



Forestry Report

1. Introduction

The Nemadji Watershed is located just south of Carlton, MN. The waters flow from the headwaters located in Northern Pine County and Central Carlton County, MN to Lake Superior in Superior, WI. The watershed covers 473 square miles with 276 square miles in Minnesota, with 353 miles of stream and 35 lakes on the Minnesota side.

The **Nemadji One Watershed One Plan** (1W1P) is a planning partnership between Carlton SWCD, Carlton County, Pine SWCD, and Pine County, with a goal of **prioritizing** opportunities to protect the watershed's valuable resources along with **targeting** projects to help solve water quality problems. The result will be a **measurable** improvement in water quality and protection of this important resource for future generations.

The general 1W1P process is outlined in Figure 1. For the first step, which is to gather and prioritize opportunities/issues in the watershed, four topic meetings that bring together watershed and topic experts are being held. The meeting topics include 1) forestry, 2) wetlands & lakes, 3) streams and 4) agriculture. This report summarizes the results from the **Forestry** topic meeting held September 11, 2019.



Figure 1. The 1W1P process is displayed above. The topical meetings are the first steps within the process (circled in gray).

The 1W1P process is driven by local units of government, guided by an advisory committee made up of local stakeholders and state agencies. The decision-making body for the plan is a Policy Committee made up of elected officials from each County and SWCD.

In order to gather as diverse a group as possible, topic experts were also invited to help gather and prioritize issues. In addition to the Nemadji 1W1P Advisory Committee, topic experts from DNR Forestry, Sappi Fine Paper, University of Minnesota Extension, American Bird Conservancy, University of Minnesota Cloquet Forestry Center, Nemadji private forest land owners, Minnesota Forest Resource Council, Carlton and Pine County Land Departments, Carlton and Pine SWCD foresters, logging companies and the Lake Superior Lakewide Action and Management Plan participated in the **Forestry** meeting.



2. Nemadji Watershed Forests

Forests make up a large part of the Nemadji Watershed, which plays a vital role in protecting water quality. Forests help reduce run-off rates, limiting the amount and speed at which water reaches and moves through streams. There are just under 80,000 acres of forested land in the watershed (45% of the watershed), with a variety of private, state and county ownership. Nearly half the acres of forests are privately owned. Absentee landowners make up a large percentage of privately-owned forests, especially in the southern half of the watershed. In addition, the Nemadji Watershed has an abundance of publicly managed land, including both state and county lands. Much of the headwaters for the Net and Little Net Rivers are protected in the Nemadji State Forest. In addition, the Blackhoof WMA provides protection to the Blackhoof and Deer Creek rivers.

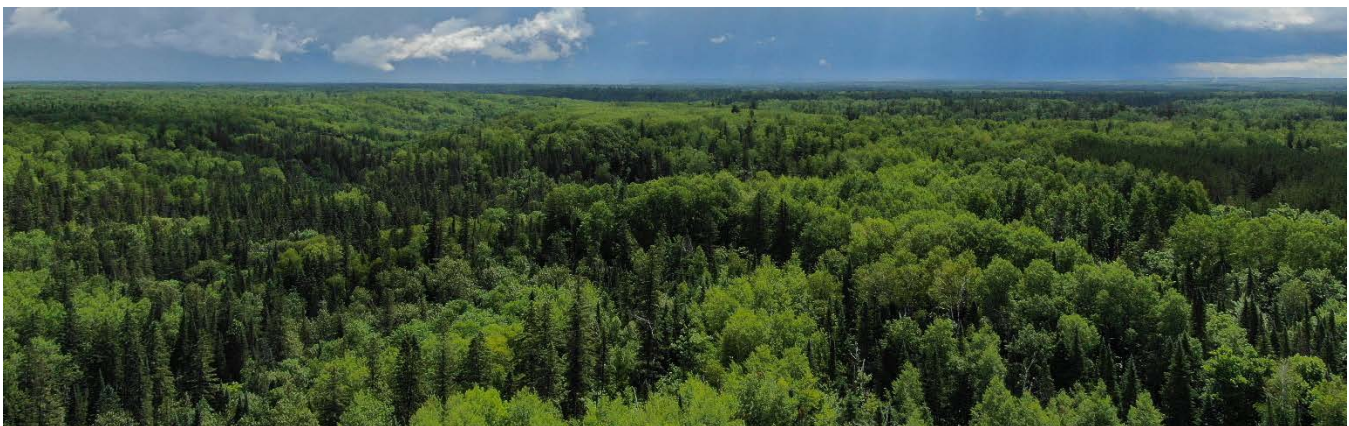


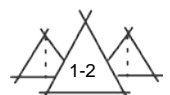
Figure 3. Forests near Skunk Creek.

In 2019, a Kickoff Bus tour was held for watershed residents and stakeholders to provide input into the Nemadji 1W1P process. Through this event, we learned that 100% of attendees agreed that forests are an important resource.



