

NEW JERSEY FOREST SERVICE – 2025

Forest Health Highlights – 11/25/2025

The Resource

New Jersey is the most densely populated state in the nation and yet the forest covers approximately 2 million acres (42 percent) of the state's 4.1 million acres. Almost 50% of forestland in New Jersey is under public ownership. Forest cover represents the largest single land use with a diversity of forest tree species. Pitch pine and white oak/red oak/hickory represent the two dominant forest types by area in the state. The northern counties, such as 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, such as Cape May, Atlantic, Cumberland, and Burlington are dominated by southern yellow pines such as pitch, shortleaf, and to a lesser extent, Virginia and loblolly pine. Various oak species such as southern red, scarlet, chestnut and white are also prevalent in Southern New Jersey. Due to its population density, New Jersey is considered an urban state, making it critical to maintain forested areas through proper management and planning. Forest health monitoring and sustainable planning is an important tool that is used to minimize, and in some cases, eliminate the detrimental effects of forest health related pests and pathogens.

Forest Pest Issues

Agrilus smaragdifrons

In 2015-2016, the NJ Forest Service and NJ Department of Agriculture identified *Agrilus smaragdifrons* in EAB green funnel traps. The earliest record of *A. smaragdifrons* in NJ is from a photo report in Hudson County in 2011, but no specimen was collected. *A. smaragdifrons* is native to Asia and uses ailanthus as its primary host. At this time, it does not appear to cause significant damage to ailanthus, however, there might be potential to use *A. smaragdifrons* as a vector to disperse *Verticillium nonalfalfae*, a biocontrol to control for ailanthus.

In 2015-2016, *A. smaragdifrons* was identified as by-catch in EAB funnel traps in Somerset and Burlington Counties. In 2021, the NJFS expanded the survey area and deployed traps for *A. smaragdifrons* in Sussex, Morris, Passaic, and Hunterdon Counties. *A. smaragdifrons* was detected in Morris, Passaic, and Hunterdon Counties. None were captured in Sussex County. No additional trapping took place from 2022-2025.

Anthracnose

Anthracnose is caused by several species of fungi that affect the leaves of trees. Cool, wet, springs encourage anthracnose spores to proliferate, which can cause more severe leaf damage. In general, anthracnose is not a serious forest health threat, but repetitive years of heavy anthracnose damage can negatively impact tree health.

High numbers of American Sycamore, *Platanus occidentalis*, were observed to be impacted heavily by anthracnose during the spring of 2023. This is likely due to large variations in weather patterns observed in late winter and early spring. Affected host trees showed significant stress from anthracnose well into the growing season of 2023.

Asian Longhorned Beetle (ALB)

The Asian longhorned beetle (*Anoplophora glabripennis*) is native to eastern China and Korea, and was first discovered in North America in 1996 in Brooklyn, NY. ALB has since been detected in additional locations in New York, Illinois, Ohio, Massachusetts, New Jersey, and South Carolina.

ALB was first detected in New Jersey in 2002 in Hudson County (Jersey City). In 2004, additional ALB populations were detected in Middlesex (Carteret and Woodbridge) and Union (Linden and Rahway). The main hosts of ALB include maples, willows, ash, and poplars. The Middlesex and Union County ALB quarantine zone was deregulated in 2013. ALB is now considered to be eradicated from these areas. No additional ALB infestations were reported from 2023-2025.

Bacterial Leaf Scorch (BLS)

Although BLS (*Xylella fastidiosa*) is a bacterial disease that is considered native to NJ, it was first observed causing tree damage and mortality around 1985 in the southern half of the state, mainly affecting trees in the Red Oak family.

In NJ, BLS leaf scorch symptoms become visible in early to mid-August, and is predominately found on red oaks, although it can be detected in other species including sweetgum, elm, and maple. BLS is a slow tree killer, often taking 10 or more years for an infected tree to succumb but causing gradual canopy decline and dieback over that time. Although antibiotic trunk injection treatments are available to treat BLS, these treatments must be done on an annual basis and treatments are most effective when done either prior to, or soon after infection.

