



Virginia

Forest Health Highlights 2020



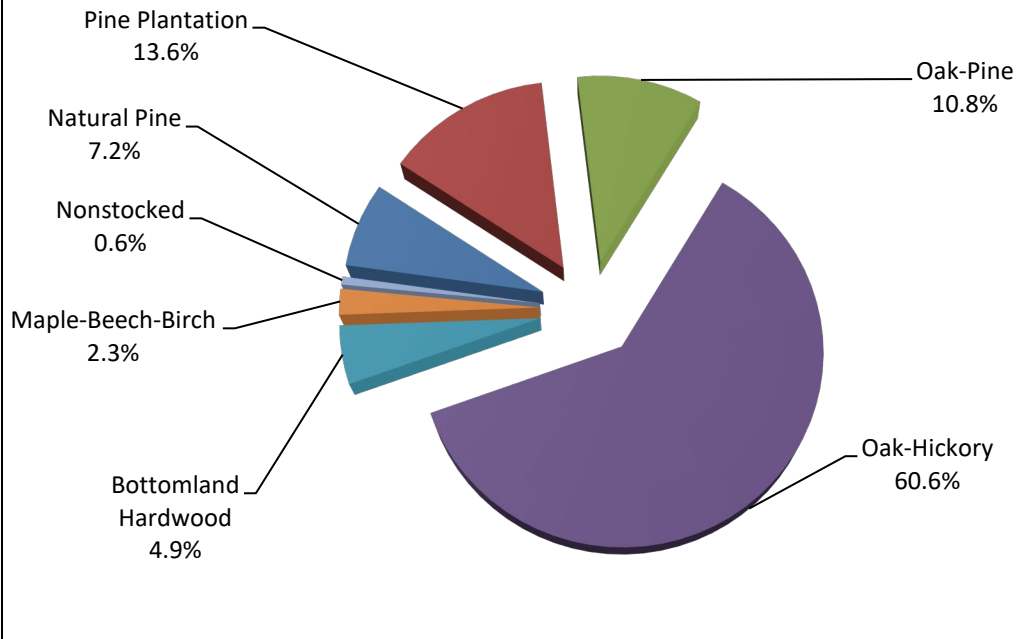
The Resource:

Virginia's forestland continues to be primarily held in private ownership (over 82%), most of which is utilized for recreation, timber and forest products, wildlife habitat, conservation and water quality protection. More than 62% of Virginia's land qualifies as forestland, totaling over 16 million acres and contributing to the diversity of landscapes across the Commonwealth. Mixed hardwoods, planted pine, and conifers can all be found within Virginia. There are over 100 species of live trees documented in Virginia with loblolly pine being the most abundant followed by tulip poplar and oak species like white and chestnut. Given how diverse the forests are within Virginia, land owners and managers must be able to adapt to the challenges and rewards of this resource. Given the increasing movement of materials and people, threats like invasive species are ever present and expanding. Additionally, native pests and diseases also persist and can occasionally reach damaging levels around the state. This document details some of the common threats to Virginia forests that occurred in 2020. The Virginia Department of Forestry continues to respond to such threats and work to protect and develop healthy, sustainable forests around the Commonwealth.

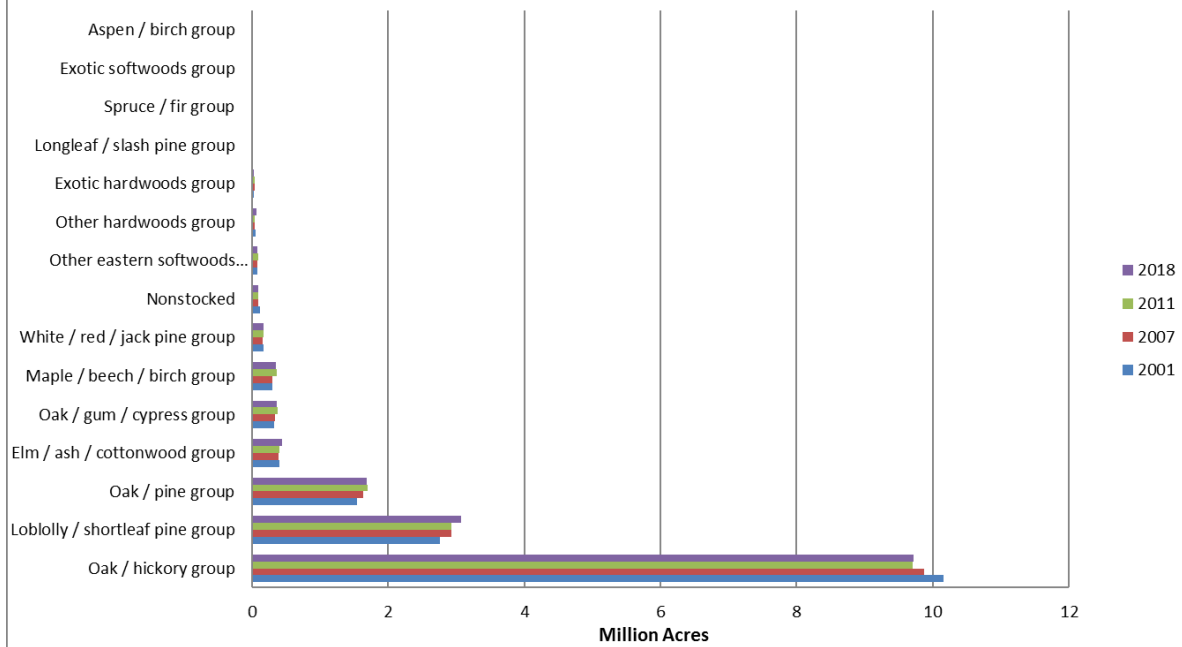
Source:

