Detecting Hemlock Woolly Adelgid in SLELO PRISM
Identification, Impacts, and Management Options for Landowners

Overview

Hemlock woolly adelgid (HWA) is a non-native, invasive, aphid-like insect that feeds on eastern hemlock and Carolina hemlock trees. HWA inserts its mouthparts into young twigs at the base of the needles and feeds on stored nutrients. Feeding occurs throughout fall, winter, and spring and creates wounds in the tree's woody tissue. Over time, the insect feeding disrupts the flow of water and nutrients, leading to needle loss, reduced new growth, canopy thinning, branch dieback, and eventually tree mortality.

During its active seasons, HWA produces a distinctive white, woolly covering that protects the insect from harsh winter conditions and serves as an egg-laying site. In summer, HWA enters a dormant stage and becomes much harder to detect. HWA reproduces asexually and produces two generations per year, allowing populations to build quickly once established.

How and When to Survey

To survey, visually inspect the **underside of hemlock branches**, focusing on individual **needle bases** and looking for small, white, cotton-like masses along the twig.

The most effective time to survey for HWA is from **November through March**, when the insects are actively feeding and covered by visible white woolly masses (see center image, ©TNC, Brittney Rogers).

By May, the second generation HWA "crawlers" have hatched. Care should be taken to avoid accidental spread while surveying. Checking for hitchhikers on yourself and using a lint roller to clean clothing before leaving the site is advised. Surveys can also be conducted during the summer, though the woolly masses are breaking down and less visible. In summer, HWA appears as tiny, dark, sesame seed-like insects with only a faint woolly halo, making detection more challenging without close inspection (see right image, ©NYSHI).


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HWA was detected… Now what?

Chemical Management Options

Hemlock trees can be effectively treated using systemic insecticides containing dinotefuran or imidacloprid. These products work by moving through the hemlock tree's vascular system, killing HWA as it feeds.

- Imidacloprid may be applied using several methods, including basal bark spray, soil drench, soil injection, soil tablets, trunk or stem injection
- Dinotefuran is labeled only for basal bark application in NYS.

The best times for chemical treatment are:

- **Spring**, preferred, when trees are actively transporting water and nutrients into the canopy
- Fall, during a secondary period of growth

Treatment decisions should consider tree size, health, site sensitivity, and proximity to water. All applications of dinotefuran and imidacloprid **must be performed by a licensed pesticide applicator in New York State**.

Biological Control Options

Several predator insects are being used as potential long-term biological controls for HWA. These include two predatory beetles, *Laricobius nigrinus* and *Laricobius osakensis* and two silver flies *Leucotaraxis argenticollis* and *Leucotaraxis piniperda*.

These species are currently being reared and released in limited numbers by the **New York State Hemlock Initiative**. While early results are promising, availability is extremely limited, and release sites continue to be monitored to evaluate establishment and long-term effectiveness.

Next Steps

If HWA has been detected on your property, early intervention can significantly slow decline and help preserve hemlock stands. A combination of monitoring, appropriate treatment, and long-term planning is often the most effective approach and will be up to the landowners and managers. SLELO PRISM does not have the capacity to respond to and manage all infestations found.

For additional guidance, resources, and updates on HWA management and regional support, visit: **www.sleloinvasives.org/hemlock-woolly-adelgid**

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