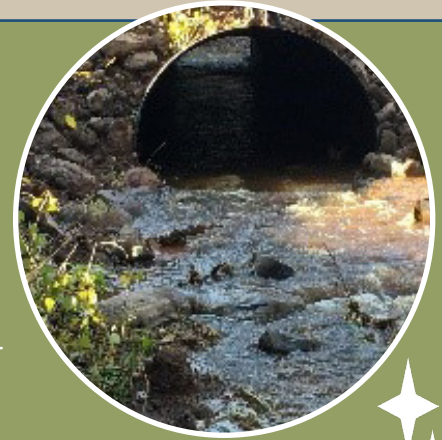
Reconnect 46 miles of stream to benefit aquatic life, improve the road/stream interface, and reduce sediment.

#### ACTIONS

- Replace undersized, perched or misaligned culverts
- Remove Red Clay Dams
- Stabilize gravel roads near steep slopes
- Restore unstable stream reaches near infrastructure

#### OUTCOMES

- Improved public safety
- Reduced sediment erosion to streams and Lake Superior
- Improved habitat for fish and aquatic life
- Protection of commerce
- Mitigation of climate change impacts



## WETLANDS



### Goal: Wetlands

Increase water storage by 1,174 acre-feet through wetland restoration.

#### ACTIONS

- Restore wetlands to protect vulnerable infrastructure (example CSAH 8)
- Restore wetlands to increase watershed storage to help *slow the flow*

#### OUTCOMES

- Protection of vulnerable infrastructure
- Mitigate climate change impacts
- Reduce sediment erosion by reducing peak flows
- Protect valuable fish habitat by mitigating drought effects



FOREST

### Goal: Forests

Increase forest management by 5,666 acres and 88 forest stewardship plans in areas that have the most benefit to reducing peak flows and protecting drinking water.

#### ACTIONS

- Increase the number of Forest Management Plans on private forests
- Increase sustainable forest management practices on private forests

#### OUTCOMES

- Drinking water protection
- Maintain peak flow reduction
- Protect and improve forest habitat
- Support local wood products industry while protecting water resources





FARM

### Goal: Farms

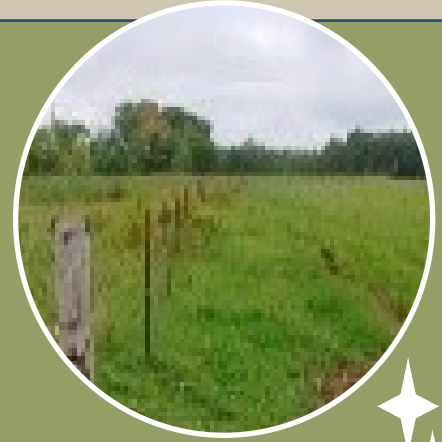
Increase land enhanced by agricultural best management practices by 4,401 acres.

#### ACTIONS

- Livestock exclusion from streams
- Improve feedlot runoff
- Improve soil health

#### OUTCOMES

- Reduced phosphorus and sediment into impaired streams and Lake Superior
- Protection of drinking water
- Increased watershed storage by improving soil health
- Preserve farming by increasing farm productivity while protecting water quality



DRINKING WATER

### Goal: Drinking Water

Protect drinking water in areas of high pollution sensitivity by sealing 10 unused wells.

#### ACTIONS

- Learn locations of unused wells
- Seal unused wells
- Pursue a drinking water testing program for the sensitive areas of the watershed
- Start discussing county-wide point of sale septic inspections in Carlton County

#### OUTCOMES

- Protection of public health by providing safe drinking water



LAKE

### Goal: Lakes

Enhance priority lakes by reducing the phosphorus load by 5% and restoring the shoreline in 5% of the parcels.

#### ACTIONS

- Restore shorelines
- Increase stormwater practices such as raingardens
- Develop individual lake management plans to target practices

#### OUTCOMES

- Lakes continue to be fishable and swimmable
- Protection of wild rice resources
- Improved lake visual aesthetics
- Increase/maintain lake property values





## Goal: Protection

Increase permanent protection by 1,717 acres in the most sensitive areas for habitat, lakes, springs, forests, and drinking water.