In 2023, in an effort to survey and detect oak wilt, 50 oak trees exhibiting symptoms of decline were sampled across NJ with 45 of the 50 samples returning positive results for presence of bacterial leaf scorch. In 2024, this survey was not completed due to contractor limitations, and in 2025 this survey was not completed due to funding limitations.

Beech Bark Disease (BBD)

BBD is a disease-insect complex between a fungus (*Neonectria faginata* and *N. ditissima*) and the beech scale insect (*Cryptococcus fagisuga*), native to Europe. Its main host is American beech. BBD was accidentally introduced to Nova Scotia in the 1890s on an ornamental beech imported from Europe. BBD was first detected in New Jersey in 1935, and by the 1960's, BBD was well established in the New England states.

The majority of beech found in the northern counties have been infested and infected by both the scale and fungus, respectively. At this time, no BBD has been found in central or southern NJ. Also, 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. Although there are no effective treatments for BBD, researchers have found American beech trees that exhibit

resistance to BBD. These trees are tested for resistance then grown in orchards to serve as future sources of seeds for American beech restoration efforts. BBD long-term monitoring plots were combined with BLD long-term monitoring plots. BBD in these plots is surveyed every 5 years with the most recent BBD survey occurring in 2021.

Beech Leaf Disease

BLD has been found to be directly linked to a nematode, *Litylenchus crenatae mccannii*. BLD symptoms include dark striping within the leaf mid-veins, clearly visible when leaves are held up against the light. The progression of BLD eventually causes necrotic leaf tissue and defoliation, leading to branch dieback and eventual tree mortality. A Bergen County resident reported a suspect beech tree on their property in the summer of 2020. Leaves from their tree were sent for testing to USDA-ARS in Beltsville, MD, which later confirmed the presence of the nematode, *Litylenchus crenatae mccannii*. During this same time period, a member of the public submitted suspect leaves from a public park in Essex County to the Rutgers Plant Diagnostic Lab which were also determined to be infested with BLD.

The NJFS is participating in a multi-state grant and has established long-term monitoring plots to measure and track the progression of BLD. Unfortunately, due to COVID-19, plots were not to be established for the 2020 field season. However, in 2021, long term monitoring plots were established at 12 sites in 11 Counties (Burlington, Cape May, Essex, Hunterdon (2), Mercer, Middlesex, Morris, Passaic, Salem, Sussex, and Union). Hobo sensors were placed at 3 plot locations across the state in Cape May, Middlesex, and Sussex Counties. These sensors collect long term temperature and humidity data. During data collection at these plots, as well as additional visual surveys and reports, BLD was detected in nine additional counties in 2021 (Hunterdon, Mercer, Monmouth, Morris, Passaic, Somerset, Sussex, Union, and Warren). In addition, the BLD site detected in Essex County in 2020 visually appears to have increased BLD affected trees and BLD caused defoliation. In 2022, two additional counties had BLD detections (Burlington and Warren Counties). A BLD press release in 2022 resulted in numerous reports of BLD in 2022 and 2023 most heavily concentrated in the northeastern part of the state. In 2023, two additional counties had BLD detections (Middlesex and Salem Counties). In 2025, positive cases of BLD were noted in Ocean, Atlantic, Camden, Gloucester, and Cape May counties. Currently, only 2 NJ counties have no evidence of BLD – Hudson and Cumberland. The NJFS believes this to be due to high levels of development and lack of beech trees in these two counties, but we will continue to monitor this into the future.

Butternut Canker

Butternut canker is caused by the fungus *Ophiognomonia clavignenti-juglandacearum* (OCJ), first discovered in Wisconsin in 1967. The fungus has since spread throughout the native range of butternut (*Juglans cinerea*) causing widespread tree mortality. Although the origin of OCJ is unknown, it is believed to be non-native to the US.

