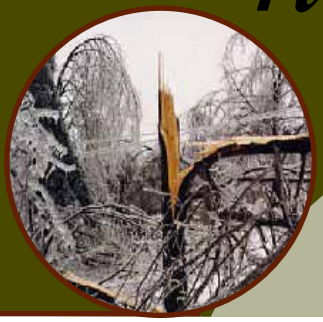
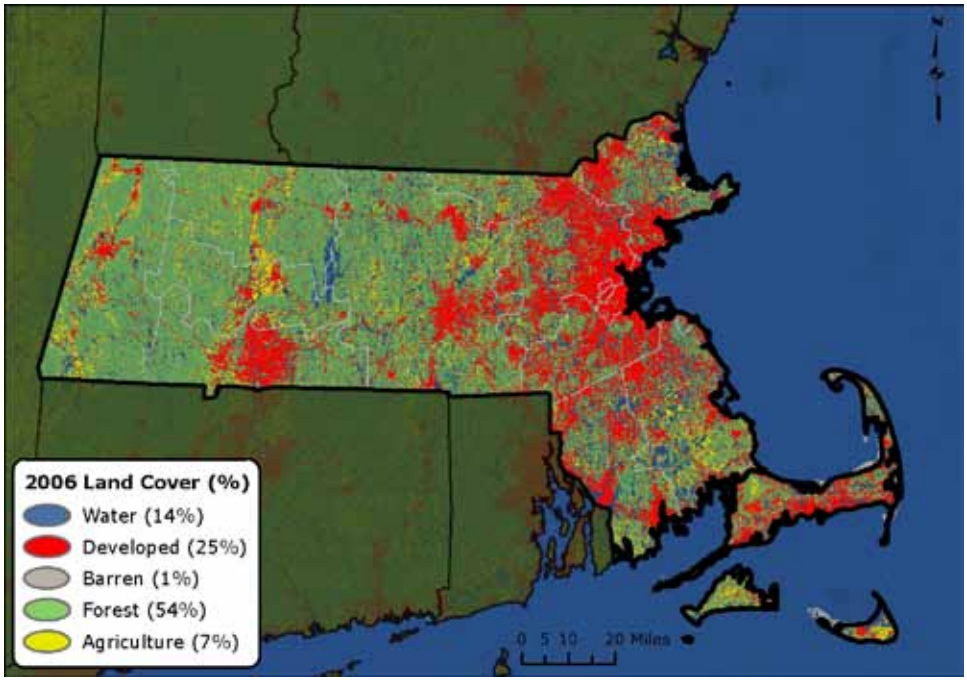
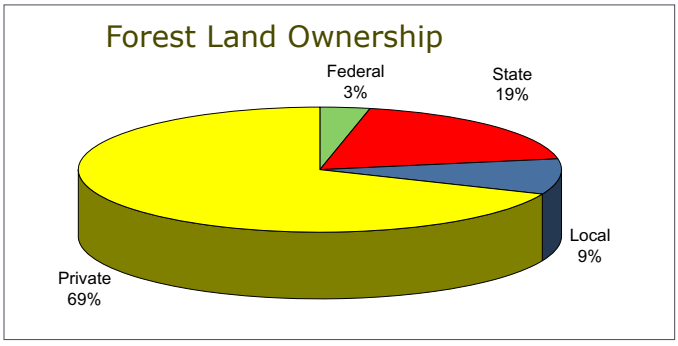
2012 Forest Health MASSACHUSETTS *highlights*