Figure 4. 2019 Nemadji 1W1P bus tour

In 2019, the Nemadji 1W1P planning group hosted a bus tour. The public was able to see the amazing resources within the watershed and share challenges they would like to address in planning.



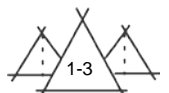
3. Nemadji Watershed Forestry Issues

The definition of forestry management can mean different things to different people depending on their objectives and goals. To illustrate the diversity of viewpoints, at the beginning of the **Forest** meeting we asked forestry experts and advisory committee members to provide us with their definition of what forest management means to them, which was assembled to create a word cloud (Figure 5).



Figure 5. Word cloud depicting the diversity of responses to the question, “what does forestry management mean to you?”

In order to help us understand what issues/opportunities surround forests in the Nemadji Watershed, issues listed in previous plans, reports, agency comment letters and public input were gathered and compiled into common themes, becoming the basis of creating the priority forestry issues for the Nemadji 1W1P (see *References* on page 8 for sources).



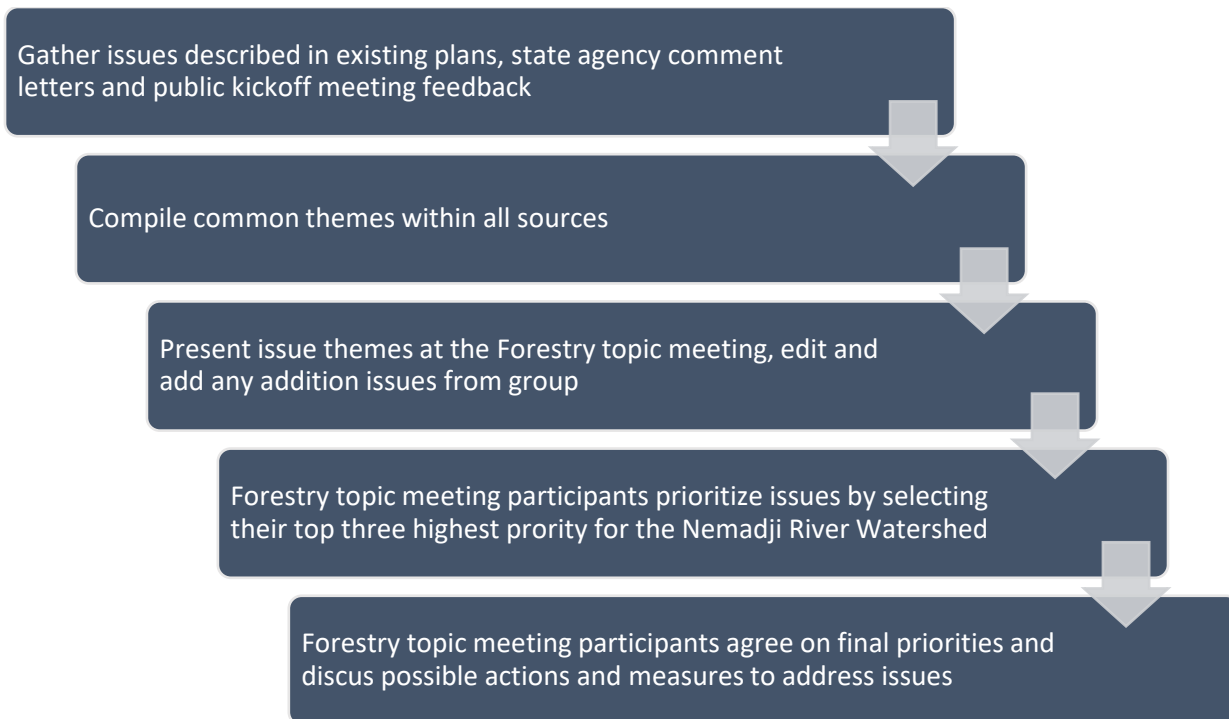


Figure 5. Issue statement development process.

At the **Forestry** meeting, participants provided input on the compiled issues list. The group agreed on a final list of 6 issue statements (Table 1) and were also provided the opportunity to add additional issues.



Figure 6. Photos from the Forestry topic meeting, September 11, 2019.

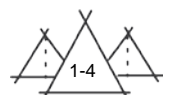


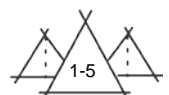
Table 1. Forestry issue statements as revised at the Forest topic meeting.

