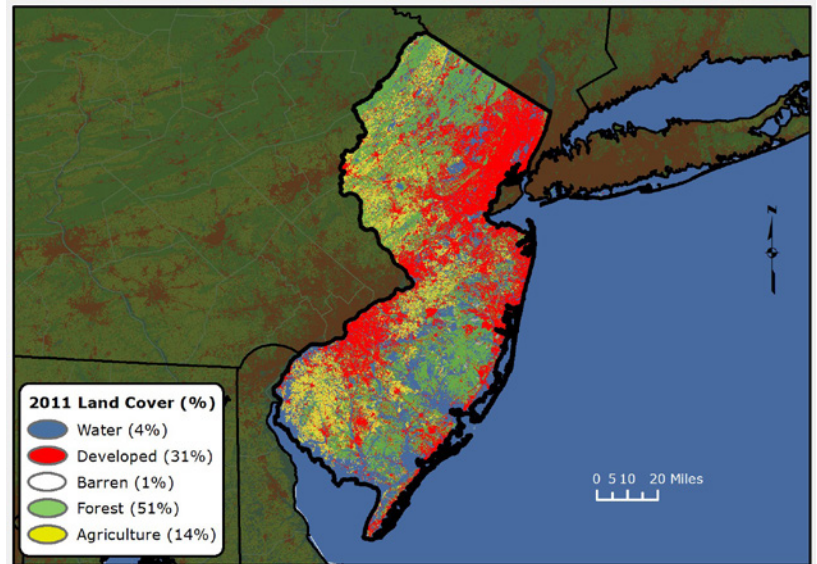




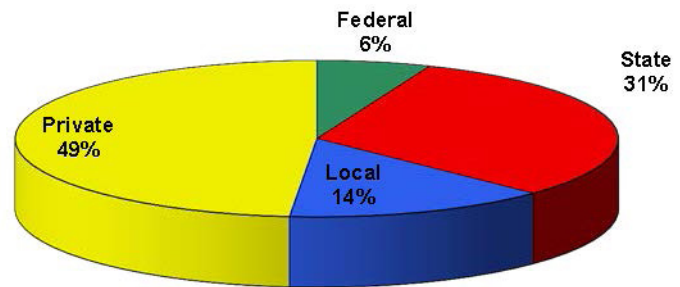
2017 Forest Health NEW JERSEY highlights

Forest Resource Summary

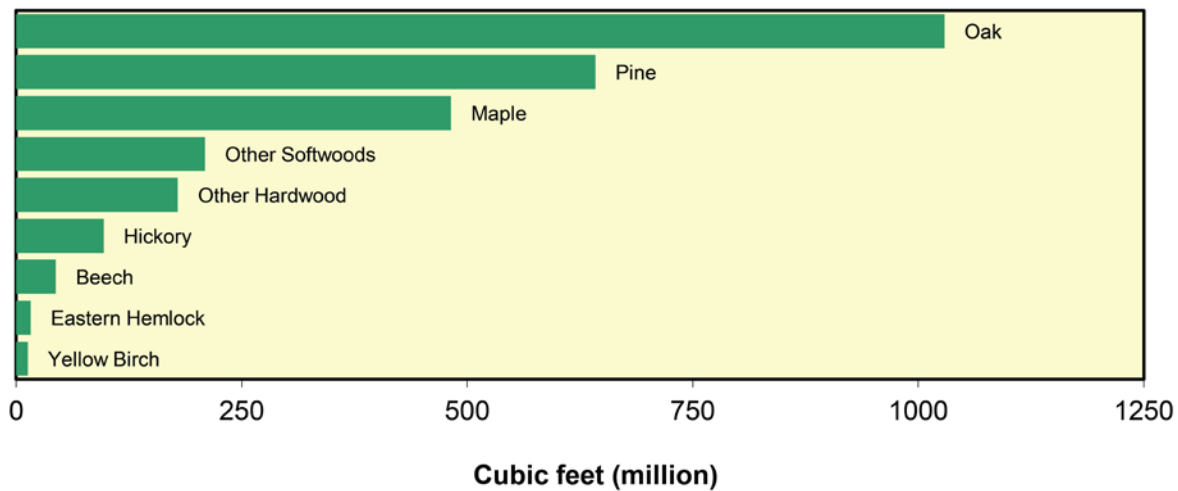
Even though New Jersey is the most densely populated State in the Nation, its forest covers approximately 2 million acres (42 percent) of the State's 4.1 million acres. Forest cover represents the largest single land use in New Jersey. The State has a diversity of forest tree species, with pitch pine and white oak/red oak/hickory representing the two dominant forest types by area. The northern counties (Sussex, Warren, Hunterdon, and Morris) are dominated by northern hardwoods, white pine, eastern hemlock, mixed oak, and a variety of other species, including isolated stands of red spruce. The southern counties (Cape May, Atlantic, Cumberland, and Burlington) are dominated by southern yellow pines such as pitch and shortleaf and, to a lesser extent, Virginia and loblolly. Various oak species such as southern red, scarlet, chestnut, and white are also prevalent. 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, the State can take action to minimize or eliminate the detrimental effects of forest health-related issues.



