

2006 Forest Health Highlights

Massachusetts



American Elm

January 2007

The Resource

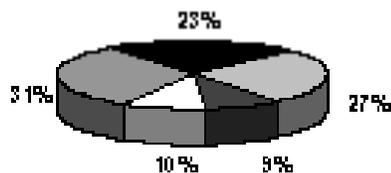
The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban State, 64 percent of the land area is forested. This forested area is managed for a multitude of purposes, including recreation, water quality, wildlife habitat, and a forest product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

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

Out of the forested area:

- 90.8% timberland
- 9.2% noncommercial or reserved forest land

Major Forest Types:



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

Special Issues

The extensive defoliation experienced by Massachusetts' forests proved that 2006 was again the "year of the caterpillar". The **forest tent caterpillar** caused defoliation on over 438,000 acres. This widespread defoliation of maples and oaks occurred in Plymouth, Bristol, Norfolk, Barnstable, Hampshire, Franklin and Berkshire Counties. Populations appear to be collapsing, the presence of both an *Entomophaga* fungus and a virus were confirmed by the USDA Forest Service. In June large numbers of a parasite, the "Friendly Fly" *Sarcophaga aldrichi*, were observed. A total of 450 acres of managed sugarbushes were treated aerially with the biological insecticide BT at the property owner's expense.

The **gypsy moth** caterpillars continue to cause defoliation of oaks. Plymouth, Bristol, and Norfolk Counties experienced heavy defoliation on approximately 121,344 acres. In many cases this insect was defoliating the same areas as the forest tent caterpillar. Permanent survey sites indicate the population is collapsing in southeast part of the State, whereas a buildup is reported in southern Berkshire County. Both the virus, NPV, and *Entomophaga* fungus, which affect the caterpillars, have been observed in the infested area.

Winter moth continues to cause severe defoliation in eastern Massachusetts. A total of 6,208 acres of defoliation were documented in Middlesex and Essex counties. Southeastern Massachusetts also experienced considerable defoliation, but this could not be differentiated from the forest tent caterpillar and gypsy moth defoliation in the same areas. Approximately 200 parasitic flies, *Cyzenis albicans*, were released in 2005 in an attempt to control the winter moth population.

There were also areas of hardwood defoliation caused by the **eastern tent caterpillar** on black cherry in the western portion of the State; **fall cankerworm** on oak in Hampshire County; **browntail moth** on beach plum on Cape Cod; and heavy defoliation of sugar maple by the **maple webworm** in western Massachusetts, along with a build up of **lecanium scale**, causing mortality seedling/sapling sugar maple.

Pitch pine in Plymouth and Barnstable counties continue to be defoliated by **pine needle miner**, with severe damage observed on over 4,000 acres. Light to moderate damage of pitch pine was also observed in the same counties by the **Nantucket pine tip moth** affecting approximately 30,000 acres. The **pine shoot beetle**, which attacks white pine, was trapped for the first time in the State in Berkshire, Hampden and Hampshire counties.

Special Issues cont.

The **hemlock woolly adelgid** continues to be a major concern statewide. One new community was found to be infested this year. The State continues to monitor predator release sites, but has been unable to recover the ladybird beetle at 10 of the 11 release sites and also has been unable to recover *Laricobius* at the 2005 release site. There is a buildup of the adelgid in areas known to be infested. This buildup is probably the result of the mild winter of 2005. The **elongate hemlock scale** also appears to be increasing. In areas where it was first observed hemlocks are showing signs of stress with a small pocket of mortality in Sheffield.

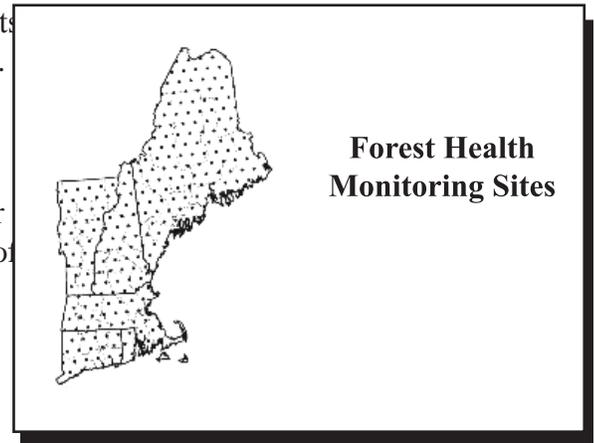
Damage from various forest diseases and abiotic stressors were also observed. **Beech bark disease** in Berkshire and Franklin Counties continued to cause decline and mortality. **Anthracnose** on foliage of oak, ash, maple, and sycamore was severe in isolated locations statewide. Roadside **white pine decline** has been observed at numerous locations across Massachusetts. This decline is attributed to deicing chemicals used to melt snow. Damage appears to be impacting the trees in two ways, from the spray created by traffic on treated surfaces and from the pooling of treated runoff around the root of roadside trees. In excess of 1000 acres of damage was caused by a severe **windstorm** in Chatham, Brewster, Orleans, and Eastham.

Regional Survey

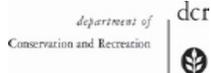
National Forest Health Monitoring Program

In cooperation with the USDA Forest Service, Massachusetts participates in the National Forest Health Monitoring Program. The program's objective is to assess trends in tree condition and forest stressors. All of the New England States have been involved since the program was initiated in 1990. A healthy forest is defined as having the capacity for renewal, for recovery from a wide range of disturbances, and for retention of its ecological resiliency.

The overall health of the forests in New England is good, with various damage agents present at different times and locations. Results from permanent sample sites indicate that there has been minimal change in crown condition in recent years. There are varying impacts from forest fragmentation, drought, fire, insects, and pathogens. The most significant pests are those that have arrived from other parts of the world, such as the gypsy moth, beech bark disease, and hemlock woolly adelgid. A summary report of *Forest Health Monitoring in the Northeastern United States* can be found at <http://fhm.fs.fed.us>.



For More Information



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