In NJ, butternut is classified as an S1 species, critically imperiled with very few individuals in the state, most likely due to the impacts of butternut canker. On a national level, research is on-going to seek canker resistant/tolerant parent trees and conserve native genetics, however, to date, no resistance has been identified. In addition, the natural hybridization of butternut and Japanese walnut (*Juglans ailantifolia*) creates a hybrid often

referred to as a “buartnut”, which are less susceptible to butternut canker than pure butternut trees. Because buartnuts are able to survive butternut canker infections, they are more likely to be found in the landscape than pure butternut trees.

The NJFS has been working cooperatively with the Office of Natural Lands to locate and assess the few known butternut populations in NJ. Four butternut trees that were located at 2 sites were submitted for identification to the USFS NRS at Purdue University. Three of the trees came back as hybrids (buartnuts) and 1 came back as a pure butternut. The pure butternut did have visible cankers on the bole of the tree, however was not tested to confirm the presence of butternut canker. Additional sites were visited that had butternut trees, but they appeared to be the hybrid, buartnuts.

Early Detection Rapid Response

In 2022, the NJFS participated in the EDRR trapping program to identify invasive species of bark and ambrosia beetles, administered through USDA Forest Service. A total of 10 locations were surveyed (Stokes SF, Jenny Jump SP, Round Valley RA, Washington Crossing SP, The Hermitage, Allaire SP, Ringwood SP, Monmouth Battlefield, and the military Joint Base). Three traps were deployed at each location, each hung with 3 different lures (Alpha-pinene & ethanol, Ethanol, and Ipslure). Traps were deployed in May and taken down in August. Traps were checked every 2 weeks and trap collections were shipped over night to Rick Hoebeke at the University of Georgia. Nothing of concern was collected in traps.

Elm Zig-zag Sawfly

Feeding patterns on elm leaves characteristic of Elm Zig-zag Sawfly (EZS) were identified in Sussex County summer of 2023 by NJ Department of Agriculture personnel. This feeding was submitted for analysis to the Rutgers Plant Diagnostic Lab for identification which confirmed the feeding on the elm was likely from EZS. No physical specimens or cocoons have been recovered and therefore APHIS cannot officially quarantine the site for EZS. Attempts to collect physical specimens were not successful in 2024 or 2025, but will continue into the future.

Emerald Ash Borer (EAB)

The EAB (*Agrilus planipennis*) is native to north-eastern Asia and was first discovered in North America in 2002 in Michigan. EAB's main host are ash trees (*Fraxinus sp.*), but it is also known to infest white fringetree (*Chionanthus virginicus*). To date, EAB has been detected in 35 states, including New Jersey in 2014. Currently all 21 counties in NJ have EAB detections. In 2025, 111 ash trees across 6 sites (Crosswicks Creek County Park, D&R Canal State Park, Hacklebarney State Park, Pequest Trout Hatchery, Round Vallet Recreation Area, and Swartswood State Park) were treated via trunk injection.

The NJFS and NJDA also worked cooperatively to release three parasitoids, *Oobius*, *Tetrastichus*, and *Spathius galinae*. These parasitoids were released at two different locations in 2025: Crosswicks Creek County Park (Monmouth County) and Tall Pines State Preserve (Gloucester County). EAB Biocontrol recoveries were conducted via the placement of two rounds of sentinel logs in 2025 by the University of Maryland at several sites across NJ where EAB biocontrol parasitoids have been previously released. These sites include High Point State Park, Round Valley Recreation Area, Ringwood State Park, D&R Canal State Park, and

Whittingham Wildlife Management Area. Results demonstrated that while the D&R Canal State Park sentinel logs had no biocontrol insects emerge or get dissected out of the logs, the logs stationed at the 4 other sites had moderate to high rates of success, with High Point State Park being the only site that demonstrated successful parasitism in both rounds and had the highest rates of parasitism overall. Both *Spathius galinae* and *Tetrastichus planipennisi* were recovered in the High Point SP site, only *Tetrastichus* were recovered in Ringwood SP, and only *Spathius* were recovered in Round Valley Recreation Area and Whittingham WMA.

