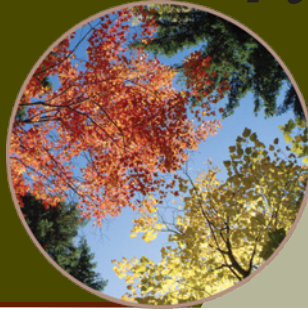


2010

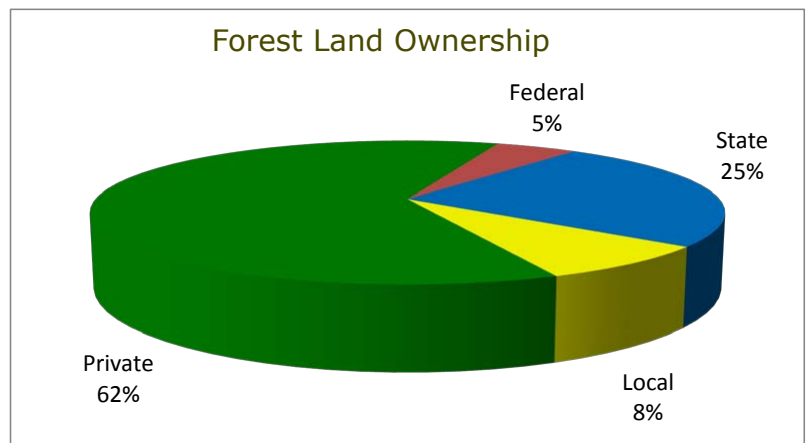
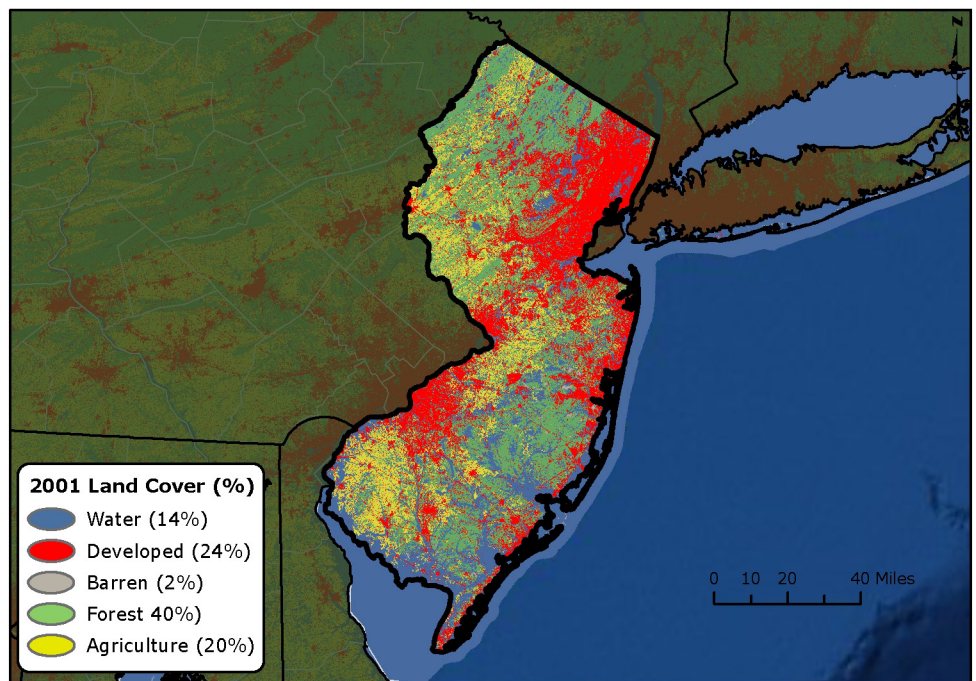
# Forest Health