### ACTIONS

- Increase Sustainable Forest Incentives Act participation in targeted areas
- Targeted conservation easements for restoration projects and sensitive land
- Work to target possible land acquisitions to support forest management and fire suppression, increase access to public land and protect large restoration projects

### OUTCOMES

- Protection of trout and other cold-water species
- Protection of wild rice
- Reduction of peak flows and water quality protection
- Protection of safe drinking water
- Maintenance of valuable habitat for sensitive species



## Topic Areas

Early in the planning process, several topic areas became clear priorities for the watershed: Forests, Wetlands, Lakes, Streams, Agriculture and Groundwater. To include a wide variety of stakeholders for each topic, several focused topic meetings were held that invited the Advisory Committee along with topic experts to provide their unique watershed perspective. At these meetings, the group developed issue statements, and provided their thoughts on potential goals and actions for the plan. This format worked well throughout the process, so the plan was organized by topic as well. Each topic-focused plan section can stand alone.

STREAM



WETLANDS



FOREST



FARM

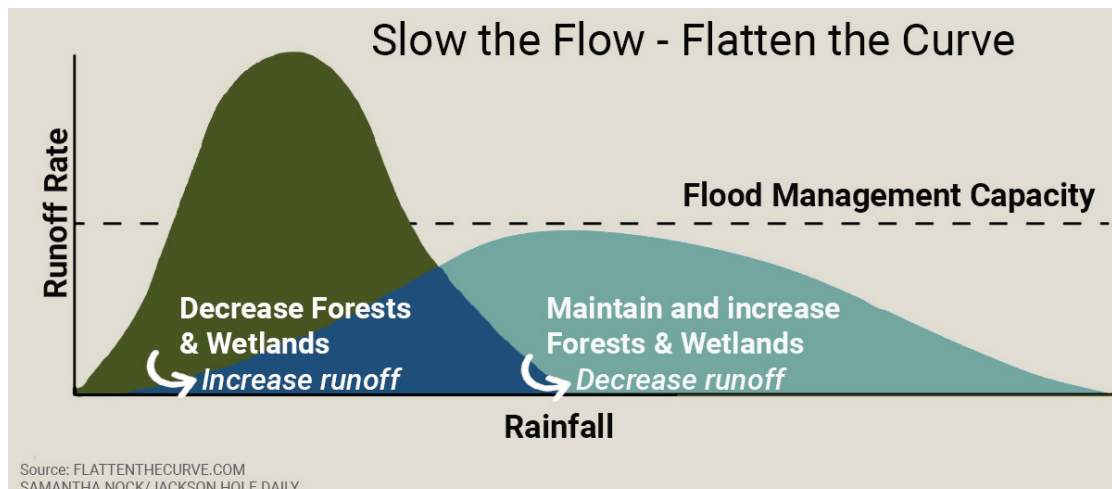
DRINKING WATER



LAKE

## Plan Highlights

- Targets projects to where they will have the most stacked benefits for both protecting and restoring resources
- Collaboration with Wisconsin (City of Superior, WI DNR tool)
- Collaboration with road authorities (Carlton County Transportation Department, MN DOT and Townships)



- Plan organized into topic sections so each section can stand alone
- Many of the plan's goals and actions are aimed at "slowing the flow"



## Plan Partners



### Vision Statement

*We honor our deep roots and the connections between people, water, and land in the Nemadji River Watershed, where the fragile red clay slopes cause the river to run red to Lake Superior.*

*We strive to strengthen these connections as we work towards clean water, diverse forests, healthy farms, and sustainable communities.*



### Why does it matter?

Maintaining clean rivers, lakes and drinking water are fundamental to our well-being. Well-managed forests and wetlands act as a giant sponge within the watershed, filtering and absorbing contaminants, slowing runoff, and retaining soil sediment, which in turn, keeps our water clean. Furthermore, the land within the Nemadji Watershed holds great ecological, aesthetic and monetary value!

**To put it simply, our Minnesota way of life is dependent on the quality of our waters.**



*For a full copy of this plan, visit: <https://carltonswcd.org/nemadji-1W1P>*

*Further Questions or Comments?*

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