

# Virginia



## Forest Health Highlights

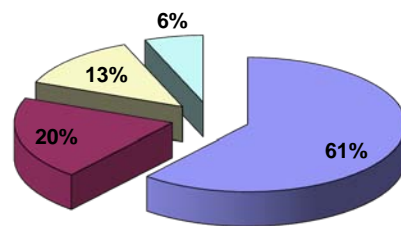
2010

### The Resource

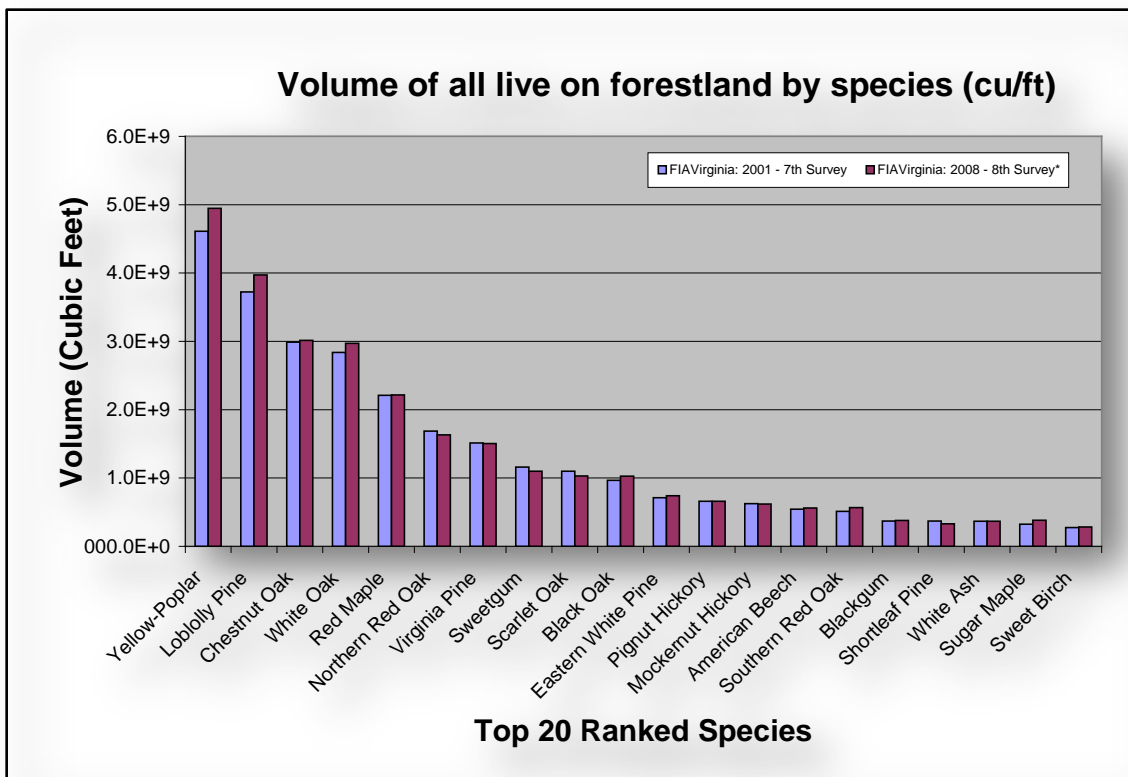
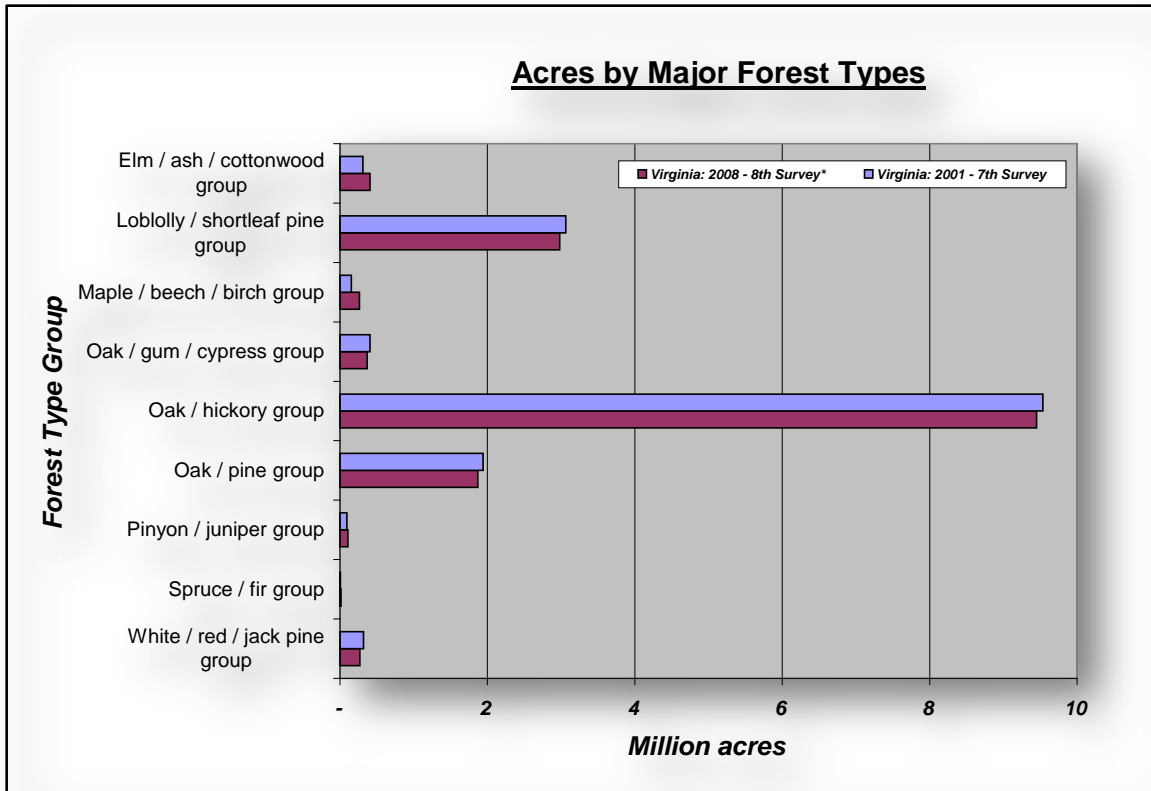
Virginia's forests cover 15.7 million acres, more than 62% of the state's land area. The majority of the state's forested land, some 10 million acres, is in non-industrial private ownership, while approximately 1.6 million acres are in national forests. Virginia's forests are prized for their scenic beauty, supporting tourism and outdoor recreation and providing wildlife habitat from the Appalachian Mountains to the lowlands of the Atlantic Coastal Plain. Major forest types in the state include oak-hickory, loblolly-shortleaf pine, and mixed oak-pine. Other minor types account for 6% of this acreage. The most abundant tree species by volume is tulip poplar, followed by loblolly pine, chestnut oak, white oak and red maple. The most abundant trees species by number of trees is red maple, followed by loblolly pine, tulip poplar, sweetgum, and blackgum. Nearly 85% of Virginia's forests are natural, while 15% are planted. 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.



