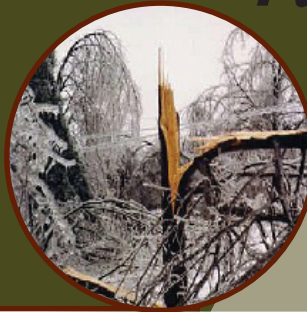


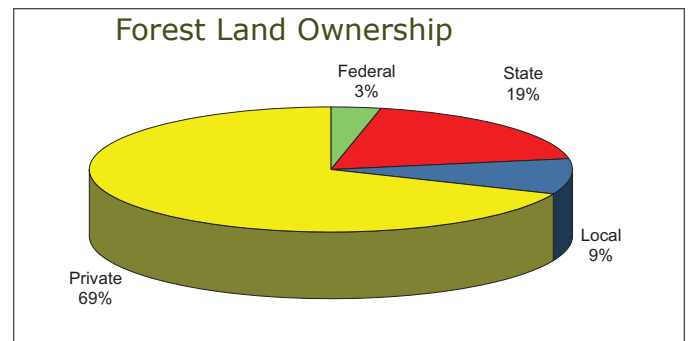
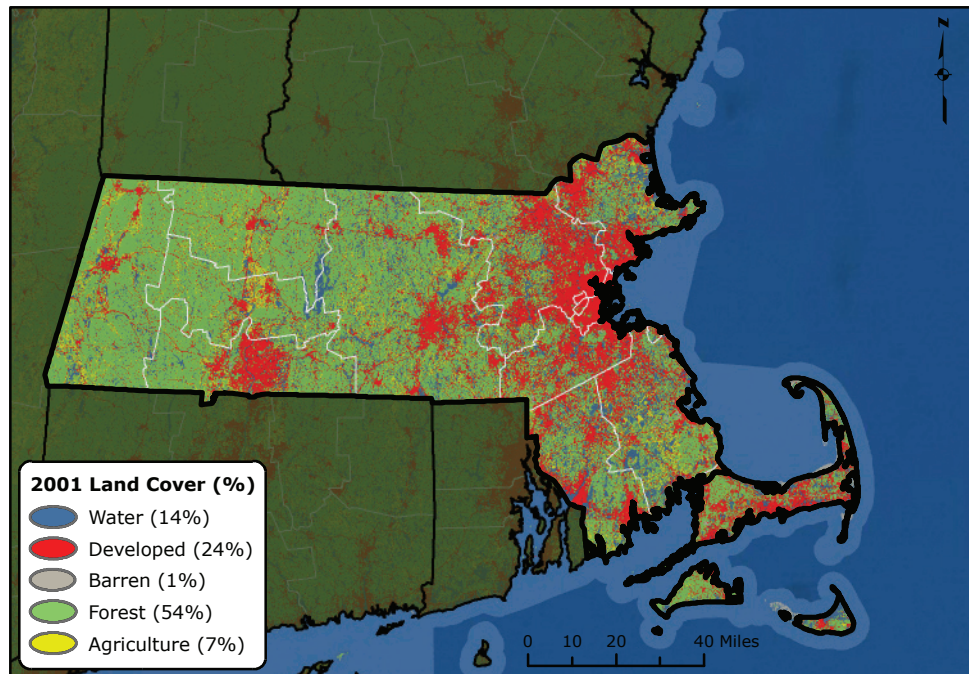
2008 Forest Health

