



Virginia



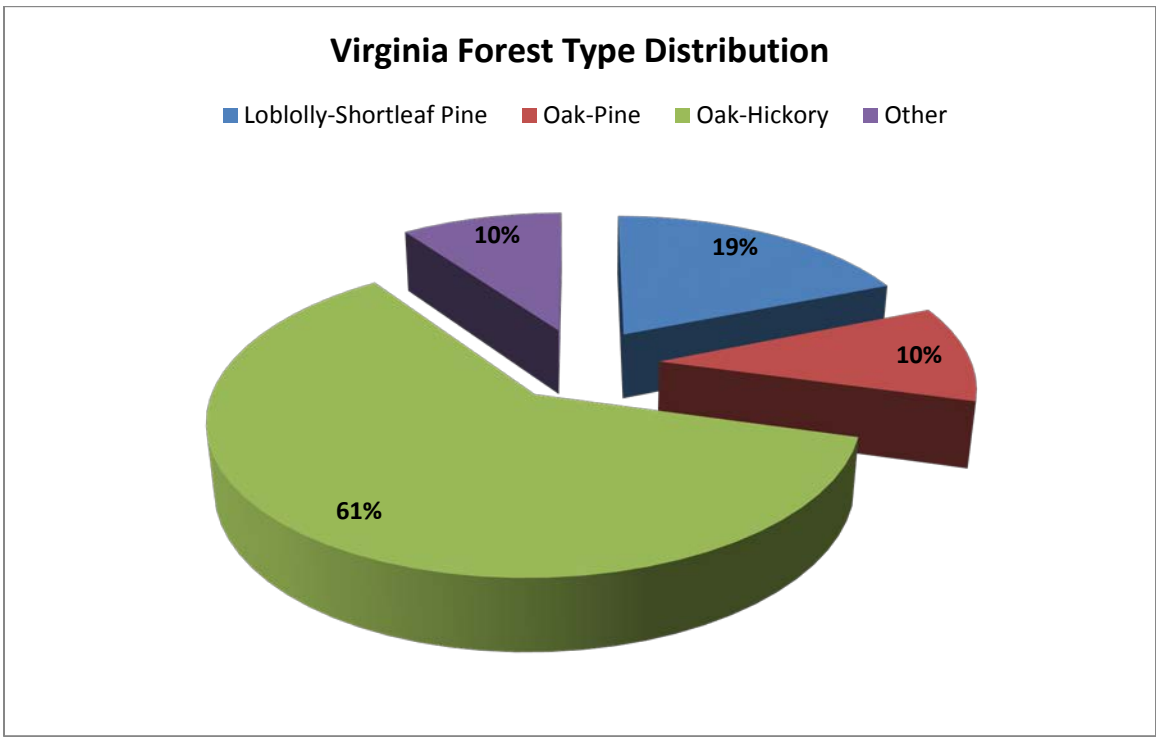
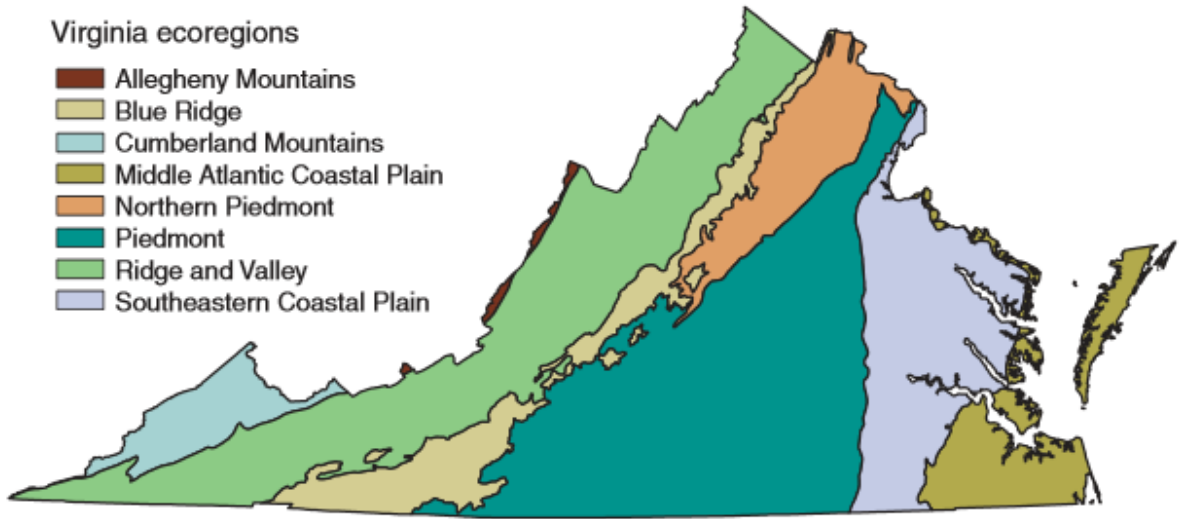
Forest Health Highlights 2015

