

Citizen Science Saturday- Forester

What is Forestry? Forestry seeks to apply a scientific understanding of the systems at play in a healthy forest and manage forest growth and use in a sustainable way.

What do Foresters do? Foresters collaborate across all fields of forest management to carry out the complex task of conserving our public lands.

The Southern Appalachian Mountains are one of the most biologically diverse regions in the temperate world. This diversity makes it both highly resilient to invasive species and a very strong indicator of problems present in the environment.

What Foresters Manage:

- For lumber and forest products (logging trees and harvesting plants)
- For recreation (hiking, biking, fishing, kayaking, etc.)
- For wildlife and their habitat (protected species)
- For invasive species (both plants & animals)

Hemlock Trees:

The eastern hemlock is a forest giant. They can live for over 500 years and reach heights of more than 170 feet. The Hemlock has the power to re-make the forest in its own image, creating a particular ecosystem around itself, which differs significantly from hardwood forests; and in which it and countless other plant and animal species thrive.

Invasive Species Spotlight: Hemlock Woolly Adelgid

- The hemlock is being attacked by an insect known as the Hemlock Woolly Adelgid, *Adelges tsugae*, introduced from a different part of the world. The Hemlock Woolly Adelgid (HWA) is an example of an *Invasive Species*, a species of plant or animal that is brought to a different part of the world that it is not adapted to.
- The HWA feeds on the sap of hemlock trees in the Eastern part of North America. The hemlock has no way to fight this pest and therefore is weakened over time and eventually dies.
- As of 2015, 90% of the Hemlock stands of North America were affected by HWA.
- Foresters are working in labs and in the field to search for different ways to treat those trees affected and to look for cures to stop further spread.



Do you have
any Hemlock
trees near you?

Do they have
Hemlock
Woolly Adelgid?

Magnification of the Hemlock Woolly Adelgid with and without its woolly covering.

Forester Activities:

- Read the book, *I Can Name 50 Trees Today!* Or listen to Stephanie, our education manager read the story here. <https://youtu.be/-5vQanEJLBY>
- Learn to measure a tree's diameter (see infographic below)
- Practice Tree Identification with an online tree dichotomous key at Arbor Day.org <https://www.arborday.org/trees/index-identification.cfm?TrackingID=404>

Citizen Science Project:

- Nature's Notebook: Nature's Notebook is an off-the-shelf program appropriate for scientists and non-scientists alike, engaging observers across the nation to collect phenology observations on both plants and animals. https://www.usanpn.org/natures_notebook



Measuring Tree Diameter



4 Easy Steps to measure the trunk of a tree



Foresters need to measure trees for lots of different reasons. By measuring the trunk of a tree they can find out the circumference and diameter of a tree. This data can tell them how well a tree is growing and how many *Board Feet* (lumber) the tree could produce.

Locate the exhibit tree behind this station & follow the steps below

STEP 1

Locate 4.5 ft high on the tree's trunk

This might be as tall as you!



STEP 2

Wrap the diameter tape around the tree trunk at 4.5

Make sure the diameter tape is tight & straight.



STEP 3

Mark & read the length on the diameter tape



STEP 4

Record & Compare your findings