Table 1: Preliminary results from University of Maryland EAB parasitoid recovery

State	Site Name	Round 1 Emergences	Round 1 Dissection	Round 2 Emergences	Round 2 Dissection
NJ	Delaware & Raritan Canal State Park	0	0	0	0
NJ	High Point State Park	14 SG, 14 TET	23 SG, 29 TET	8 SG	33 SG
NJ	Ringwood State Park	51 TET	5 TET	0	0
NJ	Round Valley Recreation Area	0	0	0	4 SG
NJ	Whittingham Wildlife Management Area	9 SG	27 SG	0	0

SG = *Spathius galinae* TET=*Tetrastichus planipennisi* Emergences are parasitoids that emerged and were recovered as adults from the logs' time in the growth chamber. Dissection is parasitoids recovered during log dissections.

Fall Webworm

Fall webworm (*Hyphantria cunea*) is native to North America and generally does not pose a serious threat to tree health. Because leaf feeding by the caterpillars takes place late in the season, most impacted trees are able to recover this defoliation. Fall webworm are most easily identified by their tent-like webs on the ends of the branches that appear in late summer. Fall webworms were observed in the state in 2023, most prevalent in the Northern half of the state.

Hemlock Woolly Adelgid (HWA)

HWA (*Adelges tsugae*), is native to east Asia, and was first discovered in the eastern United States in 1951 near Richmond, Virginia. HWA was first detected in NJ in 1978 in Burlington County. HWA mainly affects Eastern hemlock trees by feeding on the new growth. Numerous biological controls have been released starting in 1998 with predacious insects including *Sasajiscymnus tsugae*, *Scymnus sinuanodulus*, and *Laricobius nigrinus*.

Nearly all hemlock in New Jersey, approximately 25,000 acres, have been infested with HWA to some extent. Eastern hemlock is designated as a priority forest resource in the NJ Statewide Forest Resource Assessment & Strategies. In 2012, the NJSFS was awarded a grant to chemically treat select hemlock areas and to prepare a hemlock resource assessment. Treatments began in spring of 2011 and continued through 2015. In 2023, no hemlocks were treated and no further treatments are planned at this time. In 2021, the NJFS collected hemlock cones from 30 trees, for the state nursery to bank and propagate NJ native hemlock seeds. Unfortunately, no cones were collected in 2022 or 2023.

In October 2022, the NJFS conducted a *Laricobius nigrinus* recovery survey in Sussex County with retired NJDA Bureau Chief, Mark Mayer, and PA DCNR forest health program specialist, Kendra McMillin. Several *Laricobius* were recovered. Additional recoveries were made throughout the Delaware Water Gap in winter 2024, with much success. In 2025, no hemlocks were treated, no cones were collected, and biocontrol recoveries in the Delaware Water Gap did not occur. In fall 2025, hemlock samples from Stokes State Forest, Wawayanda State Park, Ringwood State Park, and Walpack Wildlife Management Area were collected for genetic testing by staff from Holden Arboretum, University of Michigan, University of Connecticut, and University of Rhode Island. The NJ State Nursery continues to germinate hemlock seeds for research purposes and restoration efforts. Additionally, the NJFS is implementing a hemlock restoration project in Stokes State Forest in a 150-acre stand of Eastern Hemlock. Project implementation is expected to begin in 2026.

Lymantria dispar dispar

Lymantria dispar dispar (LDD) is native to Europe and was intentionally introduced in Massachusetts in 1869, for silkworm production. Unfortunately, the insects escaped captivity and continue to spread. LDD was first detected in NJ in 1920 in Somerset County, and today LDD populations have been detected statewide. In efforts to combat LDD, biological controls and suppression efforts have been implemented. The NJ Department of Agriculture has released numerous predatory and parasitic insects from 1963-1986 as a means of biological control against LDD.