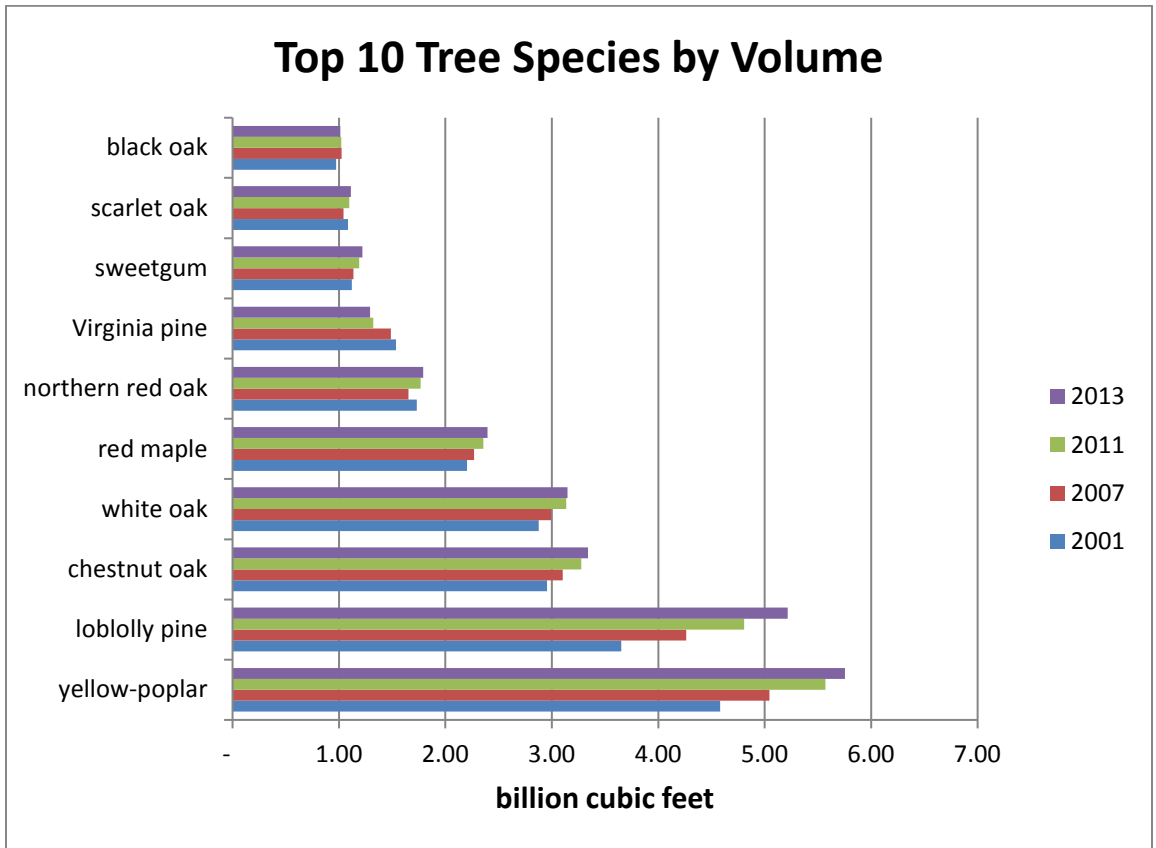
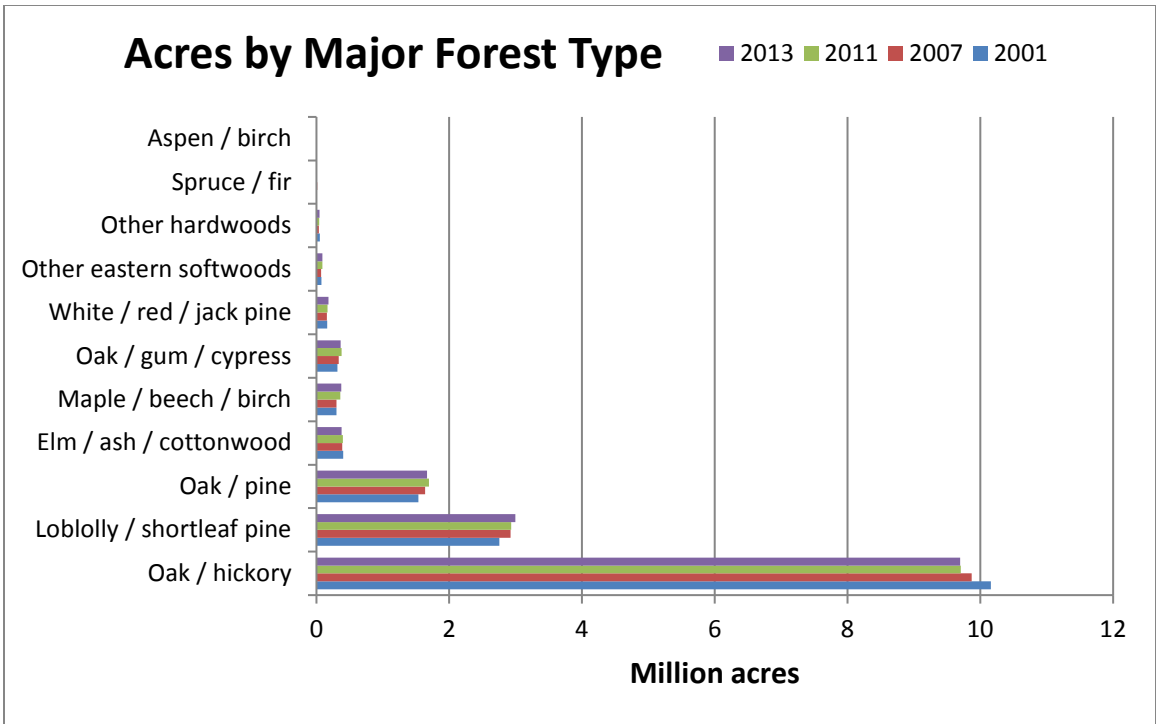