Virginia Forest Type Distribution

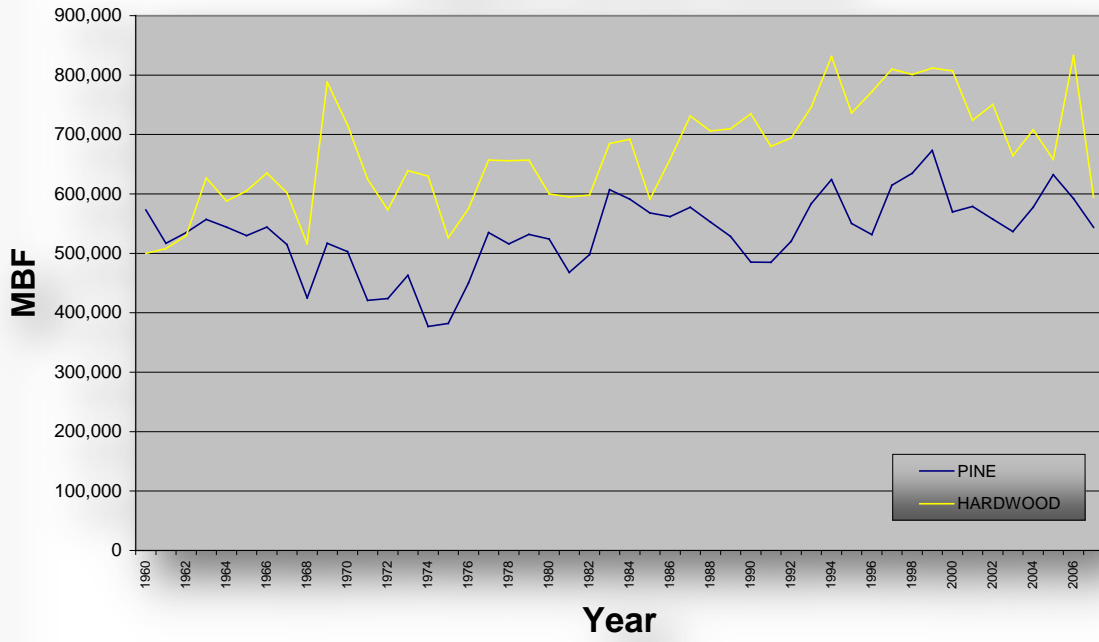


■ Oak-hickory ■ Loblolly-shortleaf pine ■ Oak-pine ■ Other

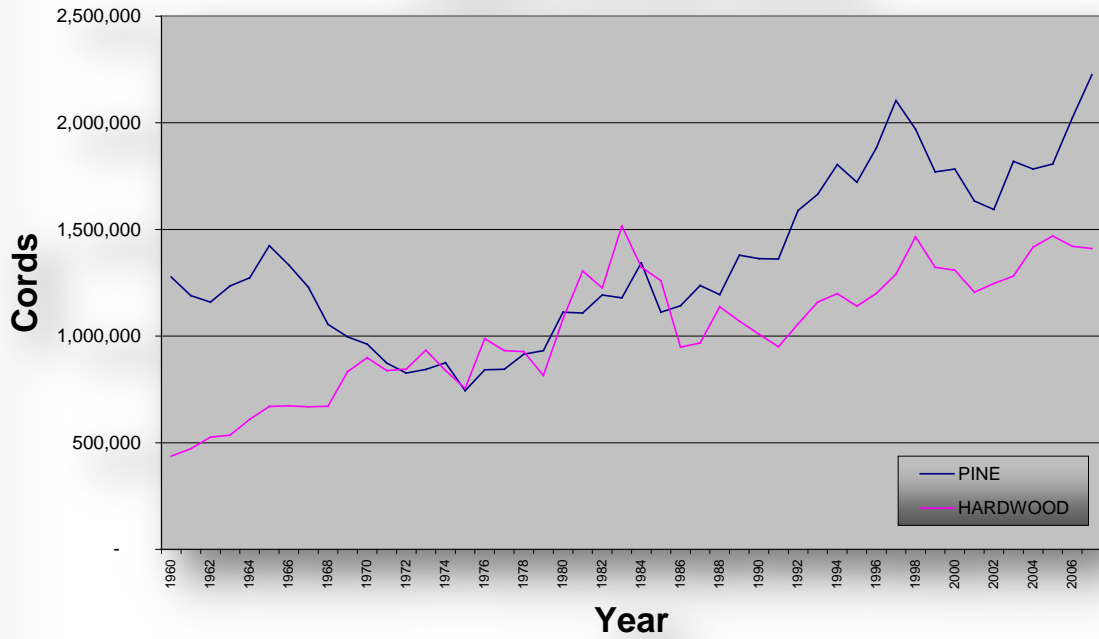


\*Source: Miles, Patrick D. 5/14/08. Forest inventory mapmaker web-application version 3.0 St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. [Available only on internet: [www.ncrs2.fs.fed.us/4801/fiadb/index.htm](http://www.ncrs2.fs.fed.us/4801/fiadb/index.htm)]