- Brandeis, T.J.; Hartsell, A.J.; Randolph, K.C.; Oswalt, C.M. 2018. Virginia's Forests, 2016. Resour. Bull. SRS-223. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 99 p.
- USFS. "The USDA Forest Service Forest Inventory & Analysis Program Supplies Annual Updates of Forest Resources in Each State Based on an Inventory Conducted by the FIA Program in Cooperation with State Forestry Agencies." *Tableau Software*, 2020, public.tableau.com/views/FIA_OneClick_V1_2/Factsheet?%3AshowVizHome=no.

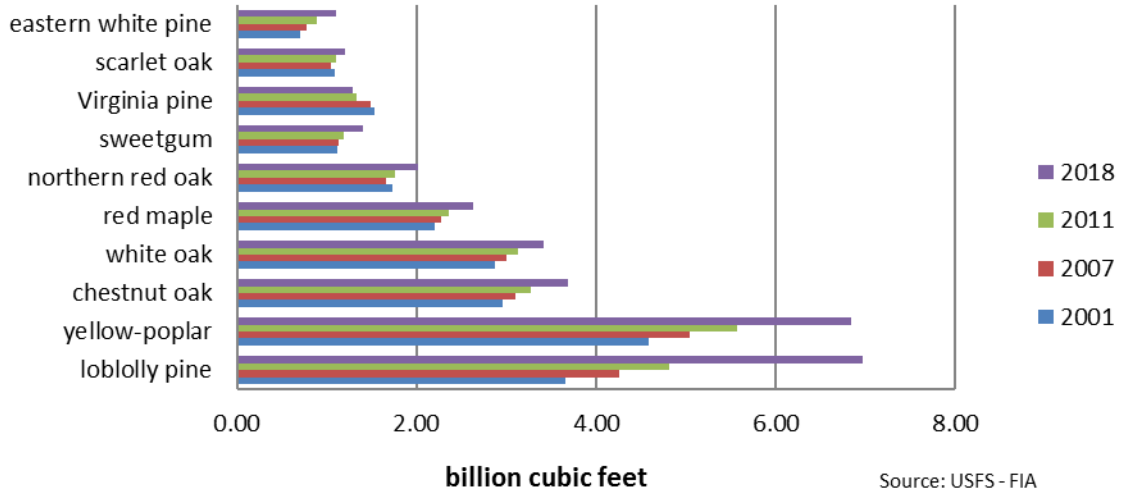
Virginia Forest Type Distribution, 2017



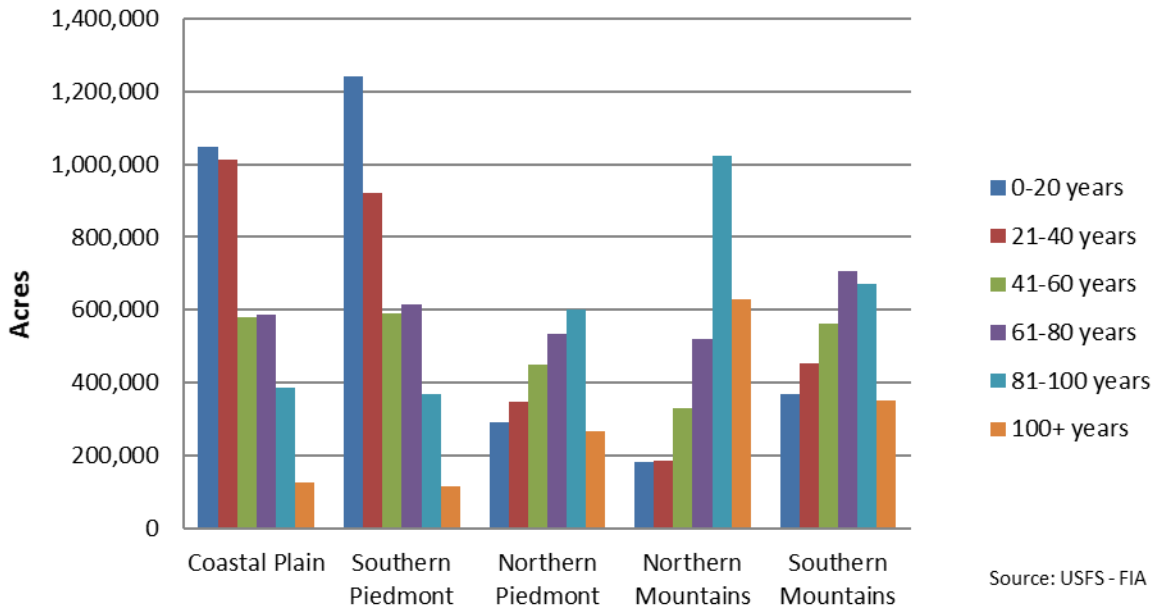
Acres by Forest Type Group



Top 10 Tree Species by Volume



Forest Land Area by Survey Unit & Age Class, 2018



Forest Health Influences and Programs:

Pine Bark Beetles- Virginia continues to see minimal southern pine beetle (SPB) activity in pine forests though the threat of attack is always a concern. The Virginia Department of Forestry (VDOF) continues to participate in the SPB annual survey. In early spring 2020, twenty-five pheromone baited funnel traps were deployed across twelve counties to monitor SPB populations. As with previous years, limited numbers of southern pine beetles were trapped and the results again show that SPB populations in Virginia continue to persist at low, static levels. SPB was found traps over the four week trapping period in Chesterfield, Amelia, and Hanover County, and a single beetle was found in the Sussex County trap. Additionally, there were 4 reports of SPB that were confirmed. All were very small spots; 5 acres and 0.5 acres in Prince George county, 4 acres in King and Queen, and then 15 trees in Cumberland county. *Ips* bark beetles were again more problematic than SPB, especially in late fall 2019 and early spring 2020 when Virginia experienced drought-like conditions. There were 91 reports of *Ips* spots in 27 central and eastern Virginia counties that were, for the most part, small and patchy.



