

Regulating Hemlock Woolly Adelgid in Noninfested States

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Abstract

Several states have established quarantines to help limit the spread of hemlock woolly adelgid. These quarantines were in response to the high mortality rate of hemlock in infested areas and the increased movement of hemlock nursery stock. Quarantines are now established in Maine, Michigan, New Hampshire and Vermont and one is proposed for 2002 in Ohio. Each state quarantine lists different requirements for moving hemlock. A quarantine is just one tool for limiting the spread of hemlock woolly adelgid and is effective only when used with other methods, in particular education and outreach.

Keywords:

Quarantine, nursery stock, hemlock woolly adelgid.

Summary

The first line of defense in dealing with an invasive species such as hemlock woolly adelgid (HWA) is to prevent the species from getting established. The old saying, “an ounce of prevention is worth a pound of cure” is very applicable when managing a plant pest. The costs of managing HWA once established are far greater than the costs associated with preventing its introduction.

To prevent a plant pest from getting established, a government entity can establish a quarantine. A quarantine is simply a legal tool that outlines certain restrictions used to prevent the movement of a plant pest. The purpose of a quarantine is to prevent the artificial introduction or limit the spread of a plant pest. Quarantines should be enacted only after careful scrutiny of all the other alternatives for controlling a pest have been studied and found to be inadequate. The following factors should be considered when developing a quarantine:

- It should be based on an appropriate pest risk analysis.
- The economic and environmental costs should outweigh the costs of administration and complying with the regulations.
- It should be very specific and accomplish a stated mission.
- It should be amended as appropriate and repealed when the purpose is accomplished.

A quarantine is only one of the tools used in trying to mitigate pest risk and should be used in conjunction with other methods, in particular outreach and education.

In the late 1980s the northern New England states went through a risk benefit analysis before establishing quarantines to prevent the spread of HWA. This pest had been established in hemlock forests further south, but when HWA appeared to be killing trees in Connecticut, these northern states took notice. The forest resource is very important to Maine, New Hampshire and Vermont, both from a lumber and habitat perspective. This pest has the potential to devastate northern hemlock forests. Because of the amount of the high mortality of hemlock in Connecticut, large volumes of trees were being harvested and trucked north to be shipped overseas through ports in Maine and New Hampshire. Piles of unregulated, potentially infested hemlock logs made forestry and agriculture officials nervous. There also was the movement of nursery stock and bark from infested areas to consider. The federal government would not regulate HWA because it was an established pest in parts of the United States, therefore regulation was a state option. All these factors lead Maine officials in 1988 to establish a quarantine restricting the movement of hemlock from infested areas. Vermont and New Hampshire followed shortly with similar versions of state quarantines.

For more than 10 years the quarantines appeared to be effective. There were no major incidences of HWA reported in the area. In 1999 infested nursery stock was found in Maine, originating from a nursery located in an infested state. In studying this issue it was discovered that nursery stock could be a major pathway for bringing HWA into the state. Hemlock was a popular landscape tree and the demand was much greater than what was being supplied by Maine growers. Nursery inspectors have traditionally relied on visual survey to detect the presence of plant pests. Given the life stages of HWA, it is difficult to detect an infested tree during the early stages of an infestation. It was concluded that treatments required in the existing quarantines did not provide 100 percent control. Following this incident existing quarantines were scrutinized and amended as appropriate. Other states took notice of the situation in Maine and pursued the option of establishing quarantines.

Maine's quarantine was amended in 2000 and required that only hemlock nursery stock from noninfested areas be imported with prior notification and a certificate with each shipment. Logs and bark products can be shipped from any state to a facility in Maine under an agreement with the Maine Forest Service. New Hampshire now requires that a treatment certificate accompanies trees, and Vermont requires a certificate of origin stating the trees are free of HWA. In 2001 Michigan promulgated a quarantine modeled after Maine's amended quarantine. The state of Ohio is proposing a quarantine for 2002 that would allow hemlock from nurseries that maintain a control program for HWA. These quarantines were amended and adopted in response to pressure from the forest and natural resource interests in each state. Most often plant pest quarantines are administered through the Department of Agriculture in each state, as they often are the state agency with regulatory authority. As more forest-related pests are being regulated, it is important that forestry and agriculture officials work closely together. As the process to amend the quarantine progressed in Maine, it was clear that the nursery industry was very concerned about being a vector for this pest and agreed that it was worth losing business to protect the native hemlock.

The quarantines appear to be helping to keep HWA from getting established in noninfested states. In order for a quarantine to be effective, there must be allocated resources and a long-term commitment from the regulating state. This involves regular monitoring of landscapes and native stands, inspections of nurseries, and checking for permits or certificates. If a quarantine is simply a

regulation “on the books” the opportunity for an infestation increases greatly. The HWA quarantines have helped to bring public attention to this important plant pest issue. The more eyes and interests that are looking for HWA, the less likely it will spread unchecked.

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The hemlock woolly adelgid (*Adelges tsugae*) is a serious threat to our state tree, the eastern hemlock, in Pennsylvania and across the United States. This non-native invasive insect has caused significant hemlock defoliation and mortality in Pennsylvania forests. Adelgids are a small family of insects closely related to aphids and feed on plant sap. Feeding from adelgids interferes with the tree's use of nutrients, and in the case of hemlock, causes Non-native Pest. Hemlock Woolly Adelgid. Mark S. McClure Scott M. Salom Kathleen S. Shields. Forest. Use of most pesticides is regulated by State and Federal law. Applicable regulations must be obtained from appropriate regulatory agencies. CAUTION: Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife if not handled or applied properly. The hemlock woolly adelgid has infested hemlocks on the Blue Ridge Parkway for about 10 years and in Shenandoah National Park since the late 1980s. In these areas as many as 80 percent of the hemlocks have died due to infestation. Hemlocks play an important role by providing deep shade along creeks, maintaining cool micro-climates critical to survival of trout and other cold water species. The impact of widespread loss of hemlock could trigger changes more significant as those that followed the demise of the American Chestnut in the 1930s and 40s. What to Look For The hemlock woolly adelgid (The hemlock woolly adelgid was first found on ornamental eastern hemlock in 1954 in Richmond, Virginia, but was not considered a serious pest because it was easily controlled with pesticides. HWA became a pest of concern in the late 1980s as it spread into natural stands. It now threatens the entire hemlock population of the eastern United States. 02. of 05. Your Citation. Nix, Steve. "Hemlock Woolly Adelgid - Identification and Control." ThoughtCo, Feb. 16, 2021, [thoughtco.com/hemlock-wooly-adelgid-identification-and-control-1342968](https://www.thoughtco.com/hemlock-wooly-adelgid-identification-and-control-1342968). Nix, Steve. (2021, February 16). Hemlock Woolly Adelgid - Identification and Control.