### Virginia: Harvest Volumes

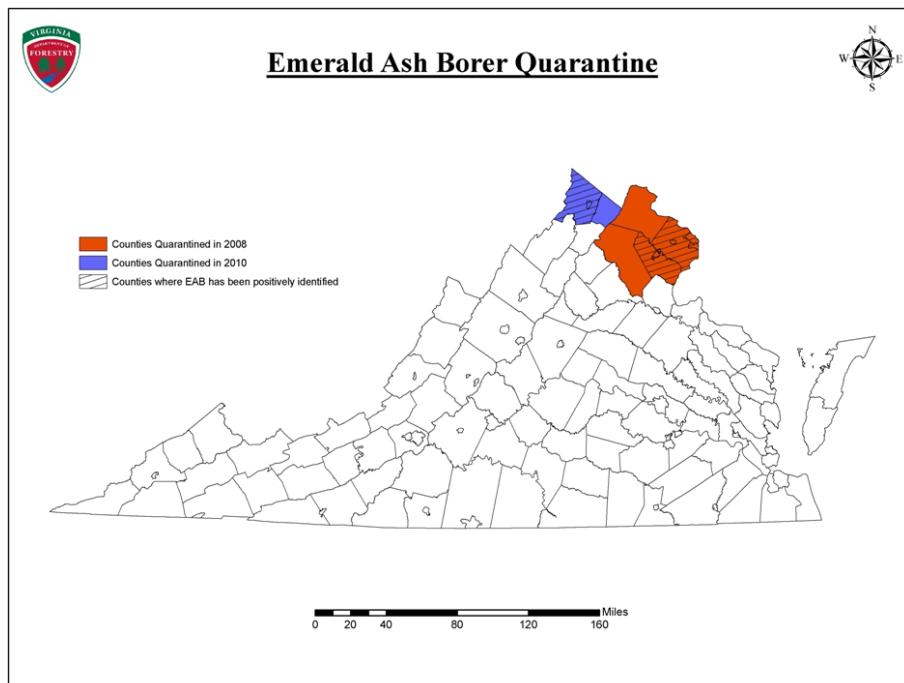


### Virginia: Harvest Volumes



## Forest Influences and Programs

The **emerald ash borer** continues to spread, albeit not as quickly as might have been predicted based on spread rates in other parts of the country. With the widespread trapping effort by the Virginia Department of Agriculture this year, it has been detected in two additional counties in northern Virginia, Frederick and Prince William. Neither find was a surprise since the Frederick county spots were close to Morgan County, WV where an infestation has been known for two years. The new finds in Frederick County were near Route 522, which extends north into WV. The Prince William County find was near the northern end close to Fairfax County, where infestations were detected in 2008. Frederick County, Clarke County (where EAB has not been detected) and Prince William County have been added to the list of quarantined counties, including Loudoun, Fauquier, Fairfax, and Arlington. The city of Winchester, likewise, has been added to the list of quarantined municipalities including Manassas, Manassas Park, Falls Church, and Vienna.



**Fall webworm, *Hyphantria cunea*:** For the second year in a row, an unusually large and severe outbreak of fall webworm has occurred along Skyline Drive in Shenandoah National Park. This outbreak is mostly affecting black cherry, which is very abundant in that area. Also affected are apple, hickory, and basswood. Hickory is probably more preferred in general but there seems to be much less of it in this area compared to cherry. While the infestation is not as severe as last year, it is still pretty impressive to see all that webbing covering trees. In addition, while fall webworm typically is not lethal to trees, in this case the severity of the outbreak and the location on high altitude, rough terrain and perhaps the influence of drought have taken a toll on many cherries. Mortality of black cherry is scattered but significant.





**Gypsy moth:** For the first time in six years, we have reported **0 defoliated acres** from gypsy moth. The wet spring of 2009 and the resultant impact of *Entomophaga maimaiga* decimated gypsy moth populations across the Commonwealth. So few egg masses were laid in 2009 the populations were virtually undetectable this year. While we are currently experiencing a pretty bad drought this year, the spring of 2010 was reasonably wet, although not nearly as much as during 2009. It will likely take at least a couple dry springs in a row for gypsy moth populations to surge back to damaging levels again.

**Oak decline and mortality** continues to be widespread throughout the Commonwealth due to past drought, storm events, and most recently, gypsy moth defoliation. Gypsy moth defoliation has affected a number of areas along the Blue Ridge and Appalachian mountains from 2005-2009. Many oak trees that were not killed outright were subject to severe stress. These widespread stress factors led to tree mortality precipitated by numerous biotic agents, including *Armillaria*, *Hypoxylon* canker, ambrosia beetles, two-lined chestnut borer, oak carpenter worm, red-oak borer and white oak borer. This mortality has continued through 2010 and has likely been exacerbated in some areas by drought, which abated in 2009 but resurged during the summer of 2010. We did our best to quantify oak decline and mortality associated with some of the worst areas hit by gypsy moth during the last peak outbreak period 2007-08. The Poor Mountain Area near Roanoke saw four consecutive years (2