MASSACHUSETTS *highlights*



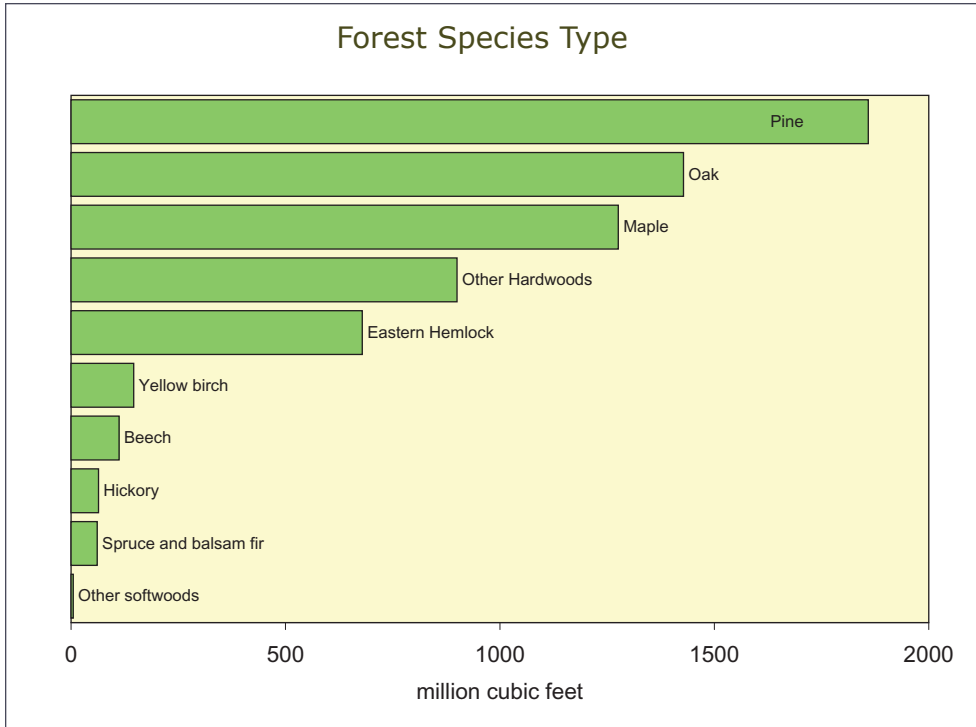
Forest Resource Summary

The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban State, about half 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. About two-thirds of the forest lands in Massachusetts are privately owned—69 percent—with only 3 percent in Federal ownership. However, 28 percent is in State and local town ownership, which is quite unique in the region. The latest Massachusetts forest inventory estimates that 54 percent of the State is forested, approximately 3.2 million acres. The forest resource is made up of a variety of forest types, mostly pine, oak, maples, other hardwoods, and eastern hemlock.



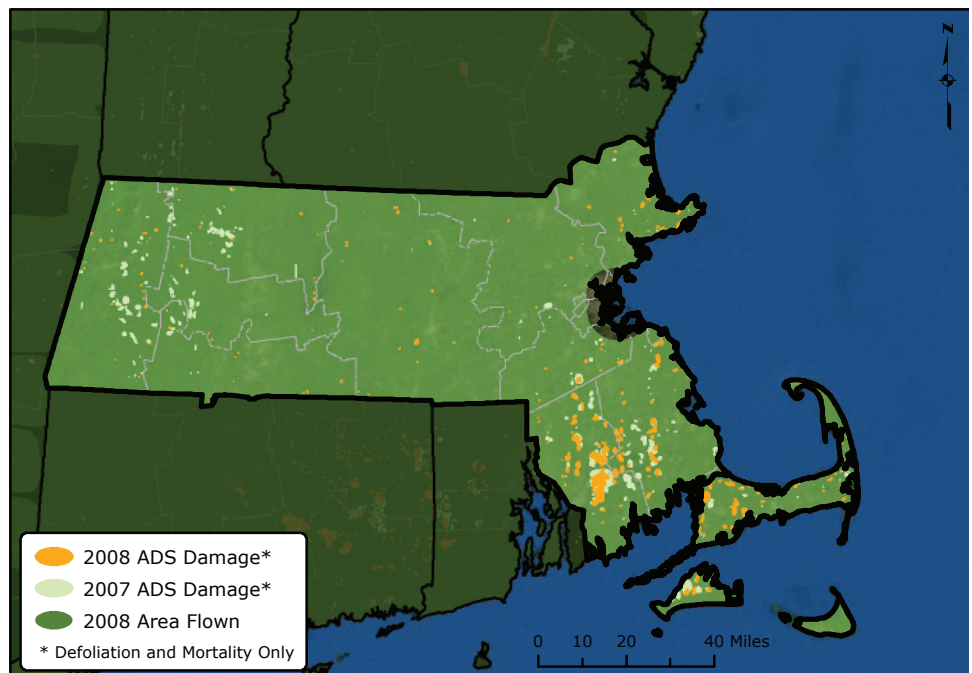
Forest Health Programs in the Northeast

State forestry agencies work in partnership with the U.S. Forest Service to monitor forest conditions and trends in their State and respond to pest outbreaks to protect the forest resource.



Aerial Surveys

Aerial surveys and ground surveys are conducted annually throughout the State. Recently the largest portion of the activity observed was from defoliating insects and forest diseases. In 2008, the aerial survey identified about 60,000 acres of damage, mostly due to defoliation from the winter moth, periodical cicada, gypsy moth, and forest tent caterpillar. Several forest diseases were also evident, including Diplodia blight of pine, beech bark disease, and local areas affected by flooding.



