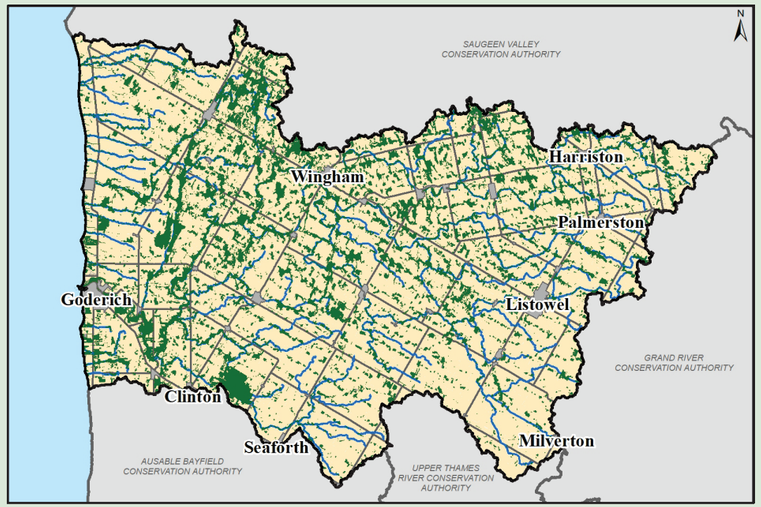
STUDY AREA

The Maitland River Watershed is located in the lee of Lake Huron. It includes the drainage areas of the Maitland, Nine Mile and Eighteen Mile Rivers, and other small watersheds along the Lake Huron shore. With a moderate climate and gentle topography the area is largely composed of prime agricultural lands.

Once the Maitland River Watershed (outlined below), was an expanse of maple-beech forests. By the early 1900's over harvesting caused a resource collapse. Recovering forests became dominated by ash trees.

Remaining forests now face new threats. But forests are a foundation of local prosperity providing revenue to landowners as well as places for recreation. Forests are also a link in natural ecosystems. They support vast amounts of biodiversity, help clean air and water and buffer the affects of climate change.

2020 Forest Cover



WHY ASSESS FORESTS?

We cannot steward and manage what we don't know. The last forest study was completed in 2000 with the recommendation forests be consistently monitored. Since that time disturbances to local forests have accelerated.

The 2021-2022 study provides an updated forest assessment dataset on the public and private forests in the Maitland River Watershed.

WHAT MAKES A FOREST HEALTHY?

Healthy forests are intact environments with minimal disturbances; have structural diversity and lots of different kinds of native plants and animals.

INDICATORS and METHODOLOGY

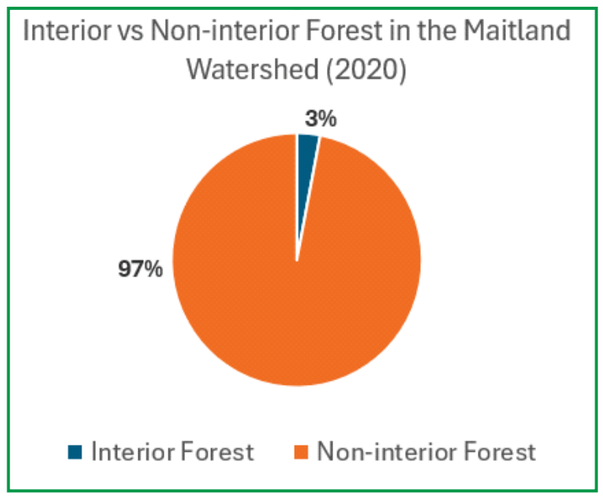
Maitland Conservation staff and volunteers gathered data on the following indicators at more than 200 plots across the watershed. We looked at:

- Amount of forest remaining including size, shape and connection to other forests
- Tree size, height and species
- Tree health and mortality
- Canopy closure
- Forest plants
- Disturbances such as harvest, disease, insects and wind damage

To survey sites, staff used the Vegetation Sampling Protocol method, developed by Dr. Danijela Puric-Mladenovic from the Daniels Faculty of Architecture, Landscape and Design at the University of Toronto.

FOREST RESOURCE CHARACTERISTICS

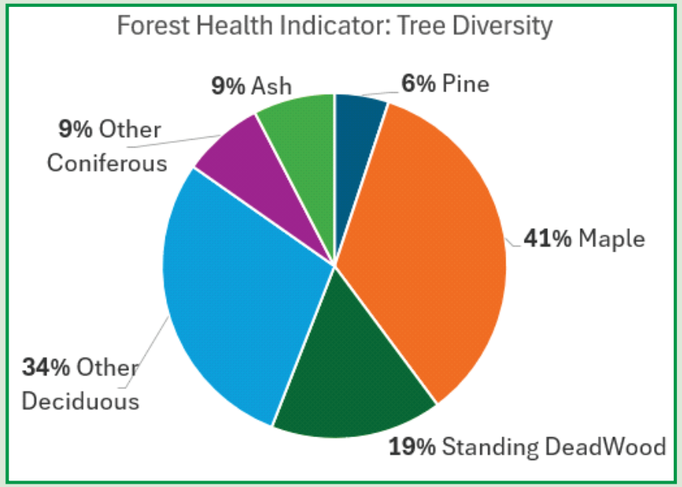
- In the Maitland River watershed 57,678 ha of forest remain (equal to 16.09 % of the land base)
- 206.87 ha of forested land was lost in the watershed from 2015 to 2020.



