

# CITIZEN SCIENCE IN THE GORGE

*“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has.” –Margaret Mead*

## WEED PATCH PLOT MONITORING

There are 7 monitoring plots set up along the Weed Patch Mountain Trail. The goal of the plots is to observe how different plant communities will respond to the Party Rock Fire that happened in November of 2016. See below for specific information on collecting data for each plot.

## ALL PLOTS

For all plots, to the best of your ability, record the following information:

- **Your name**
- **Date**
- **Weather observations-** record the weather, temperature, and any other relevant information
- **Approximate percent cover of each layer.**
  - **Bare ground-** approximately what percentage of the plot is bare ground?
  - **Herbaceous layer-** approximately what percentage of the plot is covered by grasses and green-stemmed plants from 0 to 3 feet tall?
  - **Shrub layer-** approximately what percentage of the plot is covered by shrubs or seedling trees that are between 3 to 15 feet tall?
  - **Overstory tree layer-** approximately what percentage of the plot is covered by trees taller than 15 feet? It may help to look up at the sky and determine the percentage of sky you can see and then subtract from 100%
  - **Non-native invasives-** approximately what percentage of the plot is covered by non-native invasive plants? Record the species if you know them!
- **Forest density-** You don't need fancy tools to figure this out! Stand in the center of the plot and hold your arm out straight in front of you with your thumb up. Close one eye and face the northern corner of the plot. Every tree inside or outside of the plot that is the same size or larger than your thumb has a basal area greater than 10 square feet per acre. Basal area is a unit that helps us measure how dense trees are in a forest.
  - **Basal area-** Record the total basal area (number of trees the same size or larger than your thumb multiplied by 10)
  - **Species-** To the best of your ability, record the tree species that are the same size or larger than your thumb (if you do not know, record “unknown”).
  - **Diameter-** Measure the diameter of trees at breast height (about 4.5 feet). You can use a diameter tape, Biltmore stick, or string and measuring tape!
- **Other observations-** Record anything else you find interesting! Did you see any wildlife from the plot? Any evidence of human activity, such as trash?

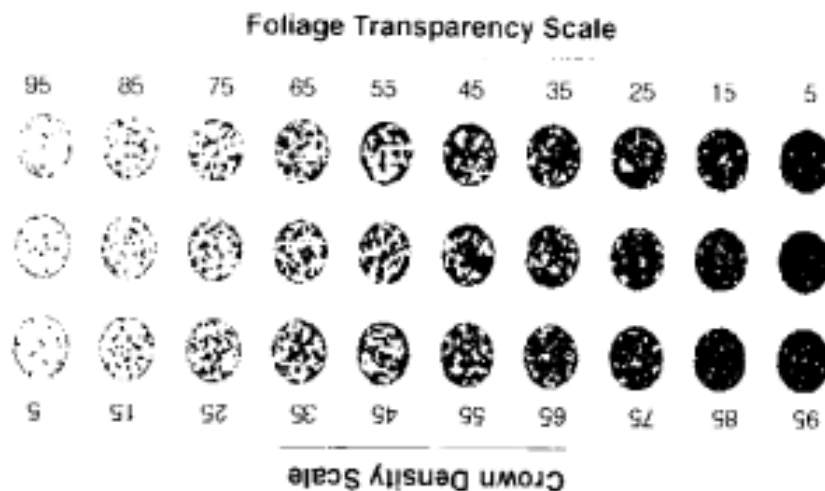


- **Take a picture from the picture stands!** We want to ensure that photos are taken from the same angle and height so we can compare the plots over time. Center your phone on the sign and line up the white pole to the center of the picture.
- **See the sections below for other information you should collect at specific plots!**

## PLOT 2

Plot 2 is located in an area with hemlocks. The invasive insect pest Hemlock Woolly Adelgid is slowly killing our hemlock trees. If you see white fuzzy spots on the bottom of the hemlock branches at the base of the needle, those are the Woolly Adelgid. The goal of this plot is to monitor the hemlocks in the area. See below for additional information to record:

- **Living vs dead-** Record how many hemlocks are still alive (have needles) and how many are dead (no needles) both inside the plot and the ones you can see from the plot.
- **Crown Transparency-** Stand about 1 tree-length away from the hemlock at the same elevation of the tree and look at its branches and needles. What is the approximate transparency of the foliage? It may help to look from another angle up slope. See the chart below for a guide:



## PLOT 4

This plot is located in a area of mountain laurel. Mountain laurel often grows densely and shades out the herbaceous layer. This plot will be used to monitor how much of the mountain laurel was top-killed (killed above-ground material) from the fire and how it affects the herbaceous layer. See below for additional information to record:

- **Top-killed-** Count the number of mountain laurel stems that are inside of the plot. Record the amount that were top-killed (brown leaves or no leaves) and the amount that were not (green leaves).

## PLOT 7



This plot is in an area with table mountain pine, which is a fire-adapted species. Its cones will only open and seed when they reach a certain temperature. See below for additional information to record:

- **Table mountain pine-** record the number of table mountain pine trees and seedlings inside of the plot.

## SUBMIT YOUR INFORMATION TO WACHNG!

You can scan and e-mail your forms to [wachng@gmail.com](mailto:wachng@gmail.com) or mail them to:

Carolina Mountain Land Conservancy  
c/o WAC-HNG  
847 Case Street  
Hendersonville, NC 28792

You can also use our Andriod app, Weed Patch Citizen Science, to submit information from your phone or tablet!

## NEED HELP?

No problem! We've got resources for species identification, percent cover, and how to make a Biltmore stick!  
Visit [www.wachng.org/CitizenScience/WeedPatchProgram.shtml](http://www.wachng.org/CitizenScience/WeedPatchProgram.shtml)