Forest Land Ownership in New Jersey, 2012



Net Volume of Growing Stock on Timberland by Species in New Jersey, 2012.



Forest Pest Issues

Southern Pine Beetle

Southern pine beetle (SPB) is surveyed by aerial detection and select ground verifications. SPB damage is identified by pine tree crown color that changes from yellow to red to brown, typically over contiguous areas. Additional symptoms associated with SPB include pine mortality, crown fragmentation, pitch tubes, exit holes, and larval galleries. In New Jersey, SPB mainly affects pitch pine (*Pinus rigida*), shortleaf pine (*P. echinata*), and Virginia pine (*P. virginiana*); it has also been observed infesting Norway spruce (*Picea abies*) and eastern white pine (*Pinus strobus*). In 2017, 2,100 acres were impacted by SPB; this represents a decrease from the populations observed in 2016. SPB is still mainly found in the southern counties of the State.

SPB continues to infest New Jersey's native pine species on public and private property. The New Jersey State Forestry Services (NJFS) continues to ground truth prioritized sites on lands owned by the New Jersey

Department of Environmental Protection (DEP) and address those areas for suppression. In 2017, NJFS suppressed a total of 7 acres using the cut-and-leave method in Burlington and Ocean County. Some landowners in the Forest Stewardship Program have updated their management plans to include suppression activities. NJFS also performs extensive trapping, select ground verification, and aerial surveys annually. They deploy funnel traps 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 Morgantown Field Office for identification.

Sirex Woodwasp

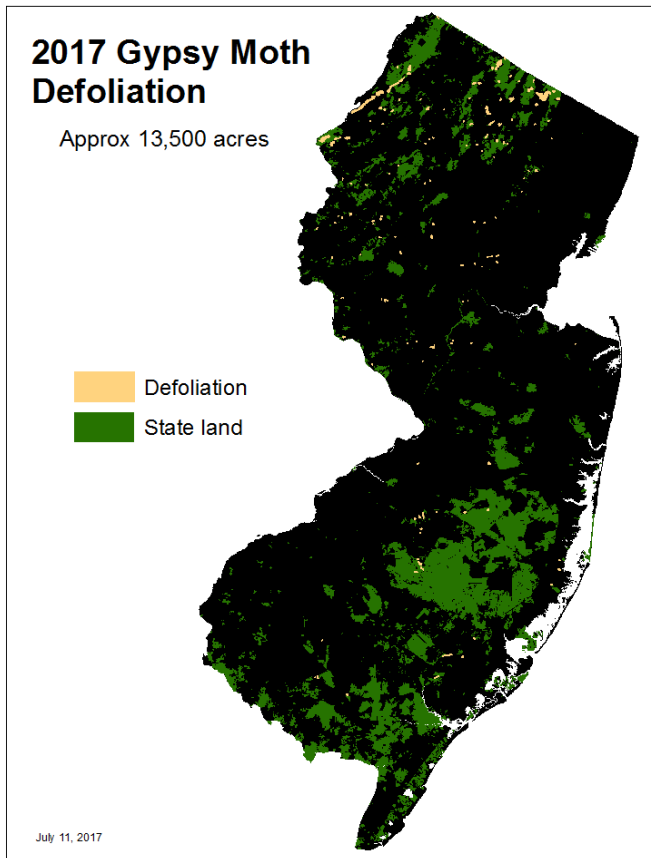
No Sirex woodwasp traps were hung in 2017. Some visual observations were made, but no signs of Sirex were detected.