NEW JERSEY *highlights*



## The Resource

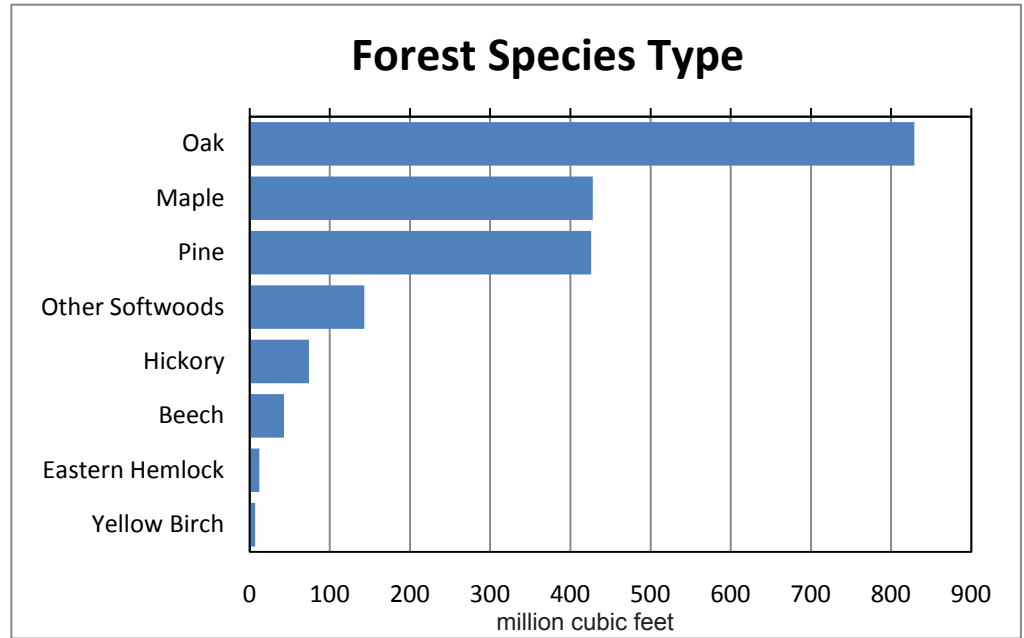
New Jersey is the most densely populated State in the Nation. Yet its forest covers 2.1 million acres (42 percent) of the State's 4.7 million acres. Forest cover represents the largest single land use with a diversity of forest tree species. The northern counties are mainly comprised of the oak-hickory forest type; the central and southern counties are mainly comprised of pitch pine (*Pinus rigida*) with a component of mixed oak, shortleaf and loblolly pine, and Atlantic white-cedar. The forests have faced various impacts since colonists arrived in the 16th century and began removing trees for a multitude of purposes mainly associated with sustenance. Then, in the mid-nineteenth century, New Jersey forest land started to increase as farmers began abandoning agriculture, leaving their fields to lie



