

Private Forests. Pristine Waters.

The Importance of Woodland Stewardship Plans
for Minnesota's Private Forests and Waters.

 DEPARTMENT OF
NATURAL RESOURCES

 BOARD OF WATER
AND SOIL RESOURCES

 One Watershed
One Plan

 CLEAN
WATER
LAND &
LEGACY
AMENDMENT

The state of Headwaters

No water flows in to Minnesota, it all flows out.

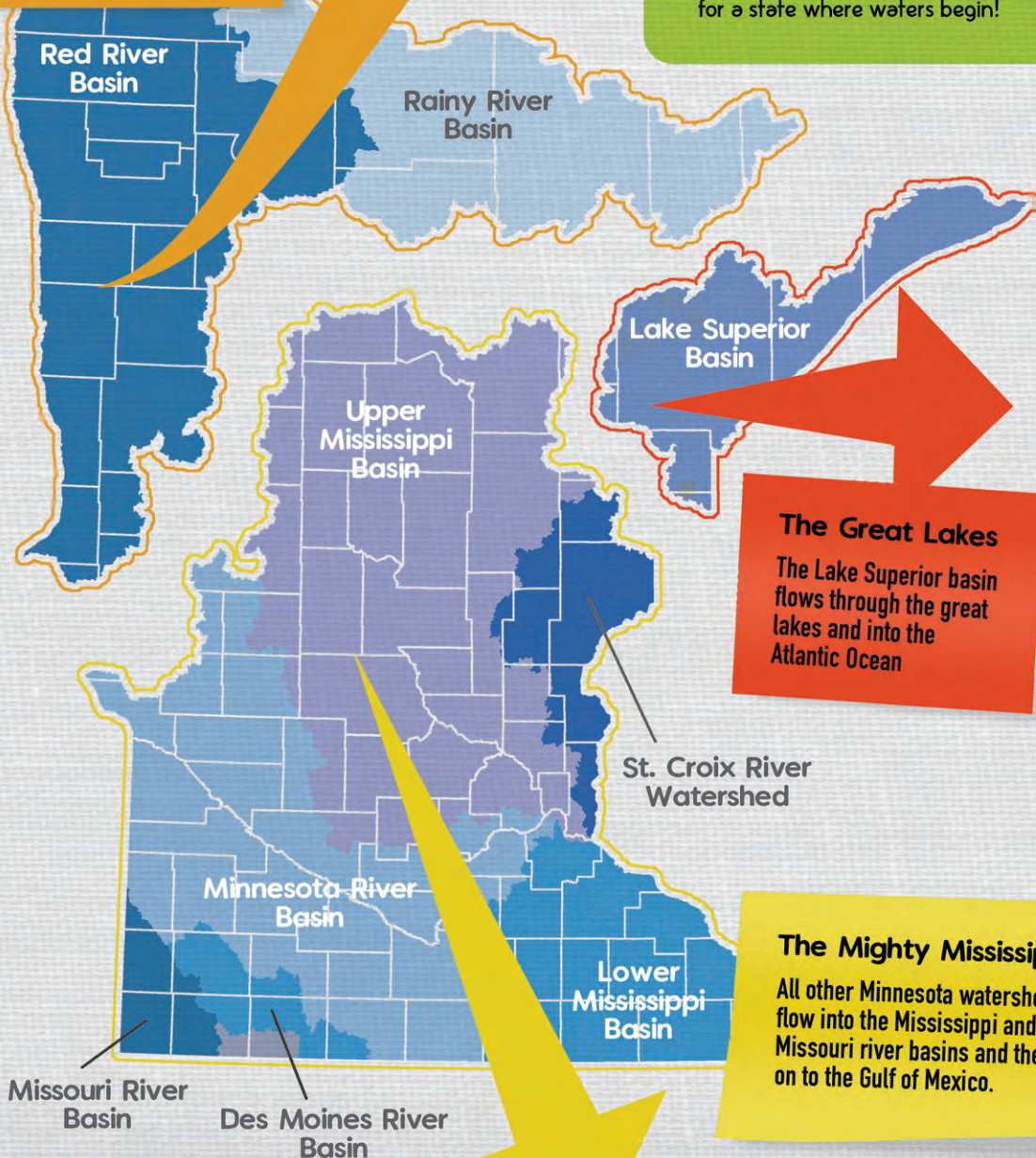
That makes us stewards of many waters. The map below shows our state broken into counties (the white lines), by major watershed (the various blue sections), and by water flow (the orange, red, and yellow groups).

