

2000 Forest Health Highlights

Massachusetts



The Resource

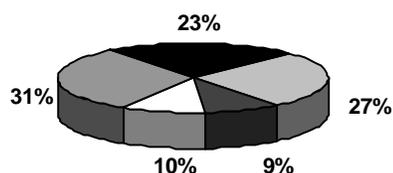
The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban state, 64% of the land areas is forested. This forested area is managed for a multitude of purposes including recreation, water quality, wildlife habitat, and a forest product industry.

•64 % of the state is forested
(3,225,000 acres)

Out of the forested area:

- 90.8 % timberland
- 9.2 % non commercial or reserved forestland

Major Forest Types:



- white/red pine/hemlock (27%)
- oak/pine (9%)
- other (10%)
- oak/hickory (31%)
- northern hardwoods (23%)

Special Issues

The overall health of the urban and rural forests of Massachusetts is good. However, there are some concerns about the impact on the forest resource from native and introduced forest diseases and insect pests. The level of damage from these pests often varies from year to year, depending on weather and other factors.

The **European gypsy moth** is a pest which was introduced into Massachusetts over 100 years ago. In 2000, defoliation was observed on 44,000 acres in Barnstable, Plymouth, Bristol, Norfolk, Worcester, Middlesex, Hampden, and Essex Counties. This is the highest acreage of defoliation since 1994. It appears that the fungal pathogen *Entomophaga maimaiga* had little impact on reducing the population in 2000 compared to recent years. Defoliation is expected to occur in the same counties in 2001. Approximately 400 acres were treated with a biological insecticide in a state recreation area to protect foliage.

The **hemlock woolly adelgid** is another introduced pest and has been spreading northward from southern New England throughout Massachusetts for several years. In 2000, 20 new communities were found to have infestations, including Great Barrington, the first find of this insect in Berkshire County. Increased mortality has been observed in many of the infested eastern hemlock stands. The mortality appears to be a result of the stress imposed on the trees by the adelgid, coupled with the 1998-99 drought. Massachusetts is currently involved in a trial cooperative effort with other infested states to release a beetle that is a known predator of the hemlock woolly adelgid. **Winter drying** was also a problem in 2000, as hemlock across the state showed signs of desiccation. In 2001, hemlock may be at risk of defoliation from building populations of **hemlock looper** in Berkshire, Hampden, and Hampshire Counties.

Red pine plantation mortality in Hampden and Berkshire Counties continues. Ground surveys in 1999 identified the presence of *Diplodia* and *Fusarium*, both disease pathogens, along with the red pine scale. This was the first year that red pine scale was documented in Massachusetts. Additional stands were found to be infested in 2000, with the trees in varying stages of decline.

Defoliation caused by **fall cankerworm** continued in Plymouth and Norfolk Counties in 2000, however the population appears to be declining. **Anthraxnose** was prevalent, especially on sycamore and London plane trees. As a result of the 1998-99 **drought**, many trees in the state show signs of stress, particularly city street trees. The recent drought may also be contributing to an increase in mortality in American beech stands infected with beech bark disease.

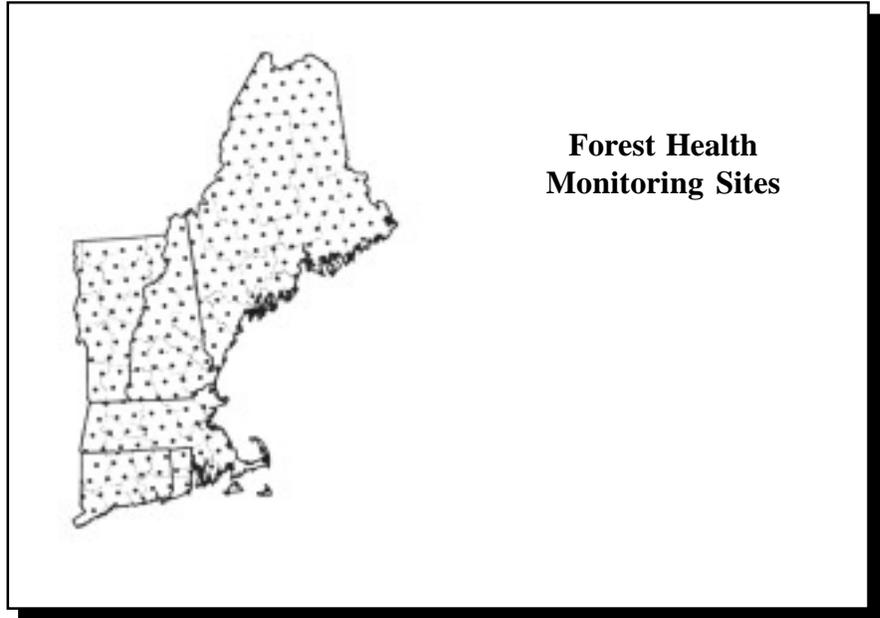
Regional Surveys

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 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 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.

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