

## Hemlock woolly adelgid

Human Health Risk

Ecological Risk M - H

Socioeconomic Risk M - L

The Hemlock woolly adelgid is an aphid-like insect pest that feeds on hemlock trees. Native to China and Japan, the insect was probably accidentally introduced in western North America in the 1920s and was first observed in eastern areas in the 1950s. It feeds at the base of the tree's needles, causing them to dry out and fall off. The trees become defoliated and heavy infestations can kill trees in about four years.

### What's at risk?

All 26,000 acres of New Jersey hemlock forest are at risk. The loss of hemlock trees may also exacerbate other ecological risks by promoting the increased abundance of invasive exotic species, increasing fire hazard, and reducing shade necessary for maintaining stream temperatures.

### What are the ecological impacts in New Jersey?

The pest poses a catastrophic threat to hemlock forests. All New Jersey counties have been infested, with more than 90% of hemlock forests exhibiting some degree of defoliation. Once it has occurred, defoliation is irreversible, and infested trees rarely recover. Indirect ecological impacts that may result from the decline or loss of hemlock stands include increased hazards from forest fire, changes in forest nutrient cycles, soil erosion, and loss of rare species habitat.

### What are the socioeconomic impacts in New Jersey?

From a purely economic perspective, the loss of hemlock trees would be insignificant since they are a relatively small part of New Jersey's 1.8 million acres of forest. Similarly, any loss of recreational use of forests attributable to the loss of hemlock trees would likely be negligible. However, hemlocks are highly valued for their beauty. The loss of hemlock trees would probably be permanent. This must be considered a moderately serious socioeconomic impact.

### What's being done?

There are no regulations concerning the transport of hemlock logs or trees in New Jersey. The state is experimenting with the introduction of exotic predators to control adelgid populations. If these prove successful, the risk to currently healthy stands (northwestern Sussex County) may be significantly reduced. However, there is little hope for hemlock stands that are already heavily infested.