## Forest Health Programs

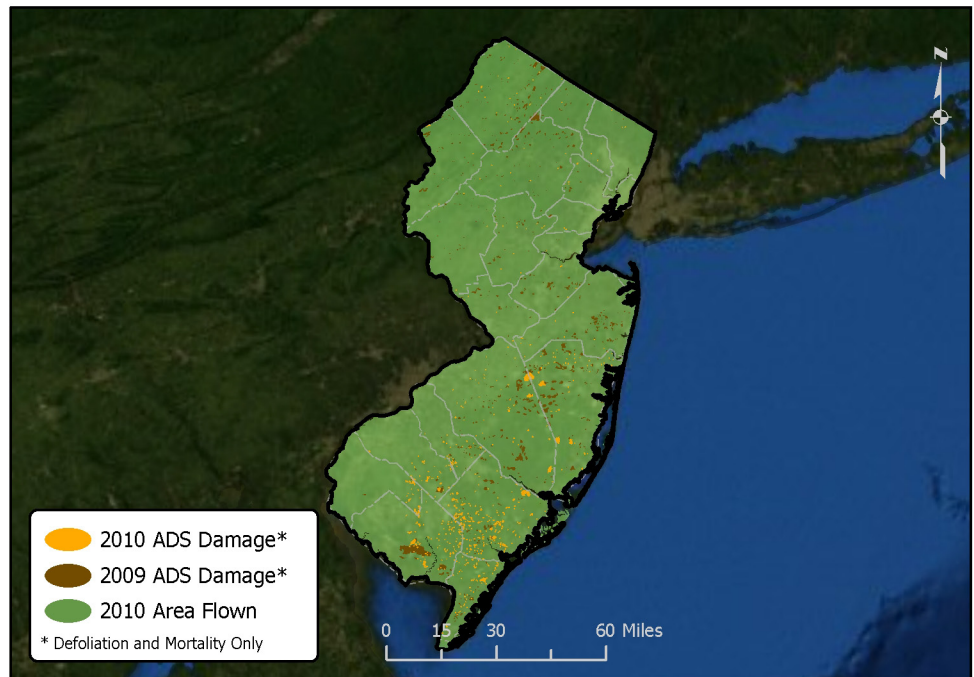
State forestry agencies work in partnership with the U.S. Forest Service to monitor forest conditions and trends in their State and respond to pest outbreaks to protect the forest resource.

fallow and regenerate naturally. In an urban state such as New Jersey, it is critical to maintain forested areas and to manage them properly. Through forest health monitoring and sustainable planning, action can be undertaken to minimize or eliminate the detrimental effects of forest health-related issues.



## Aerial Surveys

According to aerial detection survey results for New Jersey in 2010, 24,621 acres were damaged. Most of this damage (14,157 acres) was attributed to the southern pine beetle. Wildfire accounted for 6,391 acres of damage, and gypsy moth damaged 3,810 acres. Flooding (122 acres), foliage discoloration (75 acres), and bacterial leaf scorch (66 acres) accounted for the rest of the damaged acreage in the State.



*This map delineates aerial detection survey (ADS) results for New Jersey in 2009 and 2010.*

## Forest Pest Issues

### Southern Pine Beetle (SPB)

The SPB continues to be active in southern New Jersey forests, but has shown signs of moving north and west. The counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Monmouth, Ocean, and Salem have active populations at various levels. SPB continues to infest New Jersey's native pine species on public and private property. This year the majority of infestations are on private land. Some landowners have updated their management plans in order to suppress active infestations. The New Jersey Forest Service (NJFS) performs extensive trapping, ground, and aerial surveys. Funnel traps are deployed in six southern counties at the rate of three per county for a total of 18 traps. All trapped insects are sent to the U.S. Forest Service for identification. The NJFS is in the process of ground truthing aerial survey data to determine areas to be suppressed, salvaged, and restored. The aerial survey covers the entire New Jersey Pinelands region and outlying areas, totaling approximately 1.3 million acres, and recorded approximately 14,100 acres infested by the SPB. This represents an overall increase of 12,888 acres from 2009 and is the highest level of infestation since our monitoring for this insect was initiated (2002).

### Sirex woodwasp

The NJFS performed a ground survey for the fourth consecutive year in nine locations at a rate of two per location (18 total). This survey was performed June through late October. Traps were checked and the insects were collected every 2 weeks and forwarded to the U.S. Forest Service for identification purposes. Traps are located in red, Scots, white, and pitch-shortleaf pine stands from northern to southern New Jersey. To date, no *Sirex* woodwasps have been identified. The NJFS is proposing another survey for 2011

### Asian Longhorned Beetle (ALB)

Host tree surveys continue to be administered by USDA-APHIS PPQ by bucket truck, climbing, and ground surveys. As of December 31, 2010, the results for the 2010 tree surveys indicated that no new infestations were found, and no trees were chemically treated in 2010.