In 1981, New Jersey faced its worst LDD defoliation incident, where over 800,000 acres were impacted. NJ continues to survey and monitor for LDD via aerial survey and egg mass surveys. The LDD have a wide host range, but highly prefer oak trees.

In 2025, there was a suppression program in Bergen, Burlington, Cape May, Morris, Passaic, Sussex, and Warren counties. A total of 3,025 acres were suppressed on state lands, of which 2,858 acres (2,472 single application and double application) were standard spray blocks located in Bergen, Passaic, Sussex and Warren counties, and 167 acres were "good neighbor" blocks located in Morris and Sussex counties. In addition, the NJ Department of Agriculture suppressed a total of 5,927 acres (4,844 single application and 1,083 double application) on municipal lands in Burlington, Cape May, Morris, and Sussex counties. LDD defoliation decreased in 2025. Based on the NJ Department of Agriculture's aerial survey detection program, 126,075 acres were defoliated by LDD in 2025, a 14,453 acre decrease from the 2024 defoliation report. In 2025, there was a noticeable decrease in defoliation in Sussex and Bergen Counties, with a noticeable increase in defoliation in Morris and Passaic Counties. The 2025 aerial survey detection program saw an increase in counties defoliated compared to 2024, but

with fewer defoliated acres per county for the most part (out of 14 counties with visible defoliation, 6 counties had 35 or less acres of defoliation). A small spray program on state DEP lands (<400 acres) will be proposed for 2026 in Sussex County.

Oak Shothole Leafminer

The oak shothole leafminer, *Japanagromyza viridula* synonym *Agromyza viridula*, is a native fly that has recently become more prevalent in the Mid-Atlantic states. Its range extends as far north as Maine and as far south as Florida. Not much is known about this fly or the reason for this increase in activity. The “swiss cheese” holes visible on white and red oak leaves are created by the female fly when the oak leaves start to break bud. The female punctures the leaf with her ovipositor creating a small hole where she can feed on the leaf fluids. As the leaves grow and expand, so do the holes, creating a “swiss cheese” appearance.

Oak shothole leafminer leaf damage has become more prevalent in NJ since 2019. In 2020, due to COVID-19, visual surveys were limited, however, the NJFS utilized social media to request photo submissions from the general public of oak shothole leafminer leaf damage. In 2021, NJFS continued to receive reports of oak shothole leafminer. Two additional counties were confirmed in 2021 - Camden and Morris Counties. No additional counties were reported from 2022-2025.

Oak Wilt

Oak wilt (*Bretziella fagacearum*) is a fungus that causes rapid mortality in oak trees in July and August. Oak trees in the red oak family are more susceptible than those in the white oak family, but both can be infected with the fungus. Trees can die within weeks or months after infection. Oak wilt has not yet been detected in NJ but has been detected in neighboring states including New York and Pennsylvania.

The NJFS continues to cooperate with the Rutgers Plant Diagnostic Lab through outreach to municipalities, tree care professionals, shade tree volunteer groups and is requesting any suspect oak wilt tree samples be submitted to the Rutgers Plant Diagnostic Lab. Suspect oak wilt samples were submitted to the Rutgers Plant Diagnostic Lab in 2022, however no oak wilt was detected. In late summer of 2023, the NJ Tree Foundation was contracted to collect samples of declining oak trees across the state where 50 total samples were collected. The samples were tested by Rutgers Plant Diagnostic Lab for both bacterial leaf scorch and oak wilt. Of the 50 samples, 45 tested positive for BLS and none tested positive for oak wilt. Surveys were unable to be completed in 2024 due to contractor availability, and in 2025 due to lack of funding. Oak wilt surveys are planned to occur in 2026.

