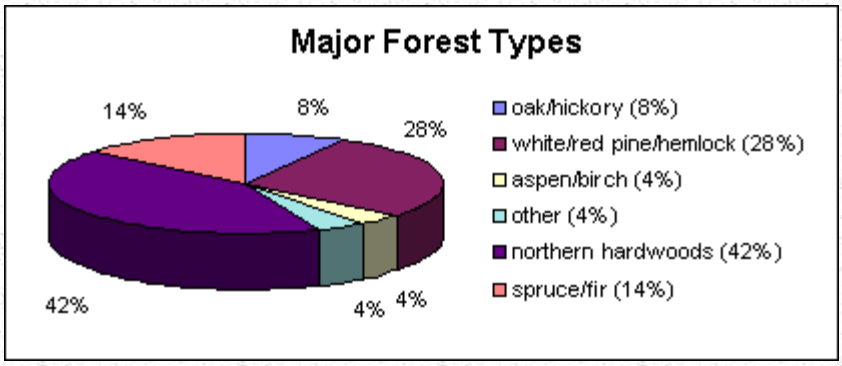
1996 Forest Health Highlights

New Hampshire

The Resource

New Hampshire's forests provide a variety of benefits such as timber products, wildlife habitat, aesthetic benefits, and recreational opportunities. New Hampshire's forests also contribute to clean air, water, and the prevention of soil erosion. Forests comprise 87 percent of New Hampshire's land mass, according to the 1993 forest inventory survey.

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

Special Issues

The major forest stressors in 1996 were weather, insect defoliators, and leaf diseases. Starting early in the year, weather conditions began to take a toll on trees in the state. **Browning** of red spruce needles was significant in Sullivan, Cheshire, and Hillsborough Counties. Most of the red spruce on Mt. Monadnock in Jaffrey had damaged needles. This damage was not severe enough to kill the set buds, however, the browned needles did fall, causing the crowns to appear thin. Once again, roadside pines and hemlocks, in various locations around the state, were browned from road salt applications. Most trees are usually not killed by salt spray and appear to recover quickly in the spring.

Starting in late 1995 and continuing into the summer of 1996, high winds caused extensive tree **blowdown**, mainly in Grafton County. Much of the damage occurred in softwood stands with shallow and/or wet soils, in most cases where some type of partial harvest had occurred. There were no large contiguous areas of blowdown. Damaged areas were usually pockets less than one-third acre in size, with as much as 50 percent of the basal area downed. Due to the nature of the blowdown, aerial mapping was difficult. Estimates of the total area affected ranged from 10,000 to 40,000 acres. The salvage of the downed timber was important from a financial aspect, but also to reduce insect and fire risk to the residual stand. A **hail storm** in early July damaged leaves and twigs of trees in the Concord area and Franconia Notch. Hail, the size of grapes,

shredded leaves and damaged tender branches. Much of the foliage in these locations was discolored orange and brown, from being ripped and drying out.

The moist, cool weather during the spring and early summer favored the growth of various leaf fungi which cause **leaf diseases**. Many of the birch and maple growing on slopes and ridges north of the White Mountains appeared brown from anthracnose disease and leaf spot disease. Anthracnose and similar diseases occur periodically in New Hampshire and have usually caused minimal damage to the trees. However at times, anthracnose can be severe enough to cause leaf drop and reduce growth of affected trees.

The benefit of the frequently cloudy skies was to reduce the possible effects from ground level **ozone,** the pollutant created by mixing gas engine emissions and sunlight. The Division of Forests and Lands, through the National Forest Health Monitoring Program, has monitored bioindicator plants such as white ash, black cherry, and milkweed at various sites since 1990. Overall ozone levels were down in 1996.

The most significant insect defoliator in 1996 was the **birch leaf miner**. This insect discolored 5,000 acres of paper birch in Cheshire, Grafton, and Sullivan Counties. The affected areas increased from 1,750 acres in 1995. There were small localized populations of **locust leafminer** on black locust and **cherry scallop shell moth** on black cherry in the southern part of the state.

For the first time in 10 years, there was no significant **gypsy moth** defoliation in New Hampshire. Although population surveys indicate that the insect is still present, it is at such low levels that the trees are not damaged. The fungus *Entomophaga maimaiga*, which is widespread in New England, is credited with suppressing gypsy moth populations.

On Cardigan Mountain in Grafton County, **declining sugar maple and yellow birch** has been observed since 1992. The area of decline and mortality is generally related to the 2,300 foot elevation on the west side of the mountain. Many factors are contributing to the decline including severe weather, past saddled prominent defoliation and forest harvesting practices.

Butternut canker surveys continue, as very few healthy trees have been located. In 1996 a greenhouse was constructed at the State Forest Nursery in Boscawen, to grow resistant butternuts from branches of healthy trees found in New England. The propogated trees will be outplanted to a seed orchard in 1998 and monitored for disease development.

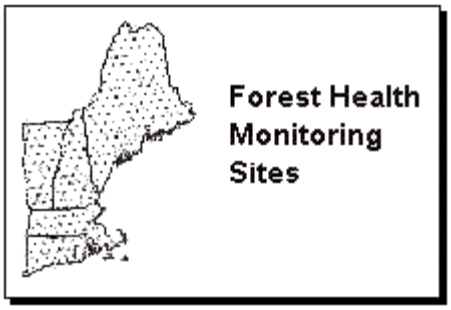
The **hemlock woolly adelgid** has not been found in the state, although it is present in northeastern Massachusetts. Surveys in forests, urban areas, and sawmills will continue. In Asia, where the insect is native, it thrives in climates similar to New England. There has been no northward movement of this insect in two years from southern New England. An external quarantine remains in effect in an attempt to stop the adelgid from spreading into northern New England.

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 7 years. In 1996, 98.5 percent of trees greater than 5 inches diameter had normal crown fullness. About 97 percent of the trees had little or no crown dieback, and 78 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 Or To Report Forest Damage Contact:

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