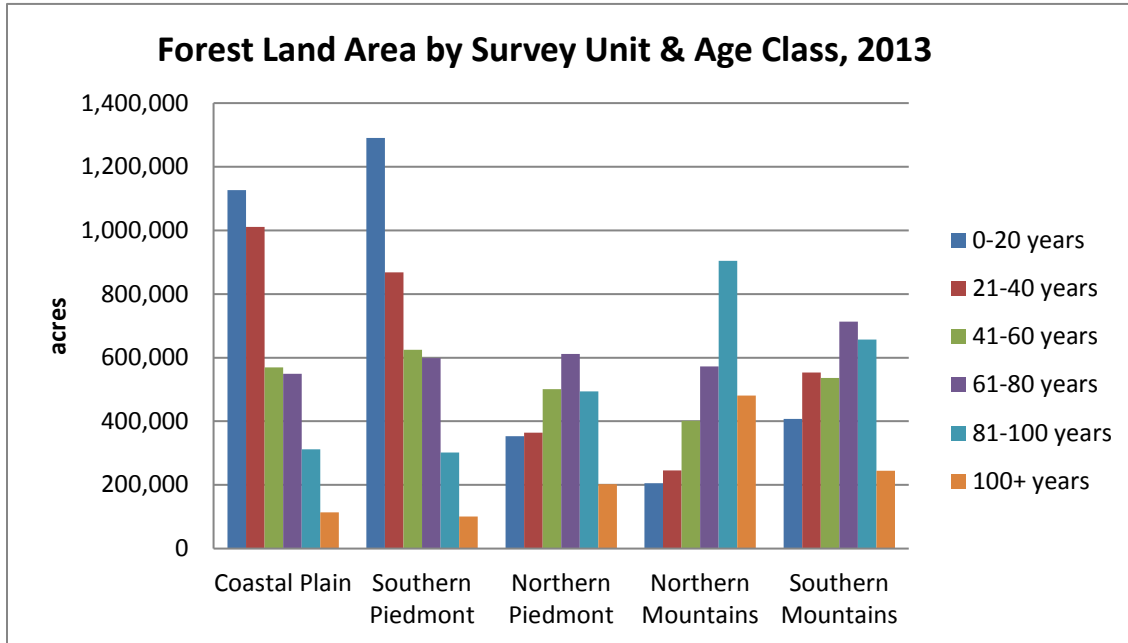
The Resource:

