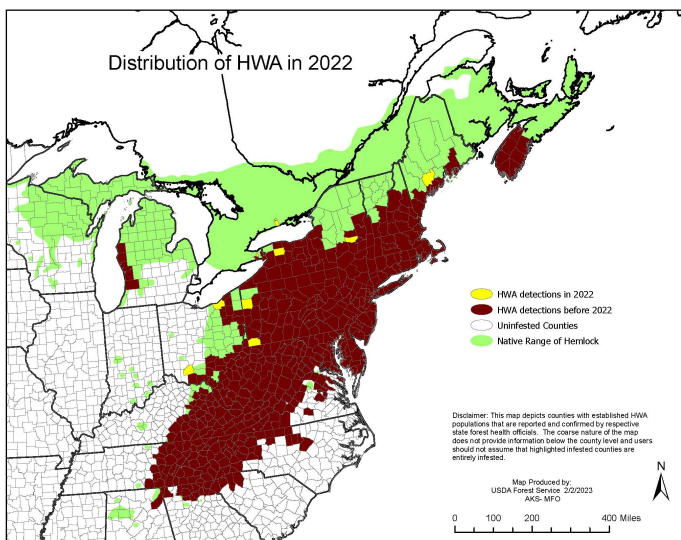


# THE PURDUE LANDSCAPE REPORT

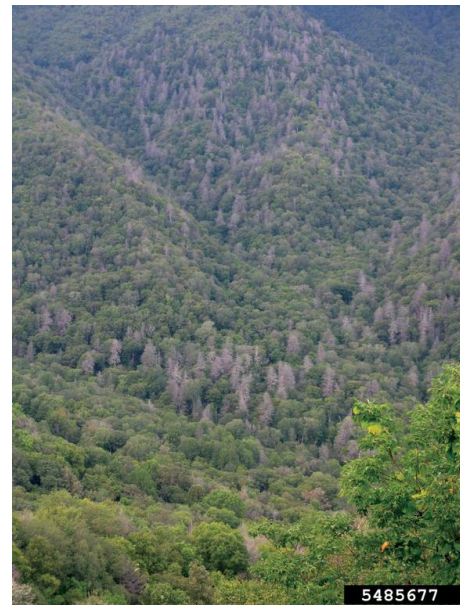
## Hemlock Woolly Adelgid: Distribution update

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The hemlock woolly adelgid (*Adelges tsugae*) continues its eastward spread across the US. In 2022, seven new counties were added to the distribution map of this invasive insect. While it is not present in Indiana yet, it is confirmed throughout the eastern USA from northern Georgia to Maine, extending west into Michigan, Ohio, and Kentucky.



Since its introduction in the 1950s, hemlock woolly adelgid has caused severe mortality of eastern hemlock in the United States. Not only is this a significant impact on our native tree diversity, hemlock losses are linked to a decline in several native bird species in the New England and mid-Atlantic forests (Ellison et al. 2018). In Indiana, eastern hemlock has a scattered native range in isolated locations of the west-central and southern regions of the state. It typically grows on steep slopes, canyons, and ravines. Hemlock woolly adelgid is also a threat to ornamental hemlocks, which are frequently used in landscaping.



Forest Mortality



Hemlock Needles

### Identifying Eastern Hemlock

Hemlock woolly adelgid will only feed on hemlocks, so proper tree identification is crucial. If you're not sure whether your conifer is hemlock, check the color, shape, and arrangement of the needles. The needles of eastern hemlock grow singly (not in clusters) in alternate or opposite positions. The needles are flattened, and have two white stripes on the underside. The cones are small (1-2 cm), and when dry, they can resemble a rosette.

### Monitoring for Hemlock Woolly Adelgid

The white "wool" balls are the most tell-tale sign of this pest. Check the undersides of the branches at the base of the needles, and look for small, round, white cottony masses that cover the twig. These are actually the egg sacs of the hemlock woolly adelgid. You may also notice the "crawlers", or the mobile nymphs, which are tiny, oval-shaped, reddish-brown insects.



The white "wool" balls are the most tell-tale sign of this pest.



Elongate Hemlock Scale



Hemlock woolly adelgids.

If you frequently check hemlock trees, you may see other white spots that resemble the woolly adelgid. The cocoons of elongate hemlock scale are often confused with hemlock woolly adelgid. However, note how the white "spots" from the scale infestation are flattened and cover the needles. Hemlock woolly adelgids congregate at the base of the needles along the twig, not on the needles themselves, and the egg sacs are round in shape. Single, large egg sacs found throughout the branch are often spider egg sacs or oak skeletonizer cocoons.

Report any suspected findings of hemlock woolly adelgid at: [eddmaps.org/indiana/](http://eddmaps.org/indiana/)

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