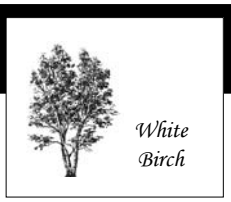
2007 Forest Health Highlights

New Hampshire



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The Resource

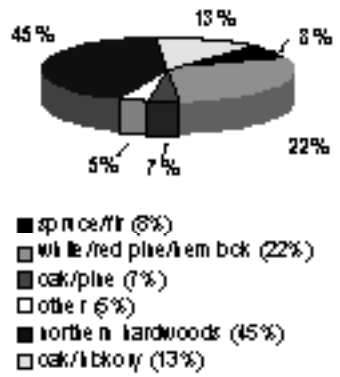
New Hampshire's forests provide a wide variety of goods and services to an ever-increasing number of residents and visitors. These forests offer pleasant surroundings for outdoor recreational pursuits, critical habitat for wildlife, and countless goods to serve our daily needs, such as paper products and shelter. They also act as a giant sponge to absorb and cleanse our water supply. Keeping New Hampshire's forests healthy provides a positive quality of life that is important to those who live, work, and recreate in the State.

• 84% of the State is forested (4,800,000 acres)

Out of the forested area:

- **94% timberland**
- **6% noncommercial or reserved forest land**

Major Forest Types:



Special Issues

Forest health surveys are conducted annually on the forest land within New Hampshire. The State and Federal lands, along with private lands, are monitored to determine the incidence and extent of forest damage caused by a variety of insect pests and tree diseases. Several native insects have caused damage to forest trees in several location. There are also specific concerns regarding nonnative pests that can cause the greatest threat to the State's forest resource.

Each summer pheromone bucket traps are placed around the State to monitor common **forest insect pest populations**. Epidemics can be predicted by analyzing trends over time. In 2007 pheromone traps were put out for spruce budworm, hemlock looper, saddled prominent, oak leaf tier, and forest tent caterpillar. Spruce budworm, a defoliator of balsam fir, remains at endemic levels. Hemlock looper counts rose from last year but also remain at endemic levels. This caterpillar last caused major defoliation to hemlock in southern New Hampshire in the early 1990's. Forest tent caterpillar populations fell after a three year epidemic, with only 108 acres defoliated in 2007, down from the 29,000 acres defoliated in 2006. This is consistent with the decline in defoliation seen during the aerial survey. Gypsy moth populations are also recorded when caught in forest tent caterpillar traps. Their numbers also declined this year along with the forest tent caterpillar. This connection could be contributed to the presence of natural controls that attack both species. No saddled prominent or oak leaftier were collected.

Fall cankerworm damage was heavy this past summer and caused defoliation of 11,759 acres in primarily red oak stands throughout Rockingham County. This was down from the 29,000 acres defoliated in 2006. Like most native pests fall cankerworm is cyclical with epidemics lasting 2 to 3 years. During the epidemic, native predators build up and eventually control the population. Trees that have been repeatedly defoliated will be stressed and may be more susceptible to other pests.

Wind was the primary damaging causing agent identified this year during the Statewide aerial survey. Blowdown and broken stems were found on 12,127 acres as a result of a Nor'easter storm in April. Balsam fir mortality from **balsam woolly adelgid** continues with 4,347 acres mapped. Widespread **dieback of birch** on 8,626 acres continues to occur, associated with the 1998 ice storm, Armillaria root rot and bark beetles. Hardwood decline from **logging damage** was observed over 5,356 acres. Other damage causing agents mapped throughout New Hampshire this year include **Septoria leaf spot**, **anthracnose**, **birch leaf spot**, **pine gall weevil**, **Marssonina blight**, and **fire**.

Special Issues cont.

This year New Hampshire joined the **Early Detection and Rapid Response Team** (EDRR). The team is a cooperative effort of USDA Animal and Plant Health Inspection Service, US Forest Service, university, and State representatives to detect, monitor and respond to introductions of exotic bark beetles. Five exotic bark and ambrosia beetles have been detected for the first time in North America since the start of the project in 2001. Funnel traps were set at nine sites around New Hampshire. In 2007, an exotic ambrosia beetle, *Xyleborinus alni*, was collected that had not been found the State prior to this EDRR survey. Thirteen threatening species of exotic bark beetles were specifically targeted for the survey.

Surveys for **hemlock woolly adelgid** were conducted again in 2007 and several new infestations were discovered in the towns of Pelham, Milford, Nashua, Hudson, Merrimack, and North Hampton. This brings the total towns infested since 2000 to 18. Surveys focused on towns with current or prior infestations, towns bordering Massachusetts, and towns bordering Rockingham County. Methods included driving through neighborhoods looking for at risk trees and walking deeryards and parks in close proximity to ponds. At risk trees were those along roads or other openings such as fields and ponds that have the greatest chance of attracting birds that may be carrying the adelgid. Most of the new infestations were found outside of Rockingham County which prompted an amendment of the internal quarantine in April. Suppression methods undertaken by the State this past year included cultural, chemical, and biological control.

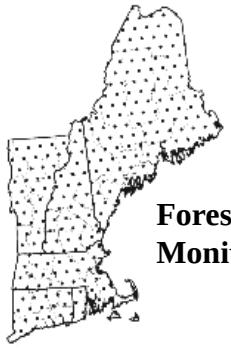
Regional Surveys

National Forest Health Monitoring Program

In cooperation with the USDA Forest Service, New Hampshire 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 site locations 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 here 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.



Forest Health Monitoring Sites

For More Information:

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Northeastern Area
State and Private Forestry