Asian Longhorned Beetle

The Middlesex and Union County Asian longhorned beetle (ALB) quarantine zone was deregulated in 2013. ALB is now considered to be eradicated from these areas. No additional ALB infestations were found in New Jersey in 2017.

Gypsy Moth

Gypsy moth defoliation in 2017 was found at similar levels when compared to 2016. Based on the New Jersey Department of Agriculture (NJDA) aerial survey detection program, 13,547 acres were defoliated by gypsy moth in 2017. The majority of the defoliation was seen in the northern part of the State. Egg mass surveys on DEP-owned lands (including State Parks and Forestry parcels, Wildlife Management Areas, and Nature Land Trust Preserves) impacted approximately 400 acres; a spray program on State DEP lands may be proposed in 2018.

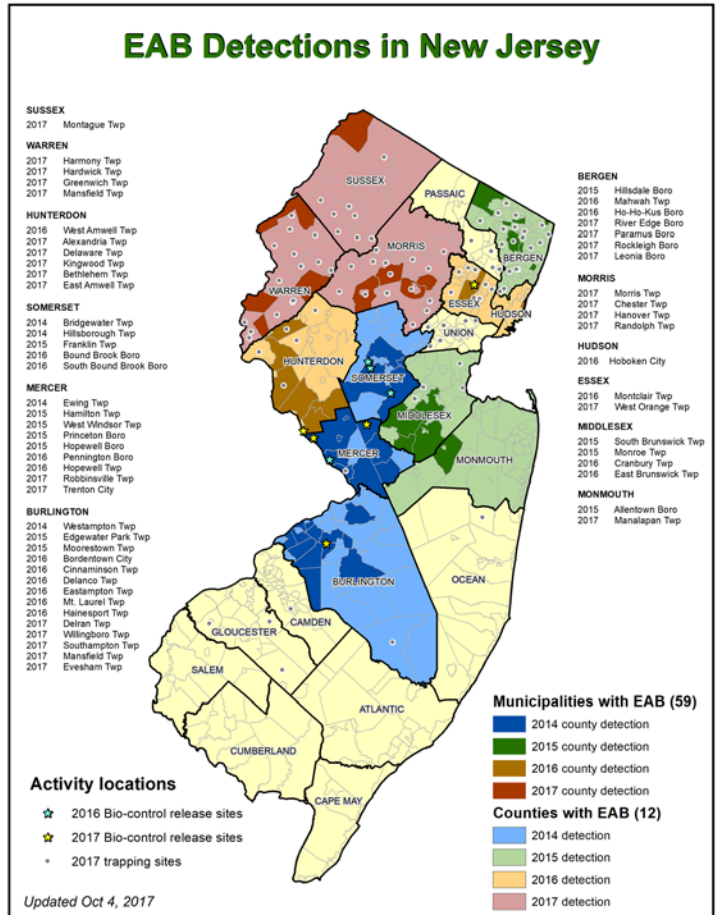


Areas that had extensive gypsy moth defoliation in summer 2017 as detected through aerial surveys. (Map courtesy of Rosa Yoo)

In 2017, the gypsy moth suppression program coordinated by the NJDA sprayed a total of 4,500 acres using aerial application of *Btk*.

Emerald Ash Borer

In 2017, emerald ash borer (EAB) was positively identified in three additional counties: Sussex, Warren, and Morris. The entire State is included under the Federal EAB quarantine.



New Jersey map showing the counties and municipalities in which emerald ash borer has been found, color coded by the year in which it was first found and the locations of emerald ash borer biocontrol release sites. (Map courtesy of Rosa Yoo)

NJFS continued to work cooperatively with NJDA, USDA APHIS, and Rutgers University to deploy purple triangular traps and green funnel traps statewide in the summer of 2017. NJFS hung 15 green funnel traps on State-owned lands. The traps were deployed in May/June, inspected and had the lure changed in June/July, and inspected and taken down in August.

NJFS received an EAB suppression grant and chemically treated 145 high-value ash trees on 12 different State properties.



Pesticide trunk injections being applied to a black ash tree in New Jersey, USA, in 2017. (Courtesy photo by Rosa Yoo)

NJFS and NJDA also worked cooperatively to release three species of EAB parasitoids (*Oobius*, *Tetrastichus*, and *Spathius*) in four counties: Mercer, Essex, Burlington, and Hunterdon. Parasitoid recovery efforts were made at the four 2016 biocontrol release sites to determine if these releases were successful: Somerset County (Franklin and Bridgewater Townships and Hillsborough) and Mercer County (Ewing Township). Biocontrol releases are planned for next year in new counties such as Warren, Sussex, and Morris.