Virginia contains a diverse landscape with a variety of physiographic provinces, ranging from the Alleghany and Cumberland mountains along the state's western border, to the coastal plains at the easternmost part of the state. In between are the ridge and valley province, the Blue Ridge Mountains, and the nearly level piedmont. The state's elevation ranges from sea level to just over 5,700 feet on Mount Rogers. Across Virginia, forests cover 15.9 million acres of land, more than 62% of the 25.4 million acres of total land area within the state. Nearly 82% percent of Virginia's forest land is privately owned, and the National Forest System owns 1.8 million acres of public land across the state, mainly in the George Washington and Jefferson National Forests. Virginia's forests contain a wide variety of tree species, but the predominant forest type is oak-hickory, followed by loblolly-shortleaf pine, and oak-pine. The most abundant tree species by volume is tulip poplar, followed by loblolly pine, chestnut oak, white oak, and red maple. The most abundant species by number of stems is red maple, then loblolly pine, tulip poplar, and sweetgum. Approximately 83% of Virginia's forests are natural, while 17% are artificially regenerated. Volume of all live trees with diameters ≥ 5 inches within the state totals 36.1 million cubic feet. Hardwoods account for 76% of this volume, while softwoods account for 24%. In general, Virginia's forest land is maturing. Since 2001, area of large diameter stands has increased, while forest land area containing medium and small diameter stands has decreased. A number of tree species have undergone a significant decline from historical abundance, including table mountain pine, pitch pine, shortleaf pine, eastern hemlock, Atlantic white cedar, and longleaf pine. Restoration efforts are underway for many of these species.

Source: Rose, A.K. 2015. Forests of Virginia, 2013. Resource Update FS-37. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4p.







Forest Influences and Programs:

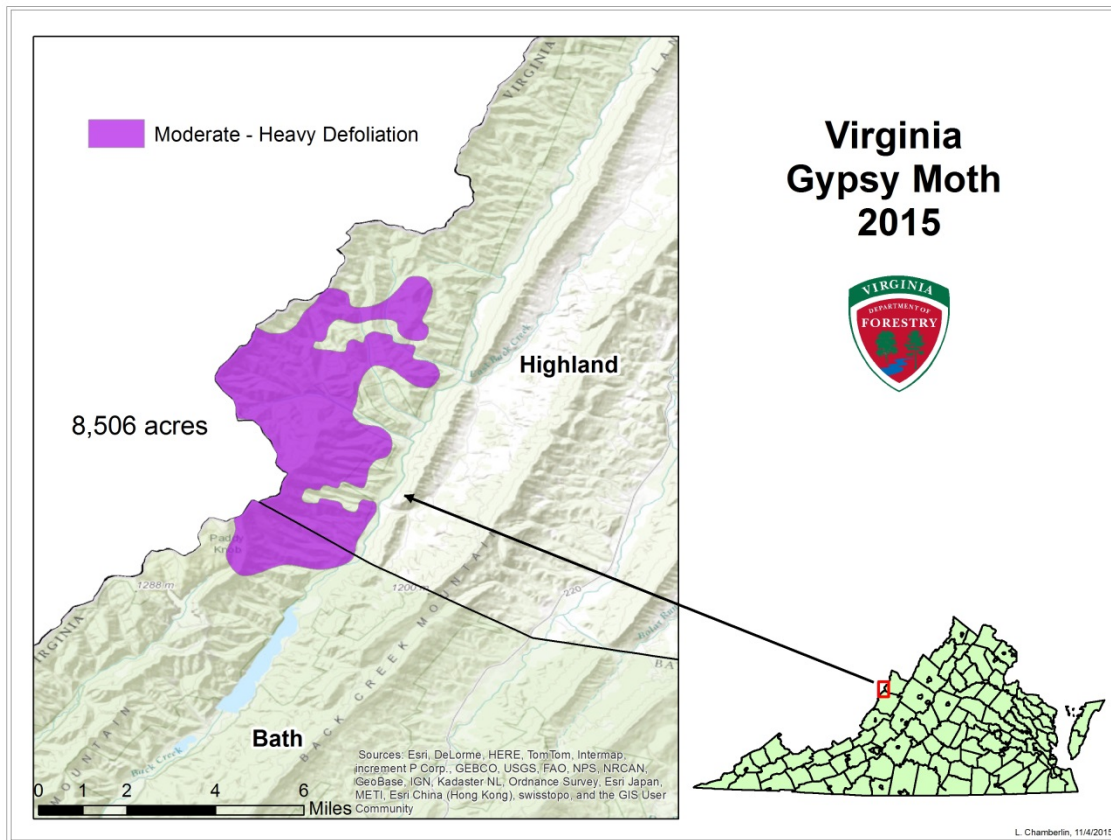
Fall Cankerworm:

After three years of heavy defoliation by the fall cankerworm in eastern Virginia, minimal damage was reported in 2015. Light patchy defoliation was noted this year in parts of eastern Virginia that experienced an outbreak from 2012 to 2014, but nothing of significant widespread damage. Aerial survey revealed 884 acres of defoliation by fall cankerworm on the Bull Run Mountains, a mountain chain in northern Virginia that includes parts of Fauquier and Prince William counties. The Bull Run Mountains are composed of chestnut, scarlet, and white oaks, along with hickory and maple, and have been a hot spot for Fall Cankerworm activity since 1973. It is certainly a suitable site for fall cankerworm outbreaks, but it is unclear why this specific site has seen more recurring defoliation than anywhere else in Virginia.

Gypsy Moth:

As Fall Cankerworm populations appear to be declining in Virginia, Gypsy Moth may be on the rise. Moderate to heavy defoliation was observed this year in Highland and Bath counties along the state's border with West Virginia. Satellite imagery suggested that there were pockets of Gypsy Moth damage all throughout these counties, but only 8,506 acres were confirmed with ground surveys. After five consecutive years of virtually no detectable defoliation due to gypsy moth in Virginia, this is the first defoliation event

large enough to map. Cool wet spring weather may have been augmenting *Entomophaga maimaiga* populations, effectively preventing gypsy moth resurgence for the last few years. While evidence of *Entomophaga maimaiga* was observed again this year, it appears that gypsy moth populations have increased in western Virginia.