- Forest cover is highest in the Lower Maitland River sub-watershed (24.3 %) and the lowest in the Eighteen Mile River sub-watershed (2 %)
- Conversion to agricultural lands is the leading cause of forest lost in the area

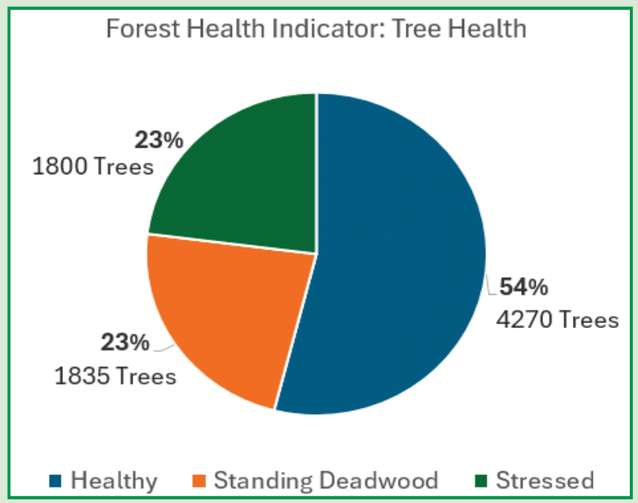
FOREST STRUCTURE and COMPOSITION

- Maple is the most common remaining tree species
- The variety of tree species in area forests are low and declining
- 1 in 5 trees are dead



TREE HEALTH and MORTALITY

- EAB is the leading cause of tree mortality in the Maitland Valley. The mortality rate in ash is almost 100 %.
- EAB is an invasive pest that originated in Asia and was brought to North America through international trade. Forests with ash are under severe stress.

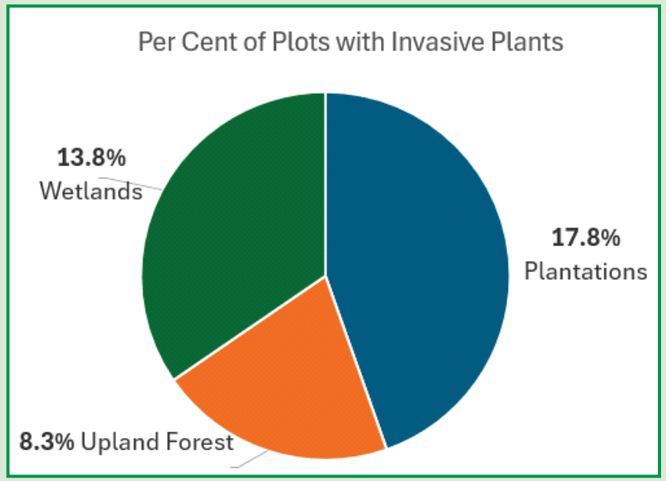


FOREST UNDERSTORY

- Biodiversity in the plant life growing beneath the forest canopy is declining.
- The best understory communities were in upland private forests and swamps.
- Understory health is important for forest health as understory plants provide important nutrients that seedlings need to survive. Good understories support tree nursery habitat and help facilitate canopy diversity.

INVASIVE PLANTS

- 13% of plots had one or more invasive plants
- Invasive plants need management particularly in disturbed forests and plantations
- Invasive plants were observed the least in less disturbed upland forest sites

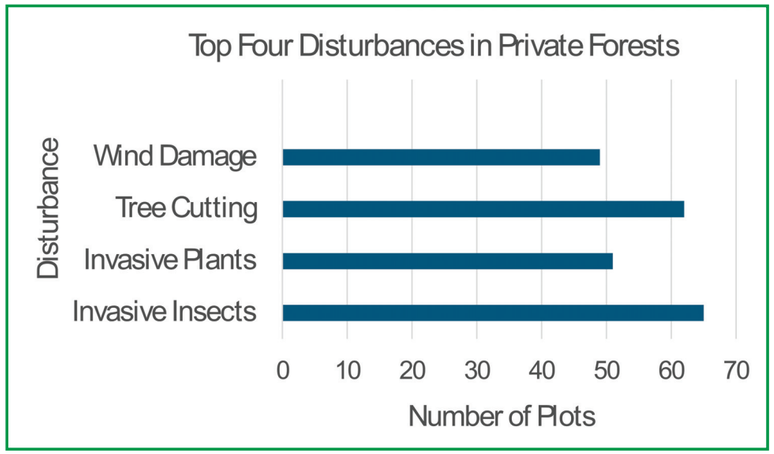


Common invasive plants:

- Garlic Mustard
- Glossy Buckthorn
- Common Buckthorn
- Reed Canary Grass

DISTURBANCES

- The main disturbance in 2021 - 2022 was insects and pests
- All plots had at least one disturbance
- Most plots had three or more disturbances



NEXT STEPS

- Additional research is needed to answer questions raised by the assessment. Maitland Conservation is working to develop partnerships with science experts to identify how landowners can best restore the health and resiliency of forests. We are also seeking input from landowners on how to best provide support for effective stewardship.
- We are implementing monitoring to ensure forests can be managed for incoming invasive pests and disease. In 2024 we will participate in a pilot project to monitor Hemlock Wooly Adelgid. In addition, ash land restoration will get underway in response to EAB.
- Landowners can have a big impact on forest health. Walk your woodlot on a regular basis and look for signs of disturbance. Remove invasive plants from woodlots. Develop a Forest Management Plan with a Registered Professional Forester. Check our website for information on programs that support tree planting and forest health improvement.

Questions? Contact Maitland Conservation staff:

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Forest Health Study
2021 - 2022

REPORT SUMMARY