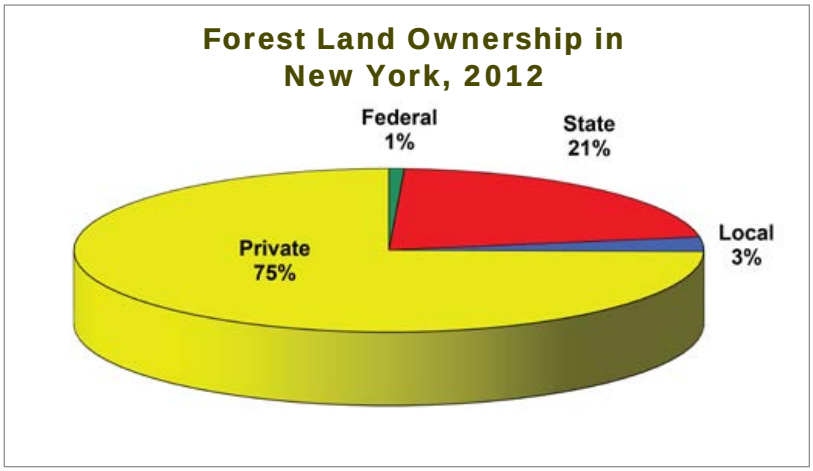
USDA United States Department of Agriculture

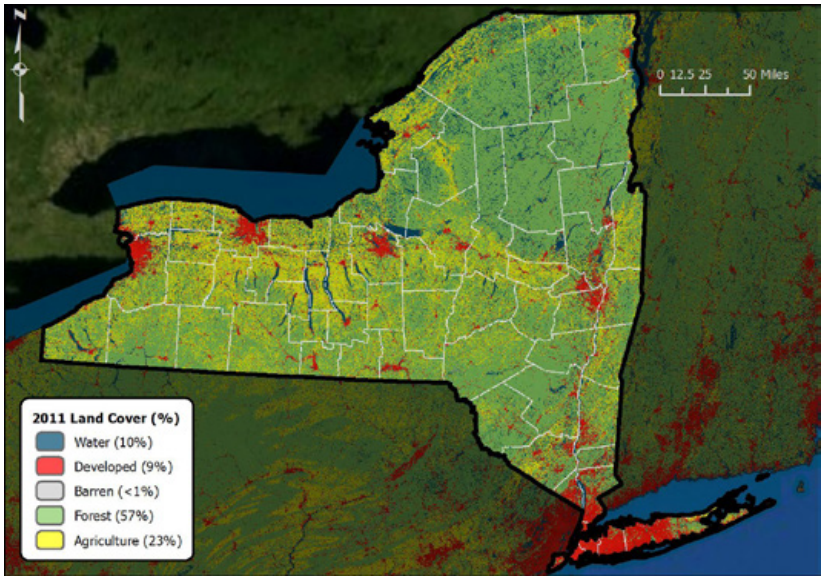
# 2016 Forest Health highlights

NEW YORK

## Forest Resource Summary

New York's forests are about 76 percent privately owned, which includes families and individuals, corporations, and other private entities. The remaining 24 percent is in public ownership, of which the State owns 19 percent, mostly encompassed by the Adirondack Park. These forest lands provide a recreational base for millions of residents and others visiting the State's scenic regions. New York's forests also produce timber, providing employment to 2 percent of the State's workforce. The manufacture of wood products provides $2.4 billion annually to the State's economy.




The 2015 New York forest inventory report estimates there are approximately 18.9 million acres of forest in the State—a figure that has changed little since the first cycle of annual inventory in 2008. Ninety percent of New York's forests are composed of hardwood forest-type groups—predominantly maple/beech/birch. The forest resource is made up of a variety of forest species, mostly red and sugar maple, white pine, eastern hemlock, white ash, beech, northern red oak, black cherry, yellow birch, red spruce, and other hardwoods and conifers.