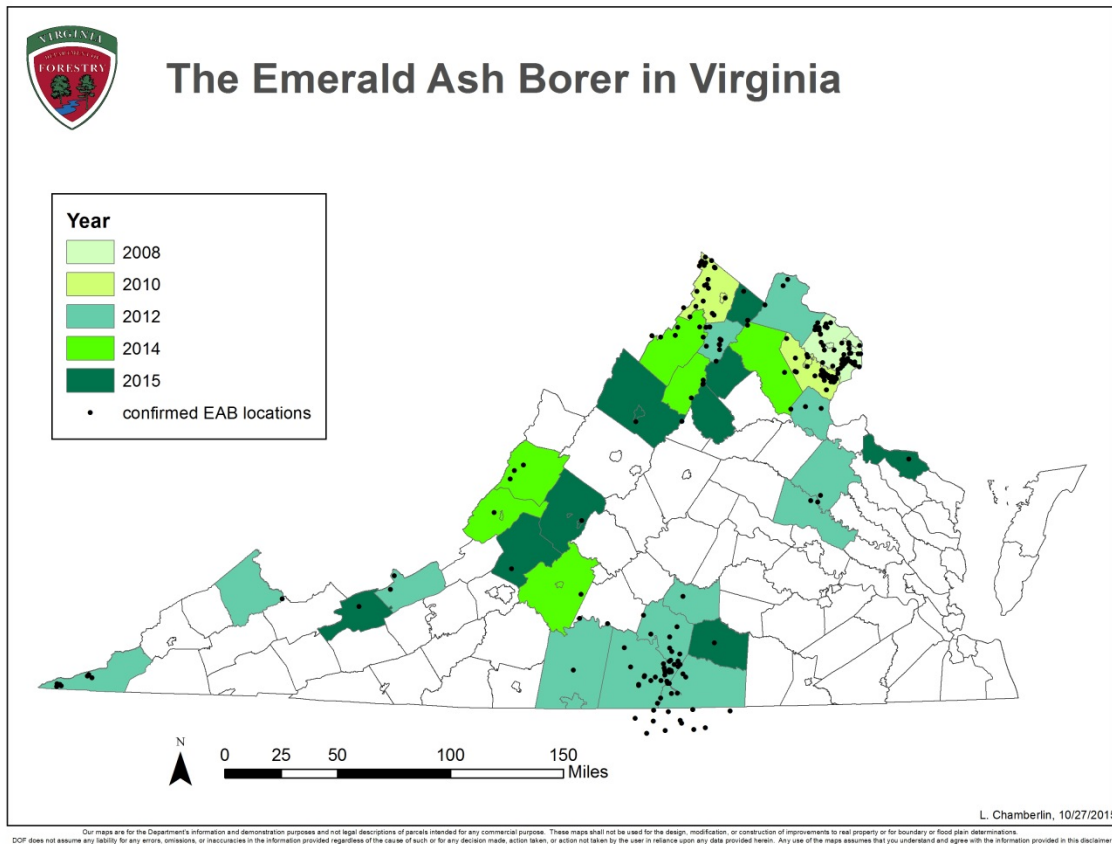


Thousand Cankers Disease:

June 2011 was the first detection of thousand cankers disease in Virginia. Surveys produced positive identification of the fungus and the associated walnut twig beetle in Henrico, Chesterfield, Hanover, Goochland, and Powhatan counties, and the cities of Richmond and Colonial Heights. Walnut twig beetle pheromone traps, deployed by the Virginia Department of Agriculture and Consumer Services (VDACS) across the state in 2012, revealed new TCD infestations in Fairfax, Prince William, King William, and New Kent counties. This now makes two major metropolitan areas in Virginia where WTB/TCD appear to be pretty widespread. A permanent quarantine was established in 2012 to restrict movement of walnut products out of the infested areas. VDACS continues to survey for the walnut twig beetle annually, but no new detections have been reported since 2012.