Forest Resource Summary

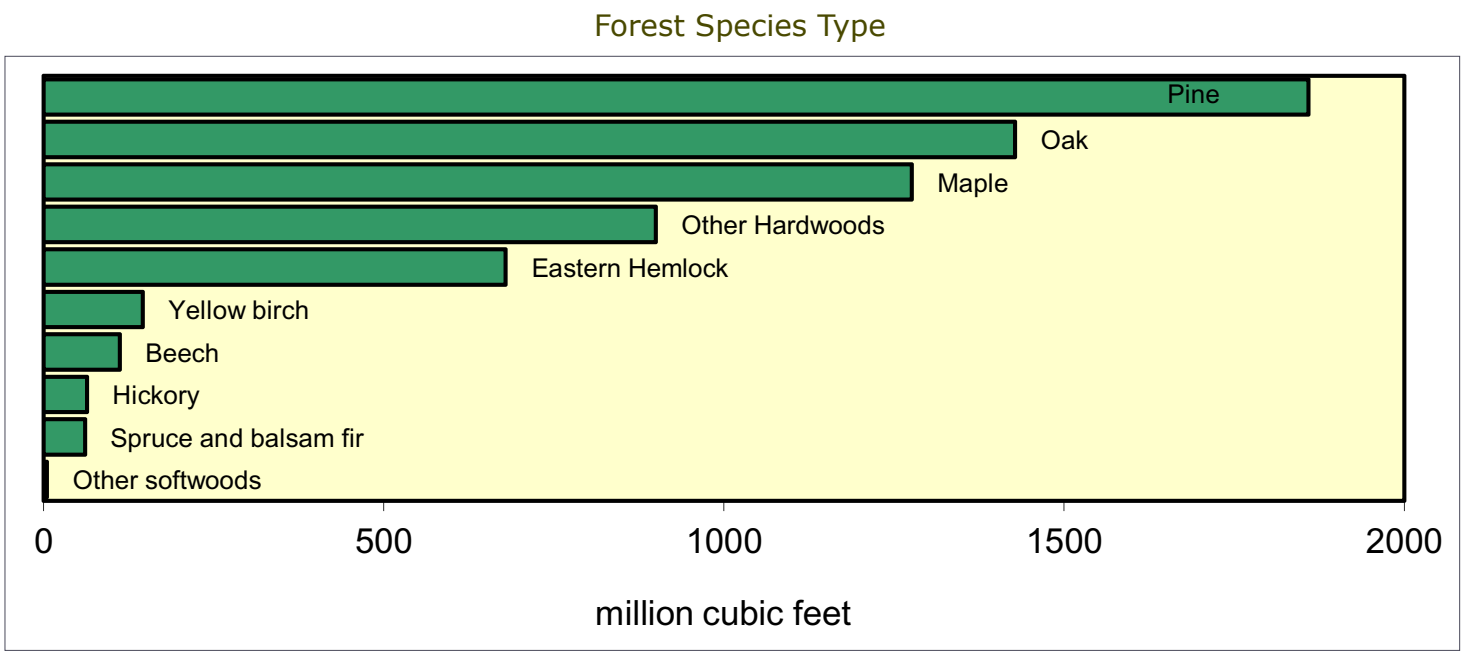
The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban State, about half of the land area is forested. This forested area is managed for a multitude of purposes, including recreation, water quality, wildlife habitat, and a forest product 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 there are approximately 3.2 million acres in the State that are forested. The forest resource is made up of a variety of forest types, mostly pine, oak, maples, other hardwoods, and eastern hemlock.





