1994 Forest Health Highlights

Vermont

The Resource

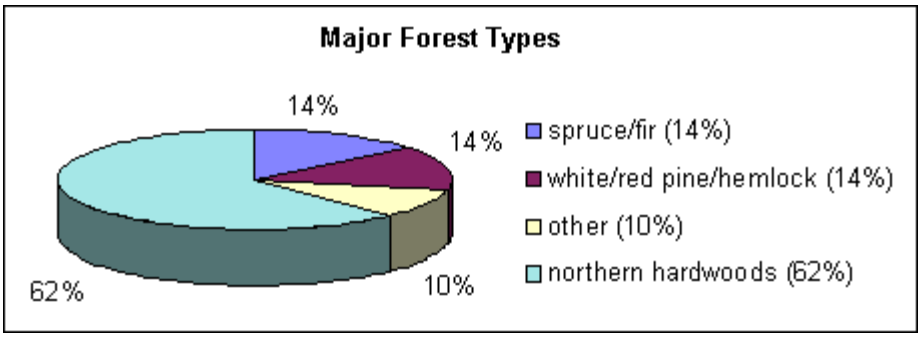
Forests provide stability to our landscape, clear water to our mountain streams, wildlife habitat, and diverse recreational opportunities. Forests draw in tourists to view our scenic vistas. Trees provide jobs to Vermonters from tourism and in the wood products industry. Continued health of forests and availability of the forest resource is of continuing concern to Vermonters.

The health of our forests is dependent on many factors. One of these health factors, how landowners manage their forests, can be influenced by helping people understand the importance of good management practices. Since 76% of Vermont's forests are privately owned, promoting better land stewardship can help sustain our forest resources for future generations.

- 77% of the state is forested

Out of the forested area:

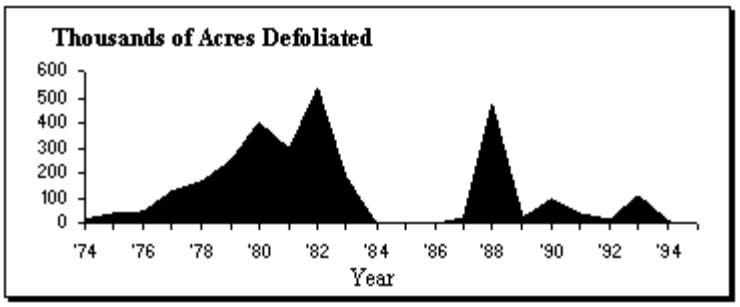
- 97.3% timberland
- 2.7% non commercial or reserved forestland



Special Issues

Most trees within Vermont forests continued to be healthy in 1994, following several years of good growing conditions and few major stress events.

Insect pest populations were generally low in 1994, although some hardwood defoliators, such as forest tent caterpillar and Bruce spanworm, were more common than in recent years. Some defoliation by these pests is expected in 1995. Pear thrips, a sugar maple pest, was in very low numbers this year, with this trend expected to continue.



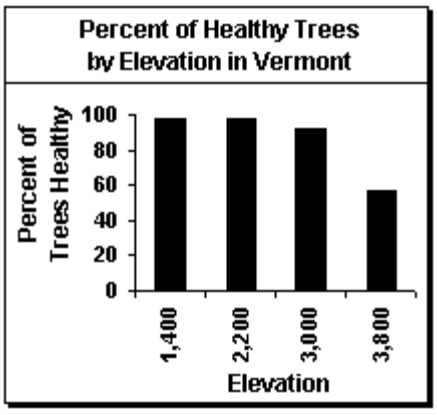
In 1994, some tree species had **heavy flower and seed crops**. Red maple and balsam fir had abundant seed crops, at the expense of leaf production. Given that weather was favorable, this probably will not result in lower tree vigor or decline. Other trees, such as sugar maple, were laden with flowers but not all trees produced seeds.

The health of butternut trees continues to be of concern. Our surveys show the presence of the damaging **butternut canker** disease in all counties of the state. Although the tree is not a common species in Vermont's forests, it is none-the-less valuable for wildlife, timber, and it's natural beauty. Scientists and foresters are cooperating in a program to identify and preserve resistant trees for seed source.

Hemlock trees defoliated in 1991 by the spring **hemlock looper** show better than expected recovery. Over half the trees heavily defoliated show good recovery after three years.

Other Issues

High elevation forests exist under extreme growing conditions. Low fertility soils, harsh climate, higher pollution exposures, and shorter growing seasons all contribute to the stressful existence in the areas. Forest health monitoring at high elevations reflects this, with fewer healthy trees than at low elevations.



The Vermont Monitoring Cooperative monitors tree health on Mt. Mansfield as it relates to weather, air pollution, and damage from insect pests. Other components of the forest are also studied under this program, like amphibians, birds, understory plants, streams, and many others, to assess changes in forests in relation to the stresses of the environment.

Roadside trees tend to be exposed to more stresses than are forest trees. Some of these added stresses include root injury from construction of drainage ditches, damage from roadside salt applications, and injuries from plowing or road maintenance.

A 1994 assessment of the health of roadside trees around the state showed that these trees tend to be less healthy than forest trees, and certain species are more affected by the stresses on roadsides than others. Elm and butternut trees were the least healthy roadside trees, while white pine and aspen trees were the healthiest. Roadside sugar maple trees were less healthy than their counterparts in forests.

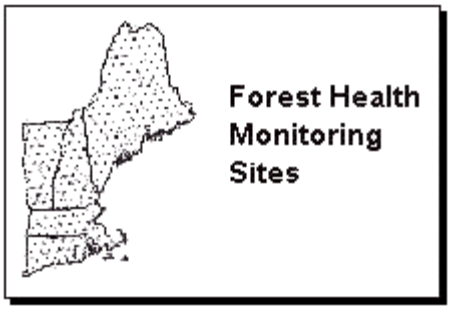
Sugar maple **tree wounds** from logging persist for 15 years, and in many cases result in internal wood decay. A recent study of wound closure rates, and resulting discoloration and decay, found that wounds over 4 inches diameter resulted in internal decay over 50% of the time, while all trees with wounds 6 inches wide or greater had decay. Even when wounds had closed after 15 years, there was often internal decay from the initial wounding. This study points out the need for limited wounding to remaining trees during logging operations.

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 5 years. In 1994, 99 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 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

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