North to the Arctic

The Red River and Rainy River watershed flow north into the Arctic Ocean

Forests = Clean Water

Clean water is a by-product of healthy forests. Water quality is directly connected to our forests and woods, which act as a giant sponge. The water that leaves the forest is clean, with few pollutants. This is very important for a state where waters begin!



The Great Lakes

The Lake Superior basin flows through the great lakes and into the Atlantic Ocean

The Mighty Mississippi

All other Minnesota watersheds flow into the Mississippi and Missouri river basins and then on to the Gulf of Mexico.

Watershed 101

A watershed describes an area of land that contains a common set of streams and rivers that all drain into a larger body of water.



Woodland Land Owners



Agricultural Land Owners



Lakeshore Property Owners



Urban Land Owners

White arrows on the map to the right show the flow of water throughout a watershed. Each of the landowners are affected in some way by what their neighbors are doing with their land. Everyone is linked to each other in a watershed.



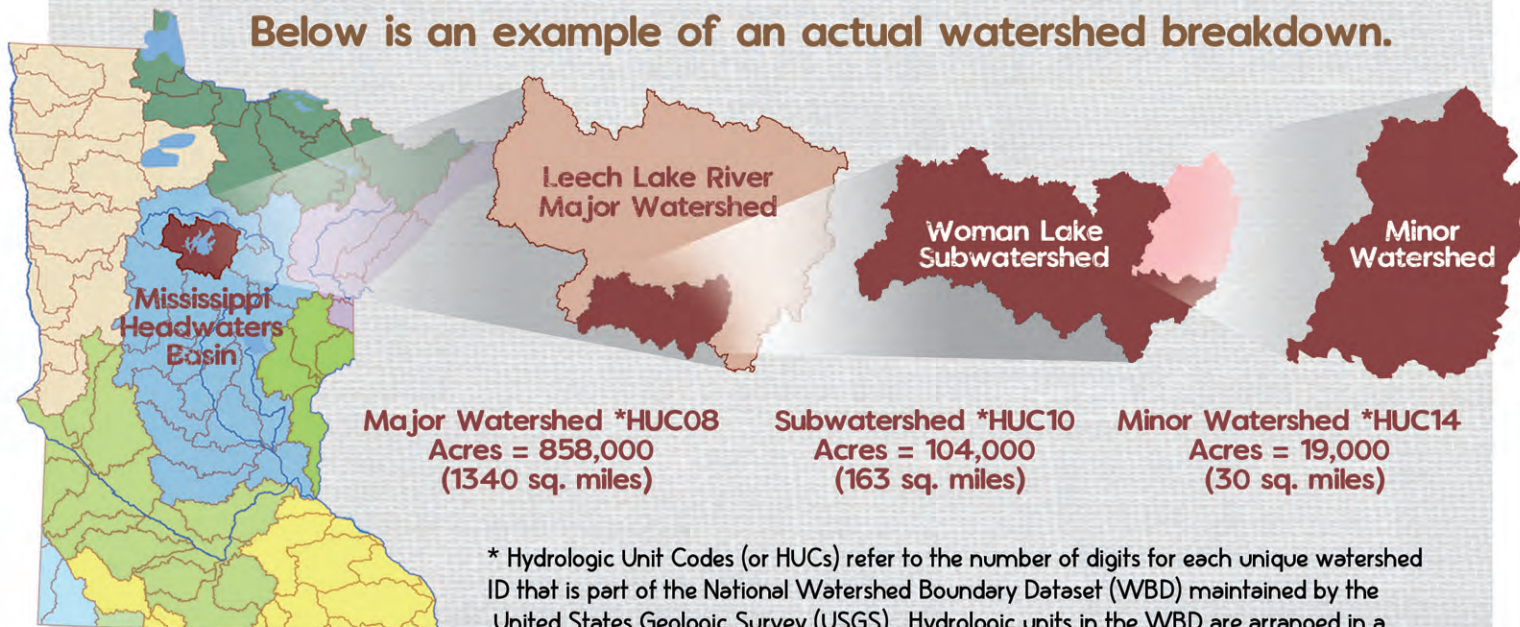
The key word with watersheds is **"Connection."** The water within a watershed is always moving. Groundwater and surface water are connected. Your land is connected to neighboring properties. Together they may be connected to a stream which leads to a lake or larger river. Streams and rivers form extensive drainage networks. What you do on your land has the potential to affect many other places. Protecting one means protecting all. You can start to make that happen.