Forest Service
Northeastern Area
State and Private Forestry

New York State
Department of Environmental
Conservation

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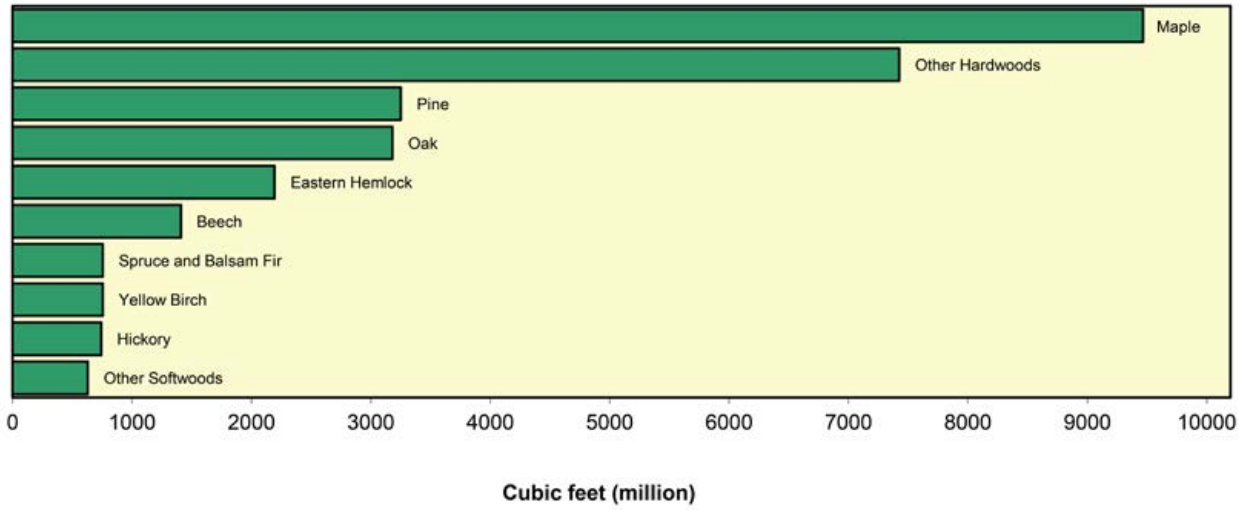
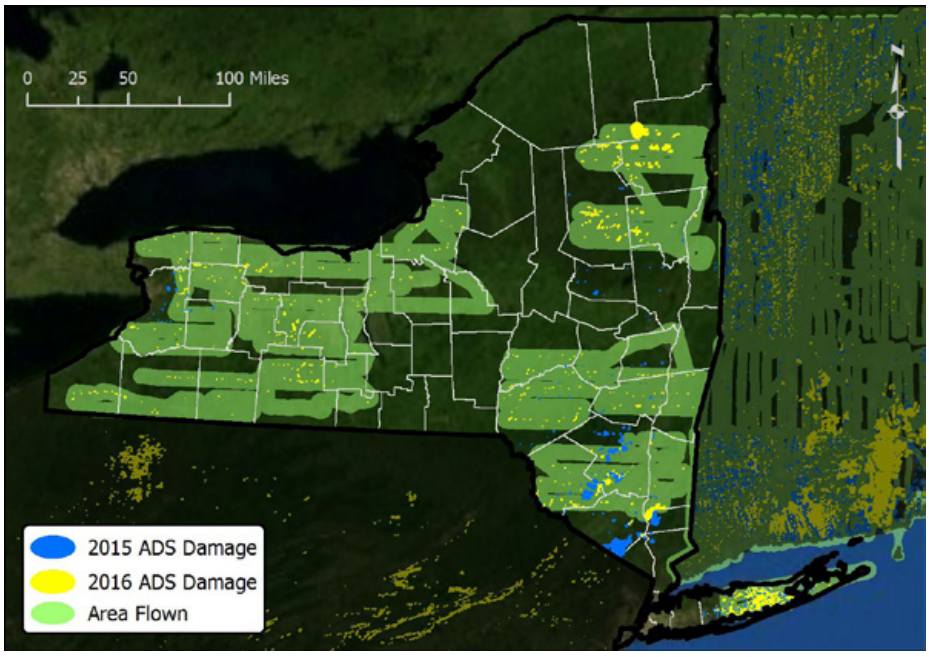
**Net Volume of Growing Stock on Timberland by Species in New York, 2012**