Emerald Ash Borer:

The emerald ash borer was first found to be established in Virginia in 2008 in Fairfax County, and has since been found in 31 counties, including 9 new counties in 2015 (Clarke, Rappahannock, Madison, Rockingham, Rockbridge, Botetourt, Bland, Lunenburg, and Westmoreland). 2012 was a breakout year for EAB in Virginia, with infestations found in 13 counties. Most of the finds in 2012 were from APHIS trapping surveys, but several new infestations were discovered separately killing thousands of trees, especially in Southside Virginia. In 2013, no new counties were added to the list, but new infestations were discovered in and around the extensive area of infestation in Southside Virginia along with 4 new counties in adjacent North Carolina. In addition, Shenandoah National Park reported their first positive EAB at the park's northern end based on their own trapping effort. In the past two years, many new areas of infestation have been discovered and reported. With the cessation of widespread trapping efforts (except for federal lands), most new EAB discoveries are via infested trees that are declining or dying. In most cases, these infestations are 3-5 years old. 48 new spots totaling over 600 acres of EAB damage were reported this year. Given that ash mortality is now widespread in many counties, the reported acreage surely underestimates actual damage.





Hemlock Woolly Adelgid:

Significant hemlock decline continues in many areas due to the hemlock woolly adelgid. The adelgid continues to spread and is currently found throughout the entire range of eastern hemlock within Virginia, minus a few pockets here and there. 74 sites were surveyed this year in western and southwestern Virginia from Bath and Rockbridge counties southwest to Lee County. Mean percent mortality of hemlock is 30%, a 3% increase from last year. As percent mortality continues to increase, stand health index is decreasing. However, the percentage of infested branches this year is the lowest it has been in the last 18 years. This could be the result of recent cold winters and multiple cycles of the ‘polar vortex’ causing short-term crashes in adelgid populations. Predatory beetles such as *Laricobius nigrinus* and *Laricobius osakensis* have been released in small defined areas of Virginia in hopes of regulating adelgid populations. It is unclear whether this biological control will be effective long term, but it is promising that some hemlocks in Virginia are infested with HWA but appear generally healthy.

Southern Pine Beetle:

Counts from the annual spring southern pine beetle pheromone traps were extremely low this year and only a few spots were reported across the state. This is the 13th year of relatively little SPB activity in Virginia. Only 75 acres of SPB damage were reported in Virginia, mostly from a 60 acre spot of old pines in Virginia Beach. Chincoteague Island on the Eastern Shore of Virginia has been experiencing southern pine beetle activity for the last 3 years. This location has many mature loblolly pines growing on difficult soils,

exposed to salt spray and saltwater intrusion, and in environments such as campgrounds and developed areas that receive a lot of vehicle traffic, soil disturbance, and compaction. There are also sites where loblolly is grown in traditional plantation culture and as part of natural forested areas such as on nearby Chincoteague National Wildlife Refuge. This infestation has been growing for the last few years and the island is currently seeking advice from fire mitigation specialists regarding the risk of an increased number of standing dead pines on the island.

