

Forest Health Highlights

Massachusetts



April 1998

The Resource

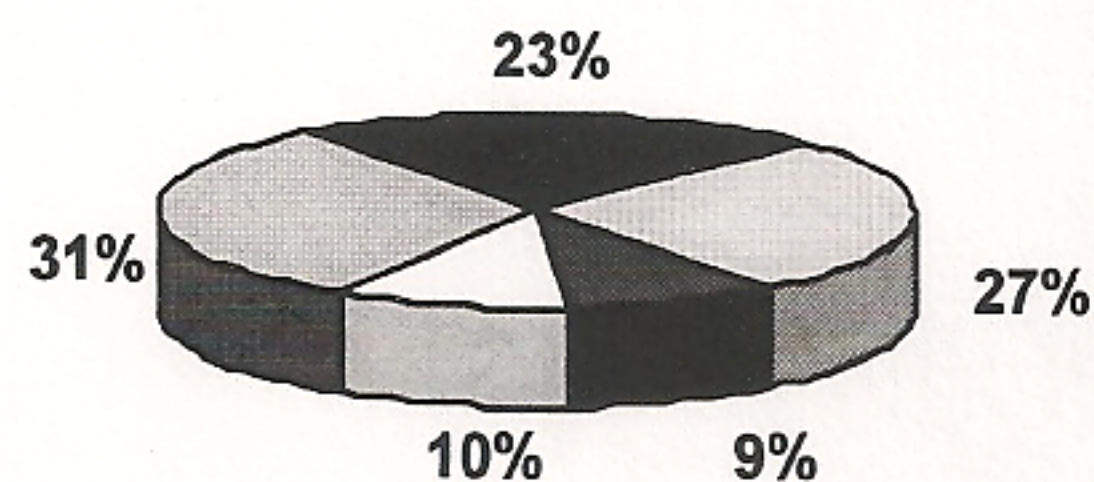
The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban state, 64% of the land area is forested. This forested area is managed for a multitude of purposes including recreation, water quality, wildlife habitat, and a forest product industry.

•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 droughts which occurred during the summers of 1993 and 1995 appear to have weakened many different species of trees in Massachusetts. The Caliciopsis canker disease, which is associated with stressed white pine, has been identified in several stands in Berkshire County. In addition, several municipal tree officials have expressed concerns about the tip dieback on red oak. Further investigation determined that the one year old cankers were caused by a Botryosphaeria fungus, another organism which takes advantage of stressed trees.

The April 1, 1997 snow storm caused extensive tree damage across the state, from the Berkshires to downtown Boston. Tree crown damage and stem breakage was a common sight, a result of several feet of heavy wet snow and high winds. It took the resources of many of the state's foresters and arborists to clean up the affects of the storm.

Defoliation by the gypsy moth, an introduced pest from Europe, was at the lowest point in more than 30 years. Only 115 acres of defoliation were observed during the annual aerial survey. The fungus, Entomophaga maimaiga, which infects the gypsy moth caterpillars, has reduced populations of the pest throughout New England for the past several years. However the results of annual ground surveys indicate that there may be a potential for an increase in population. Large increases in the number of gypsy moth egg masses have been observed along the Rhode Island border in the Douglas area, in the area of Hingham, and at various locations along US Route 495. These areas will continue to be monitored in 1998.

The hemlock woolly adelgid is another introduced pest, apparently from Japan, which was first found in the eastern United States in 1921. The insect has been spreading northward from southern New England into Massachusetts for several years. Many native hemlock trees throughout the state are now infected. In 1997, 15 new infestations were discovered in the state. Efforts are underway to test the effectiveness of a ladybird beetle, a natural predator of the adelgid from Japan, in controlling adelgid populations.

A foliage disease, caused by the fungus anthracnose, was quite common in 1997, especially on sycamore trees. Most of the affected sycamores had their initial flush of growth completely destroyed. However, by mid to late June new foliage had emerged. The tar spot foliage disease on maple, which has caused problems in recent years in Berkshire County, did not seem to be as severe in 1997.

An unusual pest, the Arborvitae leaf miner caused more severe damage than has ever been observed, especially in the areas of the state west of the Connecticut River. The reason for the epidemic outbreak of this insect is not known. Populations of other more common defoliating insects were at low levels.

