

2000 Forest Health Highlights

Connecticut



The Resource

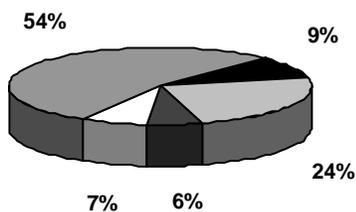
Connecticut's forests are 85% privately owned and made up of mostly oak/hickory and northern hardwood tree species. These forests provide clean water and air, wildlife habitat, and sources of recreation, timber and fuel. Forested parks and shade trees aesthetically enhance communities as well as provide energy savings, habitat for wildlife, and recreation opportunities.

- 59% of the state is forested (1,826,000 acres)

Out of the forested area:

- 97.3% timberland
- 2.7% non commercial or reserved forestland

Major Forest Types:



- white/red pine/hemlock (9%)
- northern hardwoods (24%)
- other (6%)
- elm/ash/red maple (7%)
- oak/hickory (54%)

Special Issues

Most forest problems in Connecticut continue to be caused by organisms which have been introduced into the United States since the mid-1800s. These exotic pests have thrived in their new environment and caused major forest health concerns.

Above average precipitation starting in April and continuing throughout July most likely contributed to the suppression of **gypsy moths** during the summer of 2000. *Entomophaga maimaiga*, the pathogenic fungus that has been suppressing gypsy moths in our state since 1989, is moisture dependent. The annual statewide aerial survey indicated that only 177 acres of woodlands were defoliated in Mansfield Hollow State Park in Windham County. Diseases, parasites and/or predators of the gypsy moth can influence the amount of defoliation as can a cold wet spring. We plan to monitor this area next spring and investigate how all of these factors interact with *Entomophaga maimaiga*.

The **Hemlock woolly adelgid**, *Adelges tsugae*, an exotic insect that apparently originated in Japan and became established in Virginia in 1921, was introduced into Connecticut in 1985. In just a few years, it spread throughout Connecticut and now has moved further into Rhode Island, New York, Massachusetts, and New Hampshire. A biological control organism, the ladybug, *Pseudoscymnus tsugae*, has been reared and released in an effort to control the adelgid. A severe drop in temperature in January 2000 caused greater than 93% mortality in the adelgid at some sites.

The **elongate hemlock scale**, *Fiorinia externa*, primarily a pest of hemlock, was first discovered in Queens, NY in 1908. It has severely infested hemlocks, *Tsuga canadensis*, in Connecticut since the 1950's. These insects significantly proliferate on hemlocks stressed by drought and adelgids. Their numbers have increased considerably, and they have a profound impact on the diminishing health of our native hemlocks.

During August of 1996, a new exotic, **Asian longhorned beetle**, *Anoplophora glabripennis*, was discovered attacking trees in Brooklyn and Amityville, New York. This exotic woodborer has spread to several boroughs in New York and now occurs in two locations in Chicago. This woodborer has attacked species of maple, horse chestnut, birch, poplar, willow, elm and hibiscus. Various systemic insecticides are now being tested which target the larval stage of the beetle as it feeds initially in the sapwood. The State has worked with UDSA/APHIS Plant Protection Quarantine division personnel in our search for the beetle by conducting a survey for its presence in southwestern Connecticut. A total of 3,907 trees were inspected at 25-grid point sites. In addition, our surveys included examining trees in areas around the harbors of Bridgeport, Groton, New Haven and New London.

Special Issues cont.

The **small Japanese cedar longhorn beetle**, *Callidiellum rufipenne*, was found in Milford Connecticut in 1998 in a live arborvitae branch, *Thuja occidentalis* 'Emerald green'. This beetle is native to China, Japan and Korea where it usually attacks dead, weakened, or freshly cut trees. This beetle has been found in about a half dozen species of apparently healthy nursery stock as well as infesting native eastern red cedar, *Juniperus virginiana*. A quarantine has been established in Fairfield, Litchfield, New Haven, Middlesex and New London Counties and 524 nurseries have been inspected. Infested trees and cedar products have been destroyed. Four parasites that attack the beetle are being investigated for potential biological control.

Another exotic longhorn beetle, *Chlorophorus annularis*, was found in August in cut bamboo in a California warehouse. Dead adults and larvae and one live larva were isolated from bamboo poles that originated in China. Dead beetles and damaged poles were found in New Haven and Litchfield Counties in Connecticut. Live adults and larvae were likewise found in bamboo inspected in other states. Many of these bamboo poles were shipped to nursery/garden stores, landscapers and tree services that use them to stake trees upright. Adult longhorn beetles have been found emerging from bamboo stakes in nurseries in other states, creating a very high risk of dispersing this beetle and infesting other hosts, which include sweetgum, *Liquidamber styraciflua*, as well as grape vines and pear trees.

Butternut canker, *Sirococcus clavigignenti-juglandacearum*, has been found throughout Connecticut. Large limbs and tree trunks are girdled by the cankers causing mortality. Of over 750 trees monitored in the state, only 59 were found to be uninfested. Scion material has been collected for testing disease resistance.

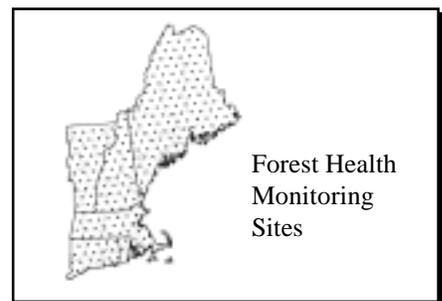
Nectria canker, caused by the fungus, *Nectria galligena*, is widespread in forests and affects more than 60 trees and shrubs in North America. Nectria has played an important role in attacking black birch, *Betula lenta*, in Connecticut forests. Stands that were clear-cut 20 to 40 years ago often have heavy nectria canker infections.

Regional Surveys

Connecticut participates in the National Forest Health Monitoring program to help provide a regional assessment of forest conditions. Also, a network of 51 permanent forest sites has been established to monitor forest health on state, Nature Conservancy, and municipal water company properties. The sites are visited annually to assess whether state forests remain healthy or are declining. In 2000 there was no noticeable change in forest health at these sites.

National Forest Health Monitoring Program

The objective of this program is to assess trends in tree condition and forest stressors. All of the New England States have been involved since the program was initiated in 1990. Results indicate that there has been minimal change in crown condition in the last 11 years. In



2000, 95 percent of trees greater than 5 inches diameter had normal crown fullness. About 85 percent of the trees had little or no crown dieback, and 70 percent showed no measurable signs of damage. The most common damage was decay indicators, which were more evident on hardwoods than softwoods. Additional surveys indicate that there are concerns for individual species such as ash, butternut and hemlock due to various damage agents.

For More Information

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