Forests filter water like a sponge

Water quality is directly connected to our forests. Rain and snowmelt are trapped and soak into the forest ground. Forests limit erosion, retain water, and filter contaminants. Water runoff that escapes forested land is very clean. Private forest lands help keep our watersheds healthy.



Below is an example of an actual watershed breakdown.



* Hydrologic Unit Codes (or HUCs) refer to the number of digits for each unique watershed ID that is part of the National Watershed Boundary Dataset (WBD) maintained by the United States Geologic Survey (USGS). Hydrologic units in the WBD are arranged in a nested, hierarchical system with lower numbers representing larger watersheds/basins.

Protect forests, protect water

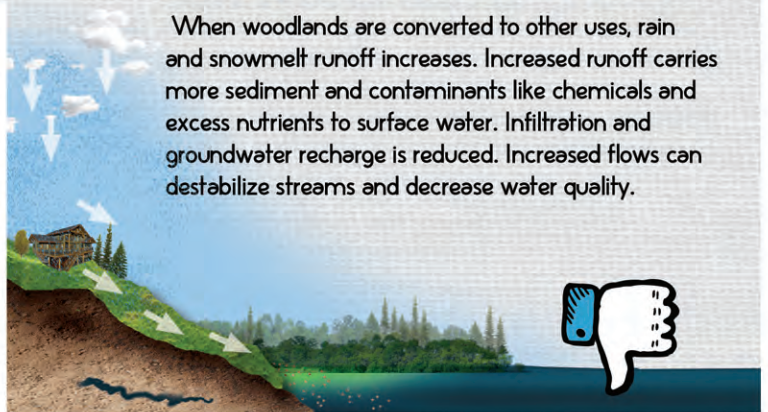
Forested Lands Retain Water

Forests and well vegetated lands serve as a giant natural sponge, filtering and retaining stormwater. A healthy variety of plants and their deep root system retains soil, soaks up water and filters contaminants. Woodlands protect both groundwater and surface water. Native cover allows proper infiltration of stormwater into underground aquifers.



Developed Lands Shed Water

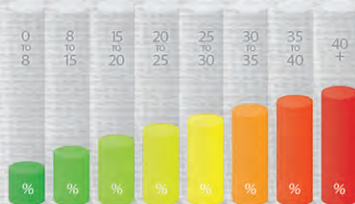
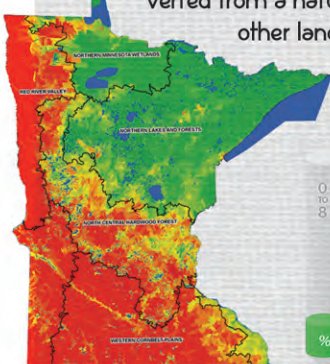
When woodlands are converted to other uses, rain and snowmelt runoff increases. Increased runoff carries more sediment and contaminants like chemicals and excess nutrients to surface water. Infiltration and groundwater recharge is reduced. Increased flows can destabilize streams and decrease water quality.