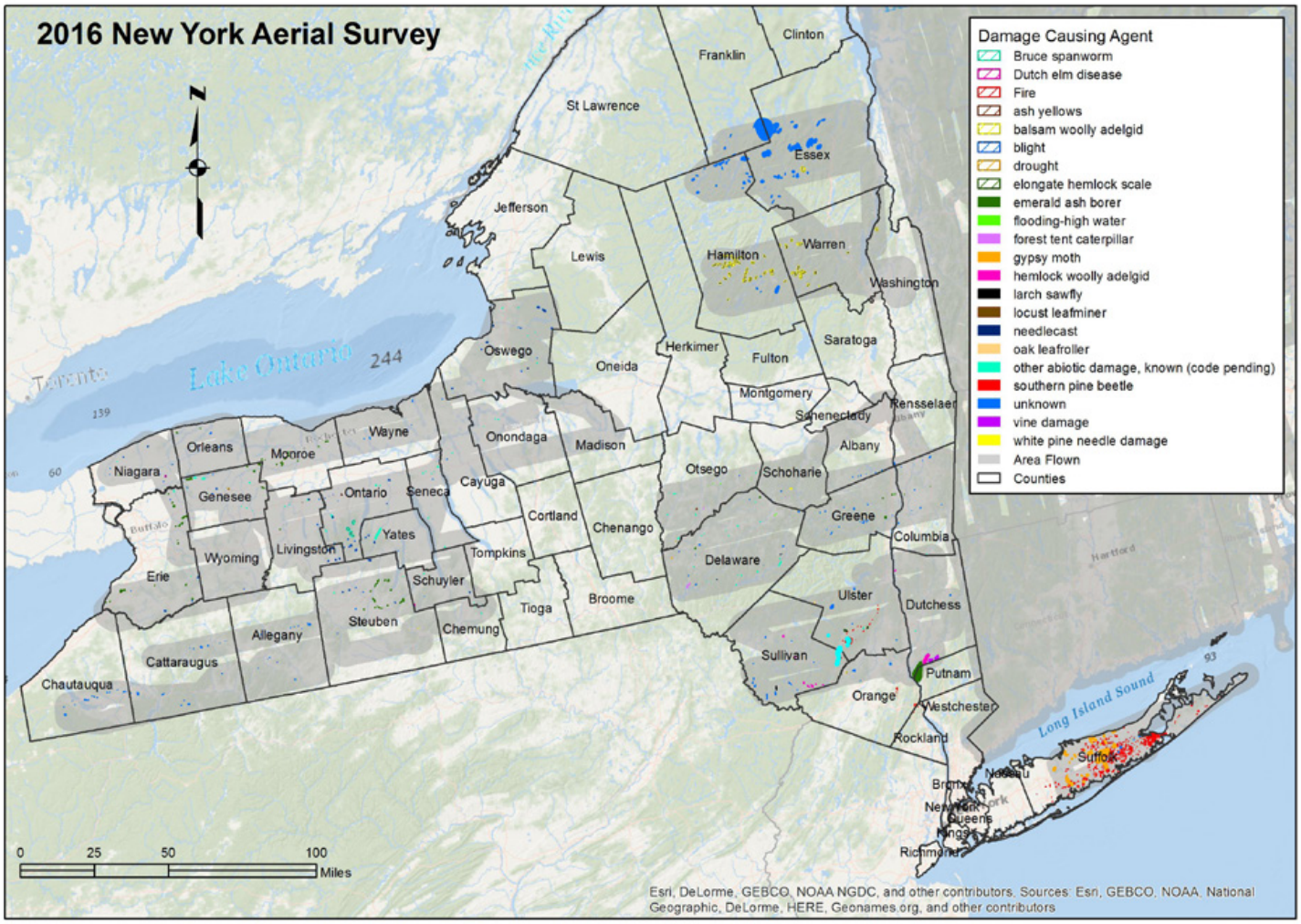



## Aerial Surveys

In New York State, damage mapped from the 2016 forest health aerial survey totaled about 157,000 acres of the nearly 16 million acres surveyed by air. Although there were 63,000 acres of damage mapped from unknown causes, the greatest amount of damage from a known insect was about 25,000 acres of pitch pine mortality due to southern pine beetle. Gypsy moth defoliation followed closely and accounted for about 23,000 acres of damage. Emerald ash borer caused about 17,000 acres of damage, mostly from defoliation and mortality. More than 11,000 acres of damage from balsam woolly adelgid were mapped, most of which was mortality of balsam fir. More than 3,000 acres of discoloration and mortality were attributed to hemlock woolly adelgid, and more than 3,000 acres of fire damage were mapped. Smaller pockets of damage were recorded for Bruce spanworm, elongate hemlock scale, forest tent caterpillar, larch sawfly, locust leafminer, oak leafroller, and white pine needle disease.




