

# Forest Health Highlights

## Massachusetts



February 2000

### The Resource

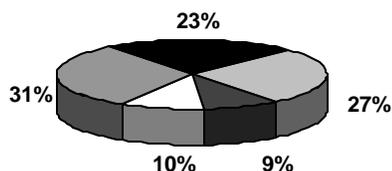
The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban state, 64% of the land areas is forested. This forested area is managed for a multitude of purposes including recreation, water quality, wildlife habitat, and a forest product industry.

•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. There are however a few concerns regarding 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 most recent forest health concerns in the state are related to the 1999 **drought**. Aerial surveys over forest lands indicate that tree decline, attributed to drought, occurred on nearly 5000 acres. The severest symptoms were observed on south and southwest facing slopes, especially those areas with shallow soils and ledge outcrops. Most of the damage occurred in Worcester, Hampden, Middlesex, Franklin, Norfolk, Essex, and Berkshire Counties.

Defoliation by the **European gypsy moth**, a long ago introduced pest, increased slightly in 1999 to about 10,000 acres. This slight increase is a result of the inactivity of the fungus *Entomophaga maimaiga*, due to the dry weather conditions in the state during the 1999 growing season. The fungus infects the gypsy moth caterpillars and has reduced populations of this pest throughout New England for the past several years. Most of the defoliation in the state in 1999 occurred in Plymouth, Barnstable, Middlesex, Norfolk, and Worcester Counties. A control operation is planned for the spring of 2000 at a recreation area along the South Shore.

The **hemlock woolly adelgid** is another introduced pest and has been spreading northward from southern New England throughout Massachusetts for several years. Many native hemlock trees are now infested. In 1999, 21 new towns were found to be infested in the state. Currently, 88 communities in Massachusetts are known to have infestations. Efforts are underway to determine the effectiveness of a ladybird beetle, a natural predator of the adelgid from Japan, in controlling adelgid populations.

Annual aerial surveys identified 150 acres of **red pine plantation mortality** in Hampden and Berkshire Counties. Follow-up ground surveys identified the presence of *Diplodia* and *Fusarium*, both disease pathogens, along with the red pine scale. This is the first time that red pine scale has been documented in Massachusetts. These factors, in combination with the 1999 drought, are thought to be the cause of the mortality.

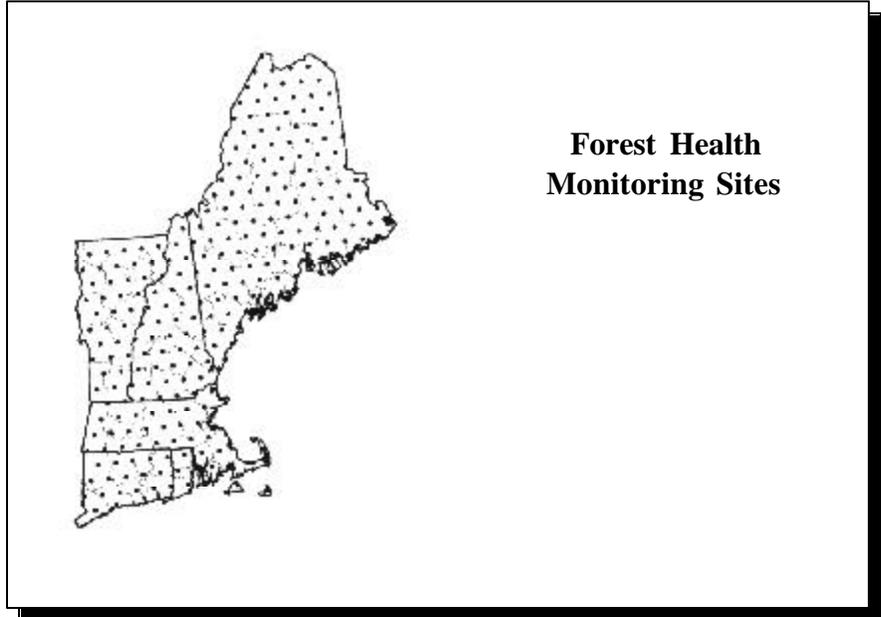
The **browntail moth** populations continue on outer Cape Cod. This insect was also observed in moth traps on Plum Island off Newburyport in 1997. Defoliation caused by **fall cankerworm** in 1999 occurred on 2,500 acres in Plymouth and Norfolk Counties, down from over 26,000 acres in 1998. Damage from **beech bark disease** and **dogwood anthracnose** continued across the state.

## 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 10 years. In 1999, 98 percent of trees greater than 5 inches diameter had normal crown fullness. About 98 percent of the trees had little or no crown dieback, and 77 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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