#	Issues Statement	References
1	Forestry or lack of forestry management can affect stream flows, erosion, and water quality (<i>provide examples from studies</i>).	WRAPS, MPCA, BWSR, USDA, Erosion Report, Riedel et al.
2	Forest health is vulnerable to climate change and invasive species, which can affect species composition and forest productivity.	DNR, North East Forest Landscape Plan, Riedel et al.
3	There are barriers that limit private landowners from participating in private forestland management . (<i>Increase education and outreach</i>)	Carlton Co. Water Plan, Pine Co. Water Plan, WRAPS, Public survey, BWSR, Erosion Report
4	Increased coordination in forest management at the Nemadji River Watershed level is needed to maximize ecosystem services.	Carlton Co. Water Plan, Pine, Co. Water Plan, WRAPS, Public survey,
5	Forests are at risk of conversion to non-forested land uses and parcelization .	MPCA, DNR, North East Forest Landscape Plan
6	Best Management Practice implementation may require additional technical and financial assistance to maintain in private forests.	Erosion Report

Each participant ranked their top 3 issues, and the three top priorities overall were:

1. There are barriers that limit Private landowners from participating in **private forestland management**. (*Increase education and outreach*)
2. Increased **coordination** in forest management at the Nemadji River Watershed level is needed to maximize ecosystem services.
3. **Forest health** is vulnerable to climate change and invasive species, which can affect species composition and forest productivity.

The group brainstormed a list of possible actions to address the priority issues along with ways success might be measured. A water quality category was added to capture additional management actions the group discussed.

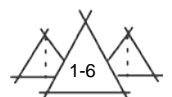


Actions/Measures

Private forestland management

- Increase technical and financial assistance to maintain and increase private forest management
 - ✦ *Metric: Acres of forest managed*
- Increase Forest Stewardship Plans
 - ✦ *Metrics: number of eligible acres, parcels planned*
- BMP Monitoring on private lands
 - ✦ *Metric: surveys to loggers/foresters to assess BMPs completed, but capture existing work by groups already recording this information*
- Understand private landowners better
 - ✦ *Metrics: gather data through population trends, property values, workshops, surveys*
- Forest Stewardship Plan writers could include water quality discussions with a watershed focus in forest management plans (including contact information where land owners could get more information)
 - ✦ *Metric: number of plans updated, new format*
- Develop a community based social marketing strategy (using tools for engaging landowners effectively) by define actions we want landowner to take, finding influential community members, and through surveys and peer to peer outreach
 - ✦ *Metric: number of people reached, actions taken*
- Implementation of actions in private forest management plans
 - ✦ *Metric: number activities implemented*
- Getting information to new private forest landowners at point of sale
 - ✦ *Metric: number people reached*
- Increase SFIA/Forest management plans/acres
 - ✦ *Metric: % increase*
- Working with realtors to share forestry information/plan information with new forest landowners (could be done through continuing education for realtors) and explain how it could make a land sale
 - ✦ *Metric: number trainings/workshops, number of realtors reached*
- Provide an incentive for <20 acre land owners to develop a forest management plan
 - ✦ *Metric: parcels/acres planned*
- Increased local capacity to support an enhanced forestry program
 - ✦ *Metric: hours for personal to dedicate to Nemadji Watershed forest management*

Coordination



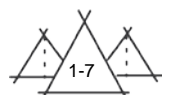
- Coordination between existing plans (LAMP)
 - ✦ *Metric: number of meetings/discussions*
- Work with elected officials to include the Nemadji in the Costal Program
 - ✦ *Metric: number of meetings/discussions*
- Get people's input on the success of current programs
 - ✦ *Metric: number of meetings/discussions*

Forest health (climate change and invasive species)

- Increased forest health practices (target riparian areas, invasive species, tree diversity)
 - ✦ *Metric: acres implemented*
- Inventory forest stands (tree species) and invasive species to assess risks; target high value land (look at available data)
 - ✦ *Metric: number of subwatersheds assessed*
- Invasive species outreach/education using pre/post surveys
 - ✦ *Metric: number of people reached*
- Increase tree species diversity to mitigate future impacts from climate change and invasive species
 - ✦ *Metric: acres implemented*

Other Water Quality items

- Maintain current and increase forest acres in the watershed
 - ✦ *Metric: acres of land forested, acres of trees planted*
- Mitigate effects of recreation ATV trail erosion
 - ✦ *Assess current situation*



References

WRAPS. [2017. Watershed Restoration and Protection Strategy, Minnesota Pollution Control Agency](#)

MPCA. [2019. Letter outlining Minnesota Pollution Control Agency priorities for the Nemadji One Watershed One Plan.](#)

DNR. [2019. Letter outlining Minnesota Department of Natural Resources priorities for the Nemadji One Watershed One Plan.](#)

BWSR. [2019. Letter outlining Board of Water and Soil Resources priorities for the Nemadji One Watershed One Plan.](#)

Natural Resource Conservation Service & United States Forest Service. [Erosion and Sedimentation in the Nemadji River Basin](#)

Natural Resource Conservation Service. [USDA – NRCS Rapid Watershed Assessment Beartrap-Nemadji](#)

Minnesota Forest Resources Council. [Northeast Landscape Forest Resources Plan](#)

Carlton County. [Carlton County Water Plan.](#)

Pine County. [Pine County Water Plan.](#)

“Land Use Impacts on Stream Channel Processes in the Nemadji Watershed” by Mark Reidel (1998)