*Comparison of aerial detection survey (ADS) results for New York in 2015 and 2016. (Map: U.S. Forest Service, Durham, NH)*




*2016 New York Aerial Survey (Map: U.S. Forest Service, Durham, NH)*

# Forest Damage

## Weather

A major **drought** impacted forest health conditions in most of New York in 2016. In July, nearly a quarter of the State was considered to be in “Severe” drought status by the National Drought Mitigation Center, the worst drought in New York since the drought center began compiling statistics in 2000. By late November, 96 percent of the State was still suffering from abnormally dry conditions, with just over two-thirds of the State still in mild to extreme drought status. These dry conditions also likely contributed to 5,500 acres of forest damage by **fire** in Ulster and Sullivan Counties.

## Insects

**Southern pine beetle** continues to cause widespread mortality of pitch pine on Long Island, mostly in the Central Long Island Pine Barrens, a globally rare ecosystem under severe threat from the beetle. Adult beetles have also been detected in multiple pheromone traps in the Hudson Valley for the

past 2 years, but no infested pines were found there in 2016. In cooperation with multiple Federal, State, and local authorities, southern pine beetle population suppression by tree felling and preventative thinning is underway. Over 3,100 pines were felled in spot suppression efforts. But this is only a small fraction of the estimated 50,000 trees currently infested by the beetle. The New York State Department of Environmental Conservation (DEC) and partner agencies are also doing research on the ecology and impacts of southern pine beetle at this new northern edge of its range.

*Southern pine beetle trap. (Photo: New York State Department of Environmental Conservation)*

The **emerald ash borer** (EAB) is another significant invasive insect species in New York, and its range is increasing. Surveys in 2016 led to a doubling of the area in New York under the State's EAB quarantine. About 30 percent of the State's land area is currently under quarantine, and the infestations still appear to be expanding rapidly. Research activities and efforts to slow the spread of the beetle and ash mortality are being conducted in all infested areas of New York.

Cooperative efforts to eradicate **Asian longhorned beetle** from quarantined areas in New York City and Long Island are ongoing. The Central Long Island infestation expanded slightly this year after infested trees were discovered just outside of the quarantined area. Currently, 137 square miles in New York State are under quarantine for this pest.

Defoliation by **gypsy moth** fell by 60 percent from the previous year, with about 40,000 acres defoliated during the 2016 growing season.

*Spraying for hemlock woolly adelgid. (Photo: New York State Department of Environmental Conservation)*

**Hemlock woolly adelgid** continues to cause damage and mortality of native forest and ornamental eastern hemlock trees. In 2016 the adelgid was found for the first time in Orleans County, near the shore of Lake Ontario. Additional hemlock mortality and decline were also recorded throughout the previously known range of the hemlock woolly adelgid in New York. Damage is most severe in areas that have been infested the longest, such as the Catskills and the Finger Lakes regions. In some of these areas, a majority of the trees are infested, and many of those are

in declining health or are dead. In cooperation with State Parks and Cornell Cooperative Extension, predatory beetles and pesticide treatments have been applied in some specific areas to slow or reduce hemlock mortality.

**Elongate hemlock scale** is common in approximately the same range as hemlock woolly adelgid and is often, but not always, found in the same stands. Damage from the scale is hard to separate from damage by the adelgid at times; both have caused significant decline and mortality of hemlocks.

**Balsam woolly adelgid** has been increasingly noted on balsam fir in the Adirondacks over the past few years, and that trend continued in 2016. Surveys were able to detect at least some balsam woolly adelgid in most fir stands that were checked throughout the range of balsam fir in New York, but the heaviest infestations and mortality are occurring in the Adirondack Mountains.

