

# Delaware - 2022

## Forest Health Highlights

### The Resource

Delaware's forests presently cover approximately 382,000 acres, roughly one third of the land area in the State. Delaware has experienced a rapid conversion of forests and agricultural lands to residential and other urban uses since the 1980s.

### Weather Conditions

Winter of 2021 – 2022 started off mild and dry in December of 2021. January 3<sup>rd</sup> brought in a heavy snow (10 to 12” in the southern half of the state). Another snowfall of about 6 to 9” in most areas of the state January 29<sup>th</sup> led to further branch and trunk damage to conifers and American holly. A low temperature of about 4 degrees fahrenheit hit on January 30<sup>th</sup>. Winter temperatures were otherwise normal. There were moderate spring frosts at the end of March and the end of April. Heat and drought periods occurred in August and late September. Hurricane Ian ended the droughty periods with over 5 inches of rain from September 30<sup>th</sup> through October 4<sup>th</sup>. Rainfall totals are normal for the year up to late October.

### Forest Insect Issues

**Emerald Ash Borer** – 2022 aerial survey results mapped over 3,300 acres of damage due to Emerald Ash Borer (EAB) (800 acres were mapped in 2021). EAB was first found on purple panel traps in northern Delaware in 2016. Much of the ash across the state has likely been infested at this point. The forests of Delaware contain about one percent ash overall. Some upland forests in the piedmont (with white ash) contain up to about 7 percent ash on a local scale. Forests in the southeast corner of the state contain very little ash.



Figure 1. 2022: Ash (*Fraxinus* spp.) canopy dieback due to emerald ash borer along a river floodplain in Sussex county, DE. (Bill Seybold).



Figure 2. July 6, 2022: Pumpkin ash (*Fraxinus profunda*) seed near the Nanticoke river in Sussex County, DE. (Bill Seybold).

**Asian Longhorned Beetle (ALB)** – ALB is a serious threat to a variety of hardwood species, especially the rural and urban maples throughout Delaware. Trapping begun in 2012 was continued in 2022. Sets of Shantung Maple (*Acer truncatum*) seedlings planted in five New Castle County parks were inspected for ALB signs and symptoms again this year. No ALB was detected.

**Sirex woodwasp (*Sirex noctilio*)** - *Sirex noctilio* presents a threat to loblolly pine, the mainstay of the forest products industry in southern Delaware. Stressed pine trees and stands with discoloration or unusual mortality are checked for signs of the insect; such as round exit holes and sap flow. *Sirex noctilio* has yet to be detected in Delaware.

**Southern Pine Beetle** - Delaware participated in 2022's spring southern pine beetle (SPB) survey in conjunction with southern states. At four sites across Sussex County, Lindgren funnel traps and SPB lures were placed April 11 and serviced weekly until May 23. The Redden State Forest trap collected a total of 13 adult SPB, averaging 0.3 SPB per day. The other traps did not collect SPB. This indicates another year of low or declining SPB population.

**Spotted Lanternfly (SLF)** - SLF was first spotted in Wilmington in November of 2017. The Delaware Department of Agriculture Plant Industries section quarantined New Castle County originally, and then as of October, 2020 Kent County (just to the south) was added. The entire state was considered worthy of quarantine as of July, 2022. The Plant Industries Section of the Delaware Department of Agriculture continues to run a task force to directly work on control efforts and public education to combat the spread of this new invasive plant hopper.

**Other Insects** - Pheromone lures and traps for the detection of walnut twig beetle (WTB) set up in six locations in New Castle County are still being sorted at this time, though the spring and early fall catch did not show any WTB once again. This insect has yet to be detected in Delaware. The June 2022 aerial survey showed well over 800 acres of defoliation from *Lymantria dispar dispar* (formerly Gypsy Moth). This is an increase from just about 20 acres detected in 2021. Fall egg mass surveys in three parts of southern and southwestern Sussex county show that a larger population and defoliation increase could be in store for next spring.

## Forest Disease Issues

**Bacterial Leaf Scorch (BLS)** - Delaware Forest Services' permanent BLS plots in the state forests showed low levels of leaf scorch symptoms in mid-September of this year. Only one additional permanent plot red oak died this year. The heat and drought of August did not appear to cause leaf symptoms in the red oaks of natural woodlands. However, many urban and suburban landscape red oaks with leaf scorch were noted.

## Forest Health Monitoring

**White Oak Decline Study** - Due to schedule conflicts, this year the white oak permanent plots were not fully re-measured. The Delaware Forest Service intends to continue measuring white oak survival, growth, symptoms, branch dieback and mortality in future years at Blackbird State Forest.



Figure 3. July 19, 2022: White Oak (*Quercus alba*) and other hardwoods in a new house construction zone in Kent County, DE. (Bill Seybold)

**Beech Bark & Beech Leaf Disease** – With the rapid increase in spread of beech leaf disease in surrounding states, seven beech leaf disease permanent study plots were installed at four beech stands across Delaware in 2021 as part of a region-wide monitoring effort. In summer of 2022, the beech trees were re-inspected for visual symptoms of both beech leaf disease and beech bark disease. Digital pictures of similar leaf symptoms were sent to the USFS and University of Delaware plant diagnostic lab. Those symptoms were all attributed to a native mite on the beech leaf. Fall bud samples sent in the UD lab in late 2021 also came back negative for the causal nematode *Litylenchus crenatae mccannii*.

**Aerial Survey** – The 2022 aerial forest monitoring survey was flown on June 21, July 12 and July 13. 185 forest damage areas were mapped. Significant damage agents noted from the plane were emerald ash borer (3,365 acres), *Lymantria dispar dispar* (828 acres) flooding/high water (114 acres), herbicides (33 acres), and unknown (77 acres). The total amount of damage mapped was 4,462 acres.

Delaware Forest Service  
2320 South DuPont Highway  
Dover, DE 19901-5515  
Phone: (302) 698-4500

<https://agriculture.delaware.gov/forest-service/forest-health/>