This map delineates aerial detection survey (ADS) results for Massachusetts in 2007 and 2008.

Forest Damage

Two unusual events occurred in Massachusetts during the 2008 growing season that have had a major impact on forest health. The first was the detection of the **Asian longhorned beetle** on August 4 in the Greendale section of Worcester by an observant resident. A joint task force was formed consisting of personnel from the U.S. Forest Service, USDA APHIS, Massachusetts Department of Conservation and Recreation, Massachusetts Department of Agricultural Resources, and the city of Worcester. Surveys conducted to delimit the infestation have identified approximately 7,000 infested trees and led to the establishment of a 63.5-square mile regulated area, including all of Worcester and parts of Boylston, West Boylston, Shrewsbury, and Holden. The area most heavily infested, where tree removal has begun, includes about 3.5 square miles within the city of Worcester.



A significant new infestation of the Asian longhorned beetle was detected in Worcester, MA, in 2008.

The second major event was the emergence of the **periodical cicada** (brood XIV). This native insect caused approximately 8,550 acres of scattered defoliation of predominantly oaks in the towns of Falmouth, Sandwich, Bourne, and Barnstable. The noise created by the courtship ritual on sunny days was deafening. The damage caused by this pest is twofold. Shortly after mating, the female deposits eggs in slits in the twigs. This causes the foliage to wilt, giving trees the appearance of being sprayed by an herbicide. Later in the season, these weakened, pencil-size twigs break, and in heavy infestations, the ground becomes covered with branch tips.



Hardwoods were damaged in southeastern Massachusetts from the periodical cicada in 2008.

Oak mortality in the southeastern part of the State is continuing, caused by repeated defoliation from **winter moth**, forest tent caterpillar, and gypsy moth. A total of 27,875 acres of defoliation from winter moth was observed in Plymouth, Barnstable, Norfolk, and Essex Counties. Lack of natural enemies continues to allow the spread of this insect. The release of the parasitic fly *Cyzenis albicans* as a biological control is ongoing in cooperation with the University of Massachusetts. This parasite has now been released in five locations in eastern Massachusetts.

Populations of **gypsy moth** were down; however, 15,324 acres of light defoliation were observed in the southeastern part of the State. Natural factors seem to have regained control of **forest tent caterpillar** populations. Damage to 1,429 acres was mapped in 2008, mostly in western Massachusetts.

Fewer than 100 acres of **fall cankerworm** damage were reported. Populations of **eastern tent caterpillar** are reduced with little damage observed. Mortality caused by the introduced **red pine scale** in red pine stands continues to slowly spread in Hampden, Hampshire, and Barnstable Counties.

Hemlock woolly adelgid continues to be a major concern, with a new community found to be infested in 2008. Surveyors have noticed a buildup in the adelgid population; however, no new tree mortality from this pest has been observed. The State continues to release and monitor the populations of the predatory ladybird beetle, *Laricobius nigrinus*, in all release locations. They have been unable to recover the beetle at 10 of the 11 release sites.

The **elongate hemlock scale** is predominately found in southern Berkshire and Hamden Counties. Populations appear to be increasing, and scattered severe defoliation has been documented in ground surveys. The **Viburnum leaf beetle**, first reported in Berkshire County in 2007, is now found throughout this area as well as Hampden and Hampshire Counties.

On Martha's Vineyard, 1,100 acres of red pine have been severely damaged by **Diplodia blight**. Berkshire and Franklin Counties continue to experience decline and mortality caused by **beech bark disease**. Isolated spots in white pine regeneration infected with **white pine blister** rust continue to be observed. Most observations were in southern Berkshire and central Worcester Counties.

Changes in Massachusetts trapping laws have allowed the beaver population to explode. This has resulted in many streams being dammed, which has caused localized **flooding** as well as about 1,300 acres of dieback and mortality.



Massachusetts Department of
Conservation & Recreation
Division of Forests & Parks
51 Military Rd.
PO Box 484
Amherst, MA 01004-0484
413.253.1798 Ex. 204
Web site: www.mass.gov/dcr/



Forest Health Protection
USDA Forest Service
271 Mast Rd.
Durham, NH 03824
603.868.7708
Web site: www.na.fs.fed.us

February 2009

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