- 13,416 trees surveyed within the Level 1 Second Survey Cycle verification
- 16,004 trees within the Level 2 Second Survey Cycle verification
- 3,606 trees within the Level 3 Survey
- 632 trees within the Level 4 Survey

### Gypsy Moth

Gypsy moth activity was low in 2010 and appears to be static when compared to 2009. Based on aerial survey information, approximately 3,800 acres were defoliated by gypsy moth. Egg mass surveys on State lands indicate that a suppression program is not necessary for 2011 due to the low incidence of active egg masses. The Japanese fungus (*Entomophaga maimaiga*) and the nucleopolyhedrosis virus (NPV) may have played a role in reducing gypsy moth populations over the last 2 years. Although gypsy moth populations are low, many trees previously defoliated show signs of decline and mortality, resulting in hazardous conditions. Trees located near high public use areas are being salvaged and utilized using funding from the American Recovery and Reinvestment Act of 2009.

### Emerald Ash Borer (EAB)

In the summer of 2010, an EAB survey was initiated by deploying purple, triangular EAB traps that were hung from ash tree branches at four locations throughout the State. The traps were inspected once a week from June to the end of August. Any suspect borers were sent to the U.S. Forest Service; however, no EAB was identified. The NJFS is collaborating with the New Jersey Department

of Agriculture, Division of Plant Industry on a 2011 intensive survey in the northern half of the State. It is anticipated that the survey will commence in May of 2011 and last until August.

## Beech Bark Disease (BBD)

The majority of beech populations are found in northern New Jersey, with a component in the southern half of the State along the Delaware River corridor. It appears that many stands of beech in the northern half of the State have been infested and infected with both the scale and fungus, respectively. Surveys are necessary in the southern half of the State to determine the presence and extent of scale and the fungus. Recent surveys indicate that some stands are resistant in northern New Jersey, and that Burlington County (southern) has the scale, but additional surveys are necessary to determine if the fungus is present. This is further south than was originally recorded. Additional surveys are necessary to determine if the overall condition(s) of new scale infestations and fungus infections are occurring, and to determine the advancing and killing fronts and aftermath zones. By establishing stands or selecting individual trees that appear to be resistant to BBD, personnel can establish seed orchards or seed trees, respectively, to provide a seed source for future generations of American beech stands.

## Hemlock Woolly Adelgid (HWA)

It appears that due to the winter of 2009-10, HWA populations in infested stands have been decreasing or static; however, nearly all hemlocks in New Jersey have been infested with HWA, which covers approximately 25,000 acres. The NJFS has designated Eastern hemlock as a priority forest resource in its Statewide Forest Resource Assessment & Strategies and applied for a competitive, multistate grant for \$80,000 to assess the status of this forest resource and to initiate a treatment program in select hemlock areas. Treatments are anticipated to begin in spring 2011, and the assessment of the resource has commenced. Since 2005, the predatory beetle *Laricobius nigrinus* has been released, and adult beetles have since been recovered and observed to be successfully overwintering. In 2010, a total of 5,457 *Laricobius* beetles were released.

## Bacterial Leaf Scorch (BLS)

The NJFS is continuing a project to evaluate the effect of a sanitation cut that removes many BLS-infected trees on the health and condition of residual trees over time. The first half of a 36-acre treatment area has been harvested, and the NJFS is in the second treatment area. The residual BLS-infected trees will be monitored to record if the cultural activity has a long-term effect on extending the tree's life and stand rotation. Depending on results, this silvicultural prescription may be incorporated into the development of forest management plans regarding control options for BLS across the landscape.



Forest Health Protection  
USDA Forest Service  
Northeastern Area State  
and Private Forestry  
180 Canfield Street  
Morgantown, WV 26505  
304-285-1545  
<http://www.na.fs.fed.us>



New Jersey Division of Parks and Forestry  
501 East State Street, Station Plaza 5  
P.O. Box 404  
Trenton, NJ 08625-0404  
609-984-3861  
<http://www.state.nj.us/dep/parksandforests/>

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