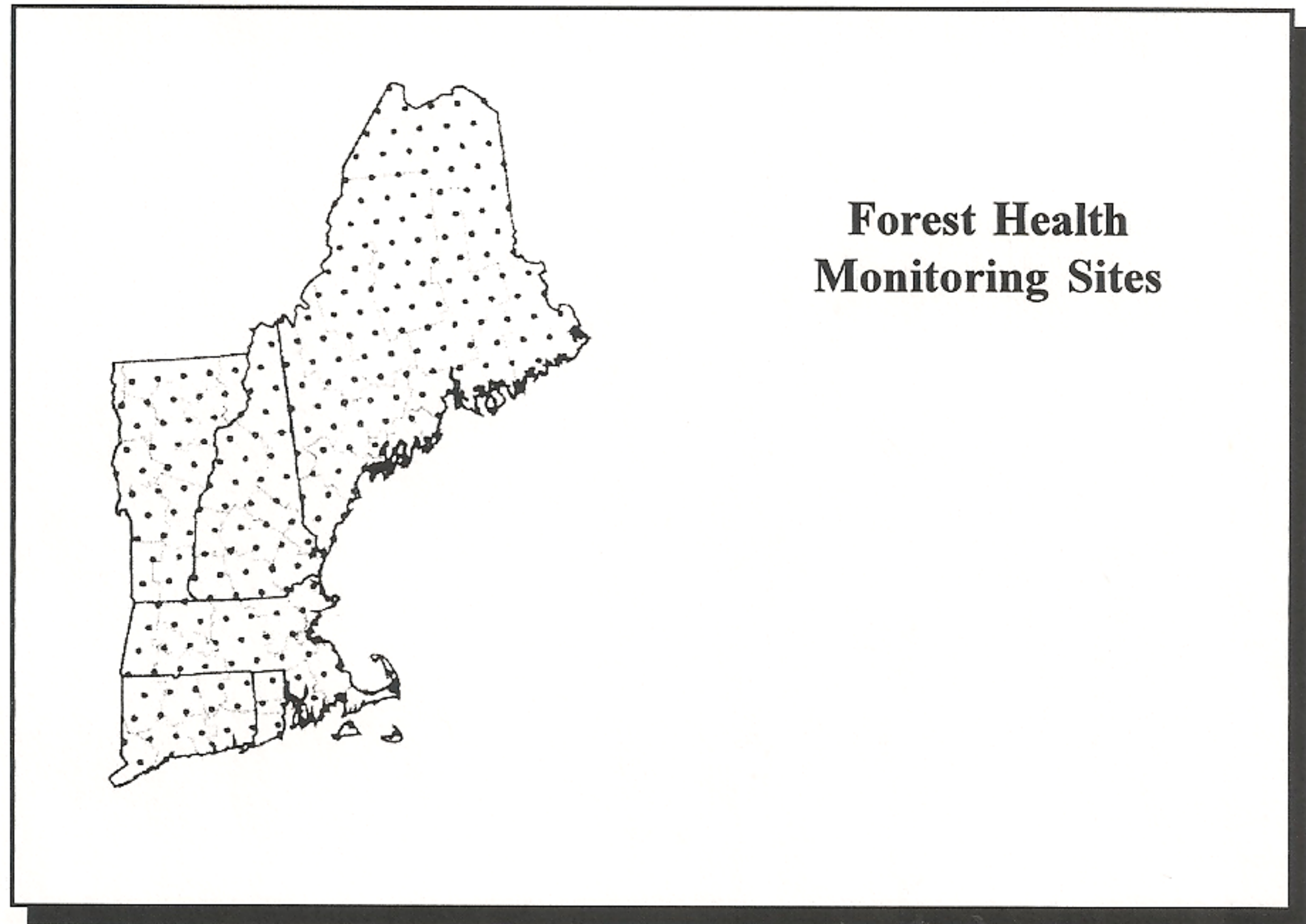
The brown tail moth, has been observed in moth traps on Plum Island off Newburyport. This insect creates webs on shrubs and trees, and causes a severe skin irritation. The population will continue to be monitored to pinpoint the location of the infestation.

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 8 years. In 1997, about 98 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.

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