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## Hemlock Woolly Adelgid

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# Hemlock Woolly Adelgid Essay On The Ecosystem

By. Lucas.P

Why is a hemlock tree so important to ecosystems? And why is it in danger? A hemlock is identified by the small flat needles on its branches and they are relatively tall. The hemlock trees are important because they are one of the most helpful trees in the forests of Maine. They help all of the animals in the forests, for example, the brook trout. This species of fish depends on the cool environment that the Hemlocks make, they create this environment using the flat needles that layer and block out the sun and keep the trout cool, if they are not cool they will die. Another example is deer, this animal likes the hemlock because it slows the wind more than some other trees, again because of its flat needles it can stop or slow more wind speed than most trees can. Another thing the deer like is snow cover, the needles stop the snow from going through the tree like a roof and you see this in many cases like when you're outside in winter you can see snow on top of the conifers. Some observations I made during this project was that hemlocks are normally found way up north, you don't see them as often the farther south you go. They also have long branches.

The HWA (hemlock woolly adelgid) is an invasive species that is killing off the hemlocks in our forests. An invasive species is a species that came to a different part of the world and the plants have no defense against the species that is invading, invasives also have no predators. These harmful insects came from Japan, they then started feeding on the hemlocks in the U.S. The HWA have been in North America since the 1920s. The HWA is a large problem because they kill the hemlocks in the forest. Trees are very important because most animals depend on them for survival in the forests. If

the hemlocks die then so do the animals. Normally the HWA's died off in the cold winters of northern America but because of climate change the winters aren't so cold anymore and allow the HWA to live its life.

My science class went outside to look for some woolly adelgids on March 30th 2022, at 10:20AM. We found a hemlock tree and 10 branches on that tree. All of the groups found no Hemlock Woolly Adelgid. My group checked 9 branches but the last one we could not reach. We recorded our data and continued on.

The HWA has spread since 2003 a lot. The three most important years are 2003, 2010, and 2016. In 2003 the first HWA came to Maine naturally in Kittery and York. In 2010 the spread exploded along the coast from Portland to Bristol. And in 2016 the HWA spread came inland, to Frye Island, away from the coast, and it survived. At this rate they will continue to spread because it's getting worse not better. Now, I see Maine in the HWA spread is not too good, in 100 years I think it will spread to Aroostook County, or even Canada.

In conclusion the HWA is a very dangerous creature to the ecosystem, and it has taken over many areas. It has not reached Bethel yet, but there could be a solution. If we can stop or significantly decrease the carbon dioxide levels, we could slow climate change and try to reverse it. We can stop the spread of HWA because they can't live in the cold. And the hemlocks can continue to keep the ecosystem safe.

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