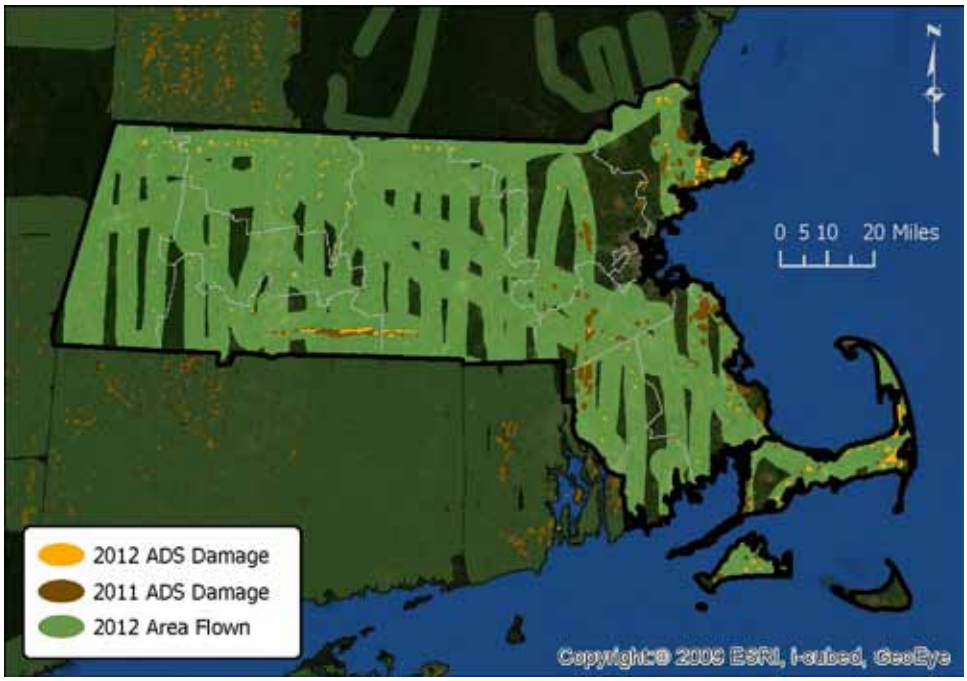
Forest Health Programs in the Northeast

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

Over 20,132 acres of defoliation or mortality were documented statewide from the annual aerial survey. This included over 10,200 acres of defoliation from the winter moth, an introduced forest pest, and about 3,800 acres from the cynipid gall wasp on the Cape and Islands. There was also significant defoliation from white pine needlecast drought, red pine scale, and Diplodia tip blight.



This map delineates aerial detection survey (ADS) results for Massachusetts in 2012 and 2011.

Special Pest Surveys

Personnel from the Department of Conservation and Recreation (DCR) Forest Health Program deployed 713 purple panel traps to monitor the invasive emerald ash borer throughout Massachusetts. Traps were concentrated in areas of high risk including campgrounds and highway rest areas. In addition, 26 white ash trees were girdled in 13 locations in Massachusetts to monitor the borer.

An annual gypsy moth survey was conducted in pre-established plots statewide to monitor future population trends. Worcester County plots are showing an increase in gypsy moth egg masses.

DCR personnel helped the UMass entomology program monitor winter moth populations using both aerial and ground surveys. Winter moth monitoring is used to determine release locations for the predatory fly *Cyzenis albicans*.

Other Forest Health Projects

The DCR Forest Health Program is the lead State agency in charge of the Asian longhorned beetle eradication efforts in the Worcester County and Boston infestations. We also continue to supply the USDA, APHIS Otis Method Lab with wood for the rearing and research of Asian longhorned beetle and emerald ash borer.

The DCR monitors emerald ash borer through biosurveillance monitoring by locating areas with the predatory wasp *Cerceris fumipennis*. The DCR is also assisting the U.S. Forest Service with insect collection and screening as part of the Tornado Evaluation Monitoring project at Brimfield State Forest.

Forest Health Highlights

Hardwood Defoliators

Approximately 10,213 acres of defoliation caused by the **winter moth** was mapped during the annual aerial survey in the eastern part of the State on the North and South Shores, Cape Cod, and Martha's Vineyard. Efforts by the U.S. Forest Service and the University of Massachusetts to use the parasitic fly *Cyzenis albicans* as a biological control for winter moth are making slow but steady progress. During the 2012 growing season, this fly was relocated from previous releases sites in six locations.

Large populations of the **cynipid gall wasp** were observed on Cape Cod and Martha's Vineyard. There was noticeable defoliation from this native insect pest; with continued high populations, along with previous winter moth defoliation, there could be concerns about further stress to oak trees in the area.

Conifer Insects

Statewide we continue to observe the slow spread of **red pine scale**. Large areas of mortality are now being mapped aerially with 1,316 acres of mortality seen this past growing season.

Hemlock woolly adelgid populations have increased considerably due to the 2011–2012 warm winter temperatures. A total of five new communities have now been documented with hemlock woolly adelgid. We continue to monitor the previously released biological control *Laricobius nigrinus*. New releases of the Idaho strain of *Laricobius nigrinus* were made at two locations in the State—Wells State Park and Mount Tom State Reservation. **Elongated hemlock scale** has been noticed statewide causing more stress on hemlocks.