Beech Bark Disease

The majority of beech found in the northern counties have been infested and infected by both the scale insect and disease-causing fungus, respectively. At this time, no beech bark disease has been found in central or southern New Jersey. In addition, scale has not yet been identified in the southern half of the State; however, some small-scale populations have been identified in the central counties.

Hemlock Woolly Adelgid

Nearly all hemlocks in New Jersey, which cover approximately 25,000 acres, have been infested with hemlock woolly adelgid (HWA) to some extent. Eastern hemlock is designated as a priority forest resource in the New Jersey Statewide Forest Resource Assessment & Strategies. HWA treatments began in the spring of 2011 and continued in 2012, 2013, 2014, and 2015. In 2017, no hemlocks were treated. NJFS and NJDA are jointly participating in the HWA-resistant hemlock planting study with the University of Rhode Island. NJDA continues to monitor and manage the HWA biocontrol agent *Laricobius nigrinus*.

Bacterial Leaf Scorch

Bacterial leaf scorch continues to occur across the State.

Spotted Lanternfly

Spotted lanternfly (SLF) has been detected in the eastern counties of Pennsylvania close to New Jersey borders. No traps were deployed for SLF; however, visual surveys were conducted during field visits to forested sites along the western part of the State. No SLF was detected in 2017 to date.

Thousand Cankers Disease

In 2017, NJFS deployed six traps for walnut twig beetle, the vector of thousand cankers disease (TCD), on State lands along the western border of the State. The traps were deployed in the spring and fall for 6 weeks each. Traps were deployed on the following State lands: Bulls Island, Washington Crossing, Goat Hill, Fort Mott, Taylor Preserve, and Andoloro. To date no walnut twig beetles have been captured and no TCD has been detected.

Ash Yellows

Ash yellows continues to occur in New Jersey.



Spicebush plant damaged by anthracnose. (Courtesy photo by Rosa Yoo)

Oak Wilt

Although oak wilt has not yet been detected in New Jersey, it was detected in July 2016 in Long Island, NY, the closest oak wilt confirmation to New Jersey to date. Samples from five suspect oak wilt trees were submitted to West Virginia University for identification. To date, no results have been received.

Spicebush Anthracnose

Significant spicebush dieback was observed in certain areas, most likely caused by spicebush anthracnose. Samples were submitted to West Virginia University for identification. It was mainly observed in Hunterdon and Sussex Counties, although it may occur in additional counties.



Spicebush leaves killed by anthracnose. (Courtesy photo by Rosa Yoo)

References

Land Cover Map:

Jin, S.; Yang, L.; Danielson, P.; Homer, C.; Fry, J.; Xian, G. 2013. A comprehensive change detection method for updating the National Land Cover Database to circa 2011. *Remote Sensing of Environment*. 132: 159–175.

<http://www.sciencedirect.com/science/article/pii/S0034425713000242>. (1 March 2016).

Forest Land Ownership:

Oswalt, Sonja N.; Smith, W. Brad; Miles, Patrick D.; Pugh, Scott A. 2014. Forest resources of the United States, 2012: a technical document supporting the Forest Service update of the 2010 RPA Assessment. Gen. Tech. Rep. WO-91. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. Table 2.

http://www.fs.fed.us/sites/default/files/media/types/publication/field_pdf/GTR-WO-91.pdf. (1 March 2016).

Net Volume of Growing Stock on Timberland by Species:

Oswalt, Sonja N.; Smith, W. Brad; Miles, Patrick D.; Pugh, Scott A. 2014. Forest resources of the United States, 2012: a technical document supporting the Forest Service update of the 2010 RPA Assessment. Gen. Tech. Rep. WO-91. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. Table 23 & 24.

http://www.fs.fed.us/sites/default/files/media/types/publication/field_pdf/GTR-WO-91.pdf. (1 March 2016).



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.

U.S. Department of Agriculture
Forest Service
Northeastern Area
State and Private Forestry
11 Campus Blvd., Suite 200
Newtown Square, PA 19073
<https://www.fs.usda.gov/naspf/>

Forest Health Protection
Northeastern Area
State and Private Forestry
180 Canfield Street
Morgantown, WV 26505
304-285-1545

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/>