1 Land use affects water quality

Water quality is dependent on the percentage of use on the land or "Disturbance".

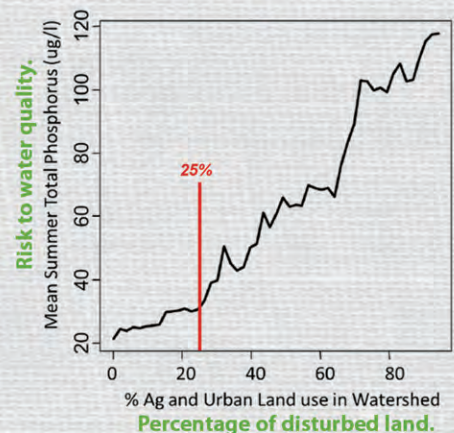
Statewide percentages of lands that have been converted from a natural forested or prairie condition to other land uses such as crop, pasture land, and developed areas are shown in yellow, orange, and red.



2 The magic number is 25%

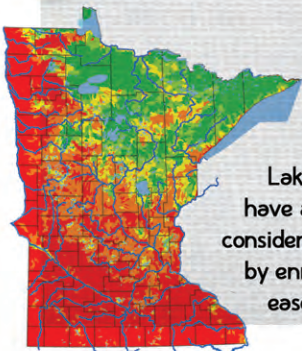
Watershed land cover was analyzed for over 1,200 fishing lakes in Minnesota. Increased runoff brings excess phosphorus to lakes, which cause harmful algae blooms.

The phosphorus concentration in lakes goes up dramatically when more than 25% of the watershed is disturbed.



3 The goal is to protect 75%

The goal is to protect at least 75% of a watershed. Some lands (shown in Dark Green on the chart) are well protected. Other lands (Red & Orange) are past the magic 25% number, while in between (Light Green & Yellow) are lands that are at a tipping point.



Lakes in northern Minnesota benefit from having extensive public lands in their watersheds. Public lands generally have abundant forest land cover and are not at risk for conversion to other "disturbed" land use types. These lands are considered "protected" as are lakes, streams, and wetlands. Private landowners can add "protection" to their watershed by enrolling in a tax incentive program like the Sustainable Forest Incentive Act (SFIA) or placing a conservation easement on their property.

Native plant communities



The native plant community

Let the forest grow what it was intended to grow.

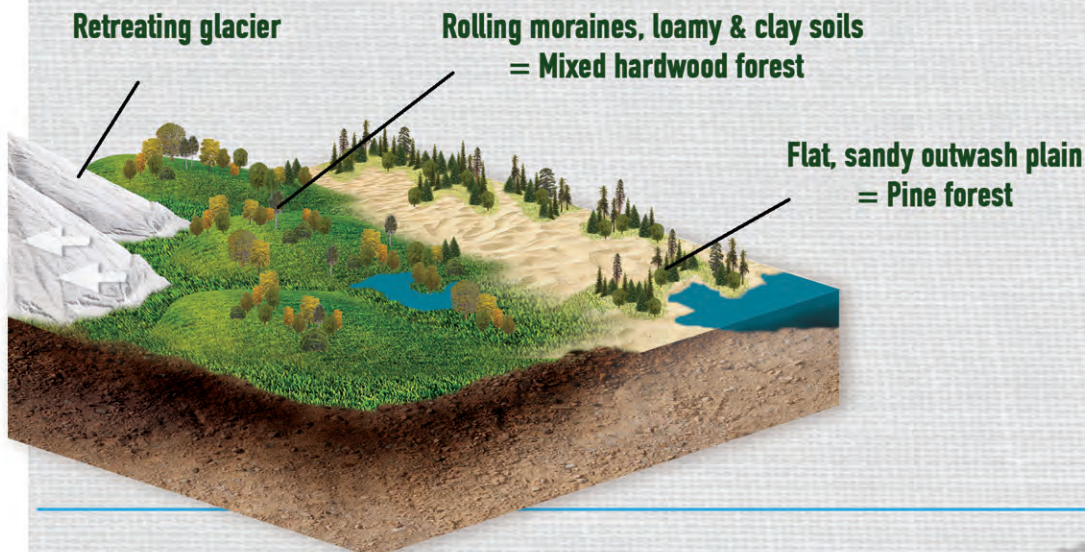
The native plant community system describes an area's specific land types or ecosystems. Natural resource professionals classify land into native plant communities based on native vegetation, landforms, soils and other local conditions.