Above: A stand impacted by *Ips* beetles

Southern Pine Beetle Prevention Program- Silvicultural practices and good forest management continues to be an effective tool to help reduce the risk of SPB. To encourage such practices, the VDOF helps to incentivize landowners and minimize risk of beetle activity, three cost share programs are offered: pre-commercial pine thinning for landowners, first commercial pine thinning for loggers, and longleaf restoration for landowners. The Virginia Pine Bark Beetle Prevention Program continues to be supported by USFS Forest Health Protection Southern Pine Beetle Program funds. To date, Virginia has thinned over 65,000 acres of pine (mostly pre-commercial) through such cost share programs since 2004. This practice continues to prove that it helps improve the health of a forest and reduces a stand's susceptibility to SPB.

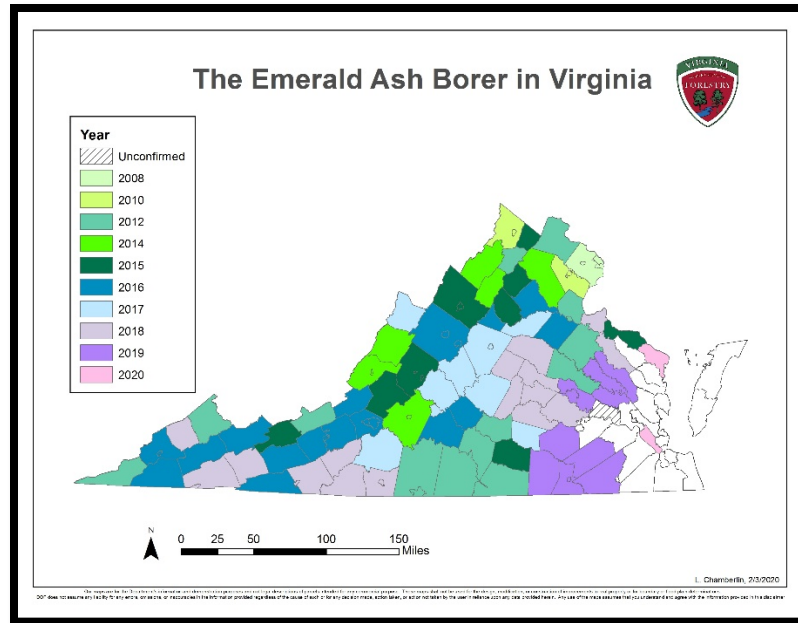
Fall Cankerworm- This native pest caused damage to trees around the Mountain Lake area in Giles County Virginia in spring of 2020. Reports of spotty defoliation came in to the VDOF forest health staff in early June and the areas of defoliation were noticeable driving up the

mountain. Once in the impacted area, trees that should have been leafed out were defoliated and bare. Patches of defoliation were mapped as the area was groundtruthed to look at scattered defoliation and occasional mortality of older trees. Since this is a native pest, outbreaks like this are normal and are regulated by natural enemies. Repeated defoliation over a few years can kill some of the older trees already weakened by other factors, but most trees should recover in subsequent years.