It is assumed that much of the State is now infested with **Sirex woodwasp**, although no new affected counties were detected in New York in 2016. Within the known infestation, much of the worst damage is still found in pine plantations that are overstocked, overmature, or otherwise in declining health.

*Balsam woolly adelgid on a tree trunk with bark sample removed. (Photo: New York State Department of Environmental Conservation)*

## Pathogens

**Oak wilt** was detected in multiple new locations in New York in 2016. Fourteen oaks on Long Island (Suffolk County) have now been confirmed to have been infected by the pathogen after a homeowner in West Islip submitted a sample to Cornell for identification. Subsequent surveys have since confirmed oak wilt in one tree in Canandaigua (Ontario County) and another in Brooklyn (Kings County). Prior to this year, oak wilt had only been found in one New York location in Schenectady County. That infection was thought to be eradicated, but it is now clear that the disease is more widespread in the State than previously thought. Efforts to delineate these infected zones are ongoing and expected to continue into 2017.

**Beech bark disease** can be found readily throughout New York State.

The symptoms of **Dutch elm disease** are also conspicuous statewide. Many of the trees now succumbing to Dutch elm disease are mature trees in urban and suburban settings that survived the initial wave of the disease throughout the region.

**Butternut canker** is common in New York wherever butternut is found. It is rare to see a symptom-free butternut tree.

**Dogwood anthracnose** continues to affect understory and ornamental flowering dogwood across the State. This disease was not reported from any new areas in 2016.

## Invasive Plants

**Giant hogweed**, a noxious invasive plant that causes a severe skin reaction, is present in 49 counties in the State. This was the ninth year of manual eradication and the eighth year of herbicide use by DEC Forest Health and partner agency staff. There are currently 798 sites that previously had giant hogweed plants that had no plants in 2016 due to past control

efforts; 619 of these sites were monitored in 2016 by DEC and partner agency crews. There are 1,324 known sites where giant hogweed plants are present, the largest and densest of which are found in the western half of the State. During the 2016 field season (late April through August), DEC and partner agency field crews controlled giant hogweed plants at 1,081 sites, of which 729 sites were controlled by root cutting, 393 sites were controlled with herbicide, and 217 sites had flower heads removed. The giant hogweed hotline received and returned a total of 945 calls and 806 e-mails. The giant hogweed main Web page was viewed 314,597 times between January and October 2016.

Our control methods have been very successful; 38 percent of all sites now have no giant hogweed plants. We have found that small sites can be eradicated fairly quickly. For larger sites, crews are reporting that many sites have fewer plants and that they are seeing fewer large flowering plants as well.

*Cutting flower heads from giant hogweed. (Photo: New York State Department of Environmental Conservation)*

**Kudzu** has been present in New York since at least the early 20th century when it was promoted for use in erosion control. Until the past few years, there has been little formal tracking of populations. Concern is growing that a warming climate will allow the species to become as problematic for New York as it has been further south for decades. Beginning in 2013, the DEC, Long Island Partnership for Invasive Species Management, New York City Parks Department, and other stakeholders formed a kudzu task force to thoroughly inventory and prioritize for management all kudzu infestations in the State. There are currently 136 known infestations stretching from Eastern Long Island as far as the mid-Hudson valley. In 2016 DEC Forest Health crews controlled kudzu plants at 41 sites using herbicides and mechanical removal of root crowns; 20 additional sites were surveyed and found to have no kudzu plants due to the efficacy of prior years of DEC control.

*Spraying a large kudzu patch. (Photo: New York State Department of Environmental Conservation)*

*A kudzu patch near Plattekill, NY, before herbicide treatment. (Photo: New York State Department of Environmental Conservation)*

*The same kudzu patch 2 years after herbicide treatment. (Photo: New York State Department of Environmental Conservation)*

# 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 2015 update of the 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 2015 update of the RPA Assessment. Gen. Tech. Rep. WO-91. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. Tables 23 & 24. http://www.fs.fed.us/sites/default/files/media/types/publication/field_pdf/GTR-WO-91.pdf. (1 March 2016).

### New York Forest Inventory

Widmann, Richard H. 2016. Forests of New York, 2015. Resource Update FS-96. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p. https://www.fs.fed.us/nrs/pubs/ru/ru_fs96.pdf. (14 April 2017).


## 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.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