Work with the land not against it.

Allow the forest to be what it was ecologically meant to be.

Soil type and historic land cover can tell you what will likely thrive in your forest. Your best chance for a healthy forest is to let the land grow what it knows how to grow. It is also wise to encourage diversity of native trees within your woodland's ecological classification. Diverse forests tend to be healthier and more resistant to stress. Your **Woodland Stewardship Plan** will give you direction on what your soil type is and which native plants will grow best on your land.

The land was formed by glaciers. Below is an example of glacial soil deposits.

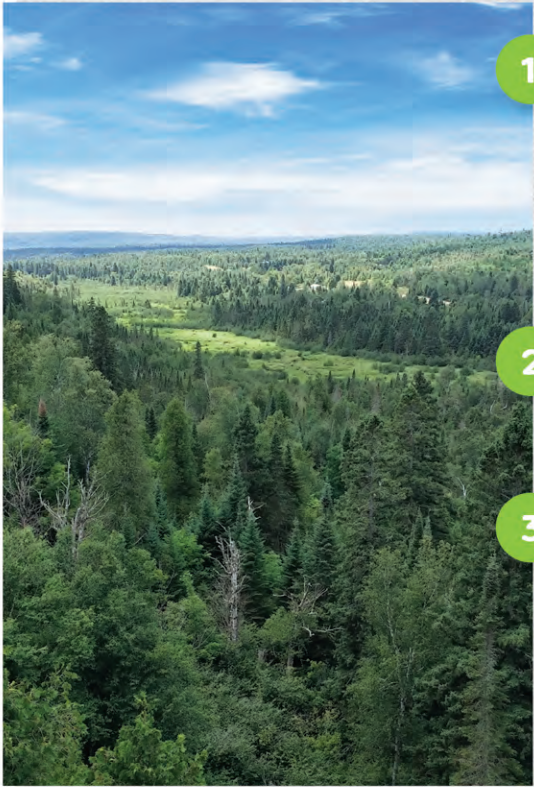


Woodlands hold economic, recreational, and ecological value. However, the economic and recreational value of woodlands hinge on the woodlands ecological strength. You can't have the two without the one.



Options for landowners

Your Woodland Stewardship Plan is key to unlocking a host of options that range from keeping your woods healthy to financial incentives.



1

Keep your woodlands intact

Private forest land provides public benefits. For this reason, incentives and resources are available to assist private forest landowners. You might be eligible to receive either:

- Annual payments by enrolling in the Sustainable Forest Incentives Act (SFIA) program.
- A lump sum payment by setting aside your woods permanently in a conservation easement.

2

Add more trees and native vegetation to your land

- Replant trees on woodlands that have been converted to other uses.
- Plant trees and native vegetation near streams, rivers, and shorelines.

3

Make your woods healthier and more resilient

Follow the forester recommendations in your Woodland Stewardship Plan. Project examples may include:

- Mimic natural disturbances with a woodland harvest.
- Give desired trees more room to grow with a woodland improvement cut.
- Encourage the survival of native trees and plants by removing invasive species.
- Increase tree species diversity by encouraging the growth of less common trees on your property and planting other site appropriate native trees.

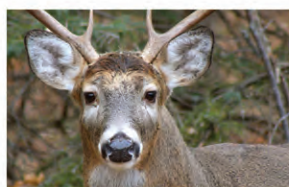
Forests are essential to provide...



Ecological balance



Healthier forest economies



Diverse plant and wildlife habitat



Clean water for recreation



Clean drinking water



Healthy fish habitat