Above: Areas of defoliation from fall cankerworm, June 2020.

Emerald Ash Borer- The emerald ash borer (EAB) is a threat to all 6 native ash species found throughout Virginia. In 2020, this invasive insect was discovered in 1 new county (Northumberland) and the city of Newport News which brings the total number of confirmed counties in Virginia to 81. The only area of Virginia still left unconfirmed is the southeastern corner of Virginia and the Eastern Shore. VDOF continues to support biological control of EAB and has been releasing parasitoids on state lands land since 2017. In total, 3,306 parasitoid wasps were released in 2020 across two different sites throughout the state. VDOF also encourages chemical treatment of high-value specimen ash trees in hopes of maintaining ash on the landscape. Virginia Forest Health staff treated 156 ash trees on state land in 2020 including three rare species (pumpkin, black and blue ash) at three locations and continued to administer an ash treatment cost-share program that provides financial assistance to landowners and municipalities for the treatment of high-value ash trees.



Above: Range map of emerald ash borer in Virginia, October 2020

Oak Decline- Calls regarding declining oaks continually came in to VDOF forest health staff in 2020 but most occurred in late summer and early fall. Typically, these calls were regarding red and white oaks that were very mature and in urbanized settings. Many of these reports came in towards the end of field season, when oak trees were look particularly poor as a result of insect feeding, bacterial leaf scorch and other afflictions. Predisposing factors such as poor site quality as well as inciting factors like insect attack and drought conditions caused an alarming amount of oaks to turn brown prematurely statewide. Oak decline will be a continual problem in Virginia as many of the oaks around the state reach maturity around the same time.

Hemlock Woolly Adelgid- This sapsucking pest is originally from Asia but has been present in Virginia since the mid-1950s. The hemlock woolly adelgid (HWA) feeds on the underside of needles in both eastern and Carolina hemlocks during the winter months, depleting trees of stored nutrients and resources. VDOF continued work to protect Virginia hemlocks in 2020 by assisting with both chemical and biological control efforts. Chemical treatments at two state forests started in 2020, on Paul State Forest and First Mountain State Forest, both in Rockingham County. Soil drenches with dinotefuran occurred in spring, providing immediate control against HWA for 97 trees at First Mountain and 39 trees at Paul State Forest. Additionally, Forest Health staff released 510 *Laricobius osakensis* predatory beetles in Vesuvius, VA for biological control of the HWA present on hemlocks. All of these sites will be monitored over subsequent years to determine impacts on HWA populations because of both control methods.



Above: HWA infested hemlock foliage

Spotted Lanternfly- The invasive spotted lanternfly (SLF), Virginia's most recent invasive pest, was still present and problematic in 2020. This insect, first detected in 2018 in Frederick County and the city of Winchester, is now also in Clarke County. The Virginia Department of Agriculture and Consumer Services (VDACS) continues to be the regulatory agency for this SLF and enacted a quarantine in 2019 for Frederick County and the City of Winchester and has been updated to include Clarke County as well. Since SLF prefers tree of heaven, *Ailanthus altissima*, this tree species has been targeted for chemical control; trees smaller than 6" diameter are killed with herbicide and trees greater than 6" are treated with insecticide. VDOF forest health program continues to support VDACS and Virginia Cooperative Extension through creating outreach material and to include information on SLF in all relevant presentations. Additionally, VDOF conducted an aerial survey in January 2020 to map all female *Ailanthus* trees in Frederick County. This data was presented to VDACS to help with their control efforts of *Ailanthus*. Also VDOF urban and community forestry program organized and deployed the Urban Forest Strike Team in February 2020 to Winchester and Frederick County to map *Ailanthus* trees and search for SLF egg masses within priority areas designated by VDACS. Over a four day period, over 12,000 *Ailanthus* trees were recorded and marked for treatment.



Above: Spotted lanternfly adult with wings spread.

Abiotic Factors- In late spring on 2020, a few significant frost events occurred and caused noticeable damage especially in high elevation areas. Delayed green-up was noticeable in western portions of the state and impacts on sensitive species like tulip poplar were seen state wide. Forest health staff visited sites on cutovers, the VDOF nursery and high elevation areas in Bath and Highland Counties to look at damage from these frost events. Additionally, 2020 was a very wet year with August being recorded as the second wettest on record. Severe storms are also forest health disturbances, and a few incidents of high wind in eastern Virginia were reported this year, most of which occurred in August.

Forest Health Assistance in Virginia:

For more information or assistance, please contact:

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