Sirex woodwasp

Sirex (*Sirex noctilio*) is a woodwasp that is native to Europe, Asia, and north Africa. It was first discovered in North America in New York in 2004 in a trap. Sirex is considered a major pest of pines, including Scots, Austrian, red, loblolly, and white. No sirex traps were hung from 2022-2025.

Southern Pine Beetle (SPB)

Although considered a native insect, SPB (*Dendroctonus frontalis*) has the potential to cause widespread tree mortality. In 2001, southern pine beetle was officially recorded in NJ as causing tree damage and mortality in Cumberland and Cape May Counties. In 2002, surveys estimated 1,270 acres impacted by SPB, with some individual SPB spots measuring 250 acres. Since this discovery, the NJFS has continued to monitor and survey SPB populations via trapping, aerial survey, and select ground verification annually. In addition, suppression measures are implemented to control SPB populations and reduce tree mortality when appropriate. In 2010, SPB populations increased causing widespread tree mortality in Atlantic, Cape May, Ocean, and Cumberland Counties, affecting over 14,000 acres.

Damage from SPB is identified by pine tree crown color change from yellow, red, to brown, typically over contiguous areas. In NJ, SPB mainly affects Pitch pine (*Pinus rigida*), Shortleaf pine (*P. echinata*), and Virginia pine (*P. virginiana*), but has been observed infesting Norway spruce (*Picea abies*) and white pine (*Pinus strobus*).

From 2022-2025, aerial survey for SPB damage was unable to be completed due to mechanical issues with flight equipment and lack of staff capacity to implement aerial surveys. In 2025, approximately 8 SPB traps were deployed across the state. Trap catches were sent to USFS Morgantown for screening. SPB populations detected in traps were not of significant concern.

Spotted Lanternfly

SLF (*Lycorma delicatula*) is native to China, Bangladesh, and Vietnam. The first North American detection was in Pennsylvania in 2014, and has since been detected in Virginia, Delaware, and New Jersey. SLF has a wide host range that includes ailanthus, black walnuts, grape vines, apple trees, and numerous other trees, vines, shrubs, and plants.

SLF was officially detected in NJ in the summer of 2018 in Warren, Mercer, and Hunterdon Counties. USDA APHIS and NJ Department of Agriculture have previously worked together to survey and delimit the infestation area but presently the infestation appears to be almost ubiquitous around the state with hotspots and population cycles in some urban areas. SLF continues to be controlled using a combination of herbicide and pesticides on ailanthus trees. SLF is present in all 21 NJ Counties as Cape May County was most recently infested in 2022. The NJ Department of Agriculture and the USDA APHIS are the lead agencies in the statewide SLF program.

Thousand Canker Diseases (TCD)

TCD is a disease-insect complex between a fungus (*Geosmithia morbida*) and the walnut twig beetle, WTB (*Pityophthorus juglandis*), and is believed to be native to the western states. Although WTB and *Geosmithia* are commonly found on western walnuts, it does not pose a threat to these trees. However, in black walnut, TCD causes cankers, dieback, and eventual tree death. NJ has been trapping for WTB and conducting visual surveys for TCD, but neither have been detected in the state. Trapping locations are strategically placed near known TCD detections in PA and MD.

Trapping for WTB began in NJ in 2021. In 2025, 4 traps were deployed in Sussex, Warren, Mercer, and Hunterdon counties (one in each county). Trap collections were submitted to an NJDA entomologist for identification. To date, no walnut twig beetles have been

confirmed in NJ, but in 2025 the Goat Hill trap in Mercer County yielded a suspect beetle in the *Pityophthorus* genus that was sent from the NJ Agriculture Philip Alampi Beneficial Insect Lab (PABIL) to a USDA APHIS lab for identification down to the species. The USDA APHIS lab results were able to confirm the specimen down to the genus using DNA samples, but not species. NJ Agriculture has requested the return of the suspect beetle to attempt to identify the beetle down to species based on morphology. If identification is not successful or feasible, WTB traps will continue to be hung in this location in the 2026 trapping season.