



Hoosier National Forest Highlights



Contact: Teena Ligman
812-275-5987

Issue 53

November 1, 2011

EASTERN HEMLOCK, THE HOOSIER'S THREATENED GEM



BY: Chris Thornton, Forest Silviculturist

One of the hidden gems on the Hoosier National Forest is Hemlock Cliffs. This unique area located in Crawford County is cooler than the surrounding area due to a box canyon and moist sandstone rock formations. It has lush vegetation and as its name implies, it is the home of one of the few populations of eastern hemlock in Indiana.

This area is on the western edge of the home range of eastern hemlock and is a remnant of the cooler climate of the past. It is an isolated patch which may help it in the future as a deadly pest draws closer.

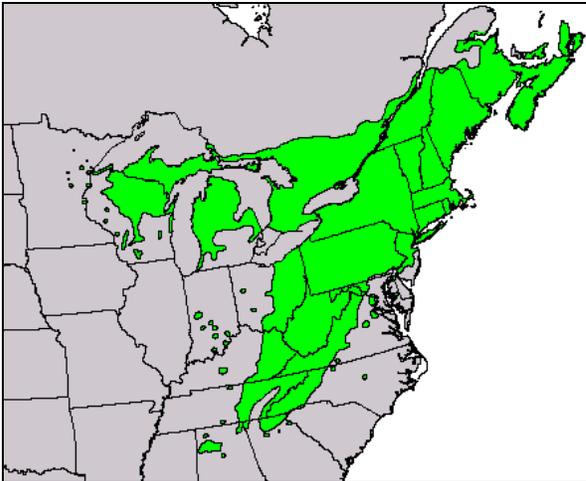
Today, many of our trees are threatened by alien pests from other continents; the emerald ash borer is decimating our ash, the gypsy moth our oak, the thousand canker disease our walnut. The hemlock is not immune. Hemlock woolly adelgid, a pest native to Japan, was first reported near Richmond, Virginia in 1951. Over the years it has spread throughout the home range of hemlock. Currently the closest adelgid infestations are in eastern Kentucky and Tennessee and are slowly moving this way.

The adelgid is a tiny insect, related to aphids, that is less than 1/16 inch long. It produces a "wool like" waxy substance that helps protect it and its eggs from drying out. This is how it gets its name. The waxy substance looks like tufts of wool on the hemlock. All adelgids are female that reproduce asexually and can lay up to 300 eggs in the fall and 75 eggs in the spring. The hatchlings are called crawlers and are the only life stage in which adelgids can move on their own. They can be transported longer distances by attaching themselves, or being caught up in their sticky "wool" to birds or other mammals. Infested nursery stock is the main way the adelgids have been moved long distances.

Once they find a suitable location, they begin feeding on starches within the sap of the new growth of hemlock branches. Soon hemlock turn from dark green to a gray-green color as the life is literally sucked out of them. The trees will succumb to the adelgid within three to six years.

Indiana foresters are hopeful that the hemlock in Indiana will survive due to its isolation, but unfortunately we've learned from past experience that pests seem to have a way of finding their food source. There are no treatments that can be applied at the forest level. The only product available to the landowner which can protect individual trees is Bayer Advanced Tree and Shrub, a soil drench which contains a pesticide called imidacloprid. The cost would be prohibitive to use on a forest scale. Studies are currently being conducted on using natural enemies from Japan and China to control the adelgid population but it will be years before they complete.

For more information on hemlock wooly adelgids or other forest threats contact Chris Thornton at cdthornton@fs.fed.us or 812-547-9235.



Native Range of eastern hemlock



Hemlock woolly adelgid on the underside of hemlock twig.



Eastern hemlock at hemlock cliffs



Adult adelgid with its eggs in a woolly sack.