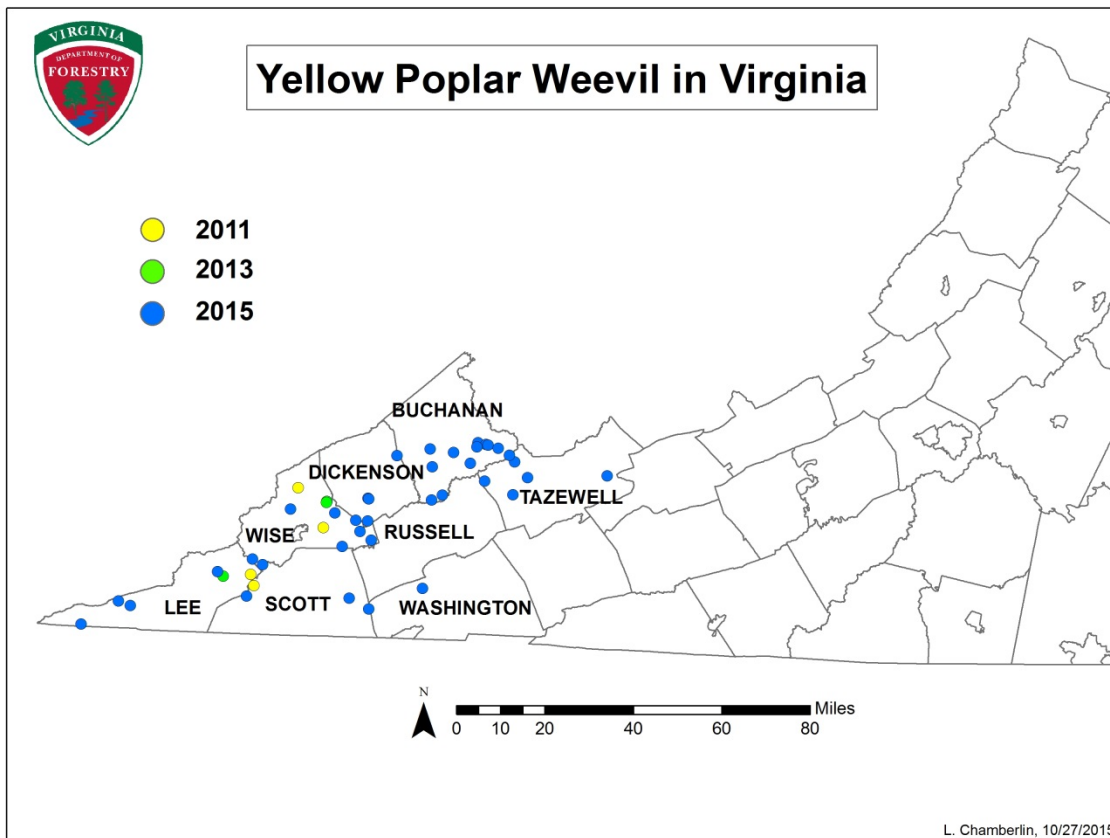


In general, the southern pine resource in central and southeast Virginia remains healthy and productive. Federal funds from the USDA Forest Service, Forest Health Protection support our Pine Bark Beetle Prevention cost-share programs with landowners and loggers for thinning of pine stands. To date, Virginia has thinned over 48,000 acres of pine (mostly pre-commercial) through the cost share programs. Overstocked pine stands are more vulnerable to bark beetle outbreaks, and thinning is the best method of reducing this threat.

Yellow Poplar Weevil:

The yellow poplar weevil is a native insect that feeds on Yellow Poplar, Sassafras, and Magnolia. This insect normally causes little damage in Virginia and is not of great economic or ecological importance, but every now and then they reach outbreak levels and cause severe damage to trees. Damaged yellow poplars have a scorched appearance and may drop leaves prematurely. Outbreaks tend to be patchy, but can span very large areas. VDOF personnel have documented six yellow poplar weevil outbreaks in the last 25 years, all concentrated in southwest Virginia. 2015 was an outbreak year with significant damage to yellow poplar trees detected in 8 counties in southwestern Virginia (Lee, Scott, Wise, Washington, Russell, Dickenson, Buchanan, and Tazewell). VDOF foresters reported 38 spots and 13,443 acres of widespread patchy damage in Virginia

this summer. Yellow poplar weevil outbreaks were also detected in neighboring states of West Virginia and North Carolina. The damage is mostly aesthetic and generally does not affect the overall health of the tree unless weevil numbers remain high for multiple consecutive years in the same areas.



Wavyleaf Basketgrass:

WLBG is a relatively recent weed problem that is widespread in central Maryland, and has been confirmed in several areas of northern Virginia. It is a highly invasive perennial grass that infests shaded undisturbed forest habitat, often growing alongside Japanese stiltgrass. It thickly carpets the forest floor and outcompetes and inhibits native flora. Sticky seed-heads promote long distance spread by animal and human movement. Many known occurrences of WLBG are within a mile of the Appalachian Trail, so hikers may be an unknowing dispersal agent. While most of the major non-native invasive plants in Virginia have had hundreds of years to establish and become very widespread, WLBG is still in the relatively early phase of invasion. Currently, there are only 34 documented occurrences of WLBG in Virginia, covering approximately 277 acres. While 21 of these cases are small (less than 300 sq m), 13 occurrences are over an acre in size and 8 exceed 20 acres. Without action, WLBG could become a significant threat to Virginia's natural resources, but with sufficient funding and effort, Virginia has a real chance to eradicate this species.

