HEMLOCK RESTORATION INITIATIVE

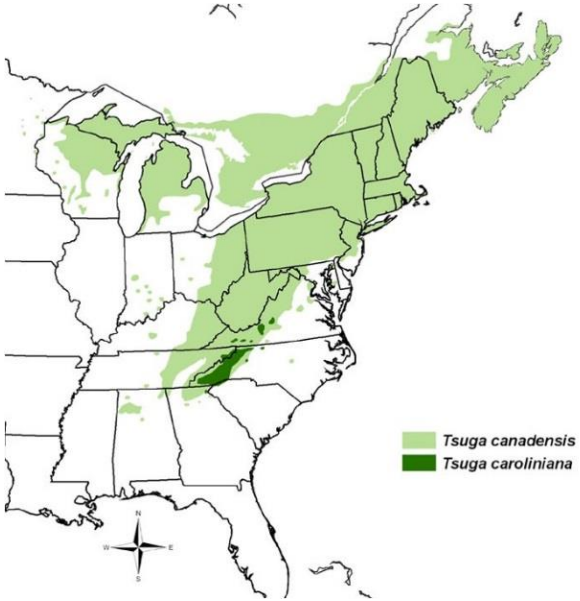
(Sponsored by NCDA&CS & USDA-FS) FHP

Is it a hemlock?

There are 2 native hemlocks in Western North Carolina: the Canadian or eastern hemlock (*Tsuga canadensis)* and the Carolina hemlock (*Tsuga caroliniana)*

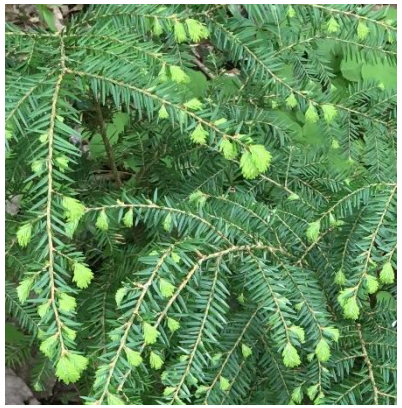
Both native species have:

- short, flat needles (about 1/3-2/3 inch long) with short stalks (petioles)
- distinctive parallel, pale lines running lengthwise down the underside of each needle (stomata)
- a bent leader



Photos above and below by Will Cook, Carolina Nature

Bright green tips in spring indicate new growth:



The needles of **eastern hemlock** (above) grow in a flat plane and needle edges have tiny teeth.

The needles of **Carolina hemlock** are whorled around the branch and needle edges are smooth.

Mature cones are small (¾- 1 ¼" long)

(left: eastern hemlock)

(right: Carolina hemlock)

Photo by Matt Conheady, NYFalls.com

Photo by JK Marlow, NameThatPlant.net

Common look-a-likes:

(It is easy to confuse pines with hemlocks in the forest.)

Pines have much longer needles. White pines (right) have whorled branches, whereas hemlocks (far right) have alternate branches.

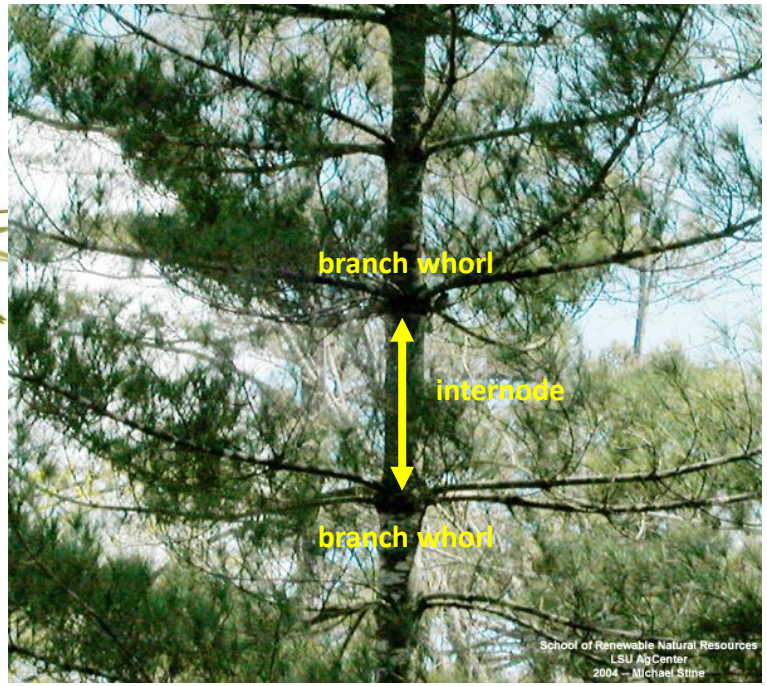


Photo by LSU School of Renewable Natural Resources

Photo by Tim Kiser

Spruce trees (right and below) have pointy , angled needles that are whorled around the stem and large cones that hang down.

Fir trees (below) have flat needles with white lines underneath, but they are whorled around the stem and are attached to the twig with suction-cup-like attachment. Firs have large cones that stand erect.

Both **spruce** and **fir** trees have straight apical leaders (the vertical stem at the top of the trunk).

Photos by: (left) discoverlife.org, (right) NameThatPlant.net