

Forest Health Highlights

New Hampshire

June 1999

The Resource

New Hampshire's forests provide a wide variety of goods and services to an ever-increasing number of residents and visitors to our state. These forests provide pleasant surroundings for outdoor recreational pursuits; critical habitat for fish, birds, and wild animals; a giant sponge to absorb and cleanse our water supply; and countless goods to serve our daily needs as paper products and shelter. We could not survive without them.

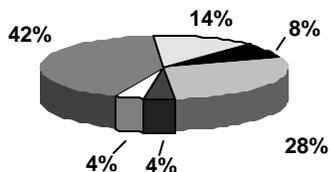
Maintaining healthy forests in New Hampshire is important. A healthy forest provides a positive quality of life that is important to those who live, work, and recreate in the state of New Hampshire.

- 87 % of the state is forested (4,987,200 acres)

Out of the forested area:

- 96.5 % timberland
- 3.5 % non commercial or reserved forestland

Major Forest Types:



- oak/hickory (8%)
- white/red pine/hemlock (28%)
- aspen/birch (4%)
- other (4%)
- northern hardwoods (42%)
- spruce/fir (14%)

Special Issues

In 1998 there were a few notable forest health problems. Most significant was the widespread tree and branch breakage from the January 1998 **ice glazing storm**. This event affected almost 900,000 acres. Primarily hardwoods, at elevations between 1300 feet and 2100 feet, were injured. Crown loss from branch breakage was the most common injury, followed by snapped stems and bent or leaning trees. Long term impacts on growth and quality remain a concern. Assessment to determine extent and impact will be ongoing.

Sugar maple started off in the spring with severe **anthracnose leaf disease**. In some areas of the state, the trees were also affected by **pear thrips** feeding in the buds. Sugar maple leaves remained undersized and browned all summer. **Maple leaf cutter** heavily defoliated sugar maples in the western portion of the state. In some sugar maple forests, populations of **forest tent caterpillar**, **saddled prominent**, and **maple trumpet skeletonizer** were more abundant, however no significant defoliation was observed.

In Coos County, in the northern part of the state, **large aspen tortrix** defoliated 500 acres of quaking aspen for the third consecutive year. **Birch leafminer damage** was also observed. In addition, **spruce budworm** pheromone trapping yielded slightly higher budworm counts than in recent years, but no defoliation occurred.

The **gypsy moth** may be poised to make an unwelcome return. After two years of no evident defoliation, approximately 10 acres were heavily defoliated in 1998. **Fall webworm** was the most destructive insect in yards and roadside areas. The defoliation and webbing were severe and most likely reached a peak of the outbreak in 1998. On white pine, **introduced pine sawfly** were active in the central part of the state.

Surveys continue for insects that pose a threat, but have not yet been found in the state. **Hemlock woolly adelgid**, a non-native insect that sucks the sap from hemlock needles, has moved precariously close to New Hampshire on the Massachusetts border. **Browntail moth**, a caterpillar that defoliates oaks and causes skin rashes and respiratory problems for humans, is closing in on the New Hampshire coastline from both Maine and Massachusetts. The **Asian Longhorned Beetle**, a cerambycid beetle that infests maples and many other tree species, was discovered in Brooklyn, New York in 1996 and most recently in Chicago, Illinois. It is an introduced pest, thought to have entered the United States on wooden packing material from China. The insect has thrived on urban trees and there is a concern about the impact this beetle could have on the forests of the northeast.

Special Issues cont.

Special Projects

Since 1995, butternut trees have been surveyed for **butternut canker**, a disease that has killed butternuts from Wisconsin to Maine. More than 90 percent of the butternuts found in New Hampshire are infected with the canker causing fungus *Sirococcus clavigignenti-juglandacearum*. This tree is important for forest biodiversity, and the Division of Forests and Lands has initiated a grafting project to save this species from the same plight as American chestnut and American elm. The goal of the project is to produce a disease resistant seed orchard, to have nut production and a healthy scion source that will be used to grow butternuts with high resistance to the disease.

A statewide survey to determine the incidence of **white pine blister rust** was conducted in 1998. Over 5,000 white pine from all age classes were examined on more than 100 sites. The percentage of trees affected statewide was 2.4 percent. The highest percentage of affected trees was in northern New Hampshire, where 7 percent of the white pine were infected with white pine blister rust. Statewide, there was virtually no difference in the incidence of live infection between size classes. Based on extended research and years of testing, 8 varieties of white pine blister rust resistant currants, the alternate host of the disease, are receiving approval for sale and cultivation in New Hampshire.

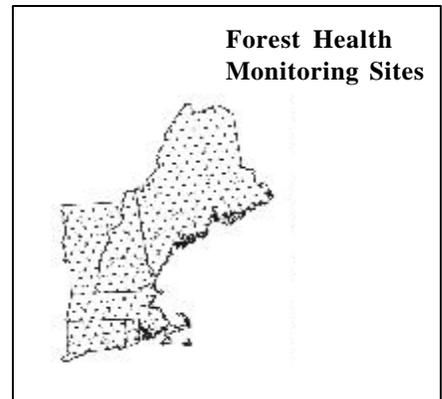
A 6-member **New Hampshire Aerial Survey Team** was formed. The team is responsible for mapping location and severity of forest injury for statewide assessments. Geographic Information System technology is being utilized to improve mapping capabilities. Statewide aerial flights are made yearly to assess damage. In 1998, two surveys were conducted to assess areas injured by the ice storm, one immediately after the storm and another during the summer.

Regional Surveys

Interest in regional forest condition prompted the implementation of the National Forest Health Monitoring Program and the North American Maple Project.

FOREST HEALTH MONITORING PROGRAM

The objective is to assess trend 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 9 years. In 1998, 96 percent of trees greater than 5 inches diameter had normal crown fullness. About 96 percent of the trees had little or no crown dieback, and 76 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 there are concerns for individual species such as ash, butternut, and hemlock due to various damage agents.



NORTH AMERICAN MAPLE PROJECT

This cooperative project with Canada was initiated in 1988 to look at change in sugar maple tree condition. There are several states in the Northeast involved including New York, New Hampshire, Vermont, Maine, and Massachusetts. Overall, sugar maple located within the sample sites are in good condition. Periodically, insect defoliation has affected crown condition in some areas. There was little difference found between sugarbush and non sugarbush stands.

For More Information:

NH Dept. of Resources &
Economic Development
Division of Forests and Lands
Insect and Disease Section
P.O. Box 1856
Concord, NH 03302



(603) 271-7858

Forest Health Protection
USDA Forest Service
P.O. Box 640
Durham, NH 03824

(603) 868-7709