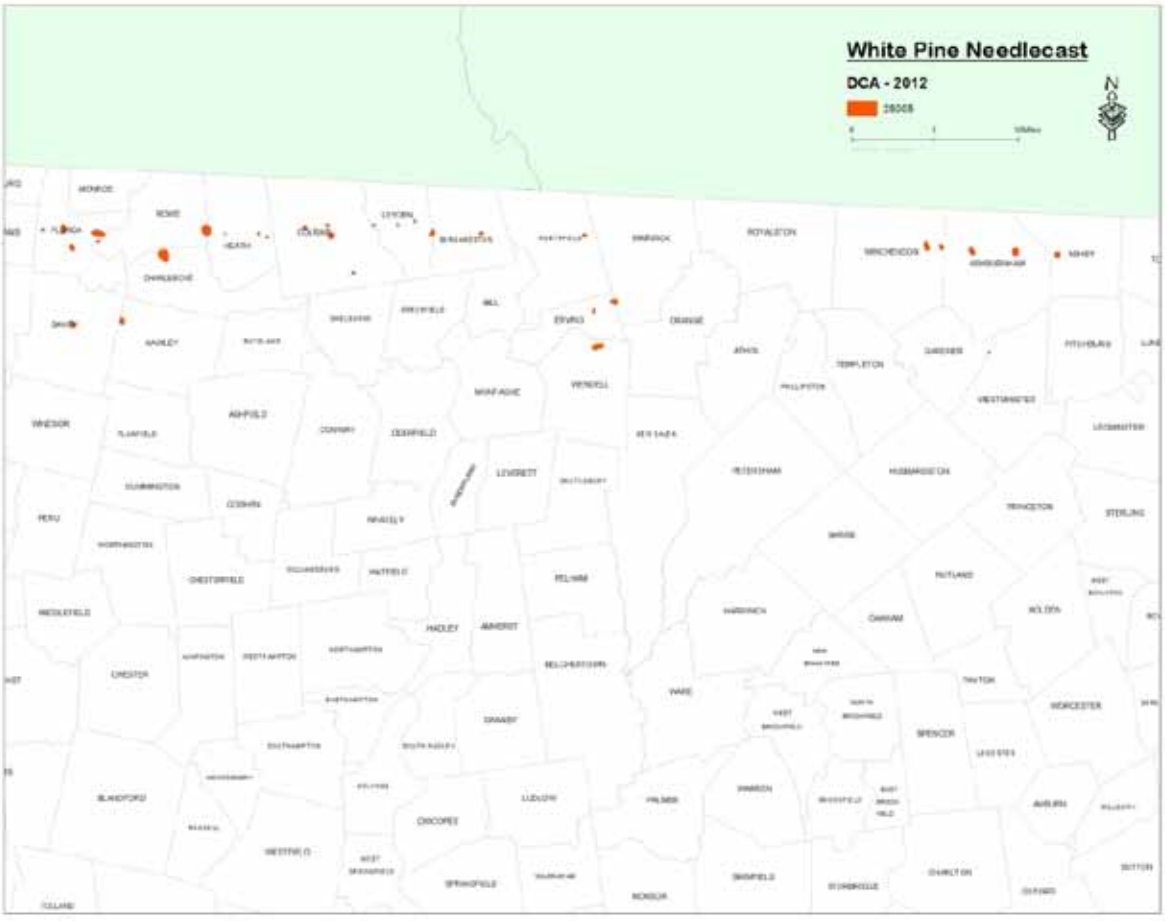
Small pockets of European larch mortality were seen at two locations in western Massachusetts. This mortality was caused by the native **Eastern larch beetle**. Previous drought stress may have led to the quick buildup of this insect pest.

Conifer and Hardwood Diseases

Diplodia tip blight was widespread in red pine stands statewide causing 40 acres of defoliation.

Rhizosphaera needlecast caused widespread lower canopy defoliation on blue spruce in western Massachusetts. **Anthracnose leaf disease** was also noticed statewide primarily on sugar maple and white ash. This leaf disease caused premature leaf drop and muted fall foliage colors. In addition, **tar spot leaf disease** was seen statewide on Norway maple.

Multiple **needle diseases** were evident during the 2012 growing season due to the cool, wet spring weather. Two of these needle diseases, *Mycosphaerella dearnessii* and *Canavirgella banfieldii*, caused widespread white pine defoliation. A total of 2,478 acres of white pine defoliation was mapped statewide during the 2012 aerial survey.



Abiotic Concerns

Extreme drought conditions during the 2012 growing season led to early season defoliation, mostly in higher elevations. A total of 1,112 acres of defoliation was attributed to drought conditions statewide.

References

Land Cover Map:
U.S. Geological Survey. 2011. 2006 National land cover dataset. Sioux Falls, SD.

Forest Land Ownership, Forest Species Type:
U.S. Department of Agriculture, Forest Service. 2009. Forest resources of the United States, 2007. Gen. Tech. Rep. WO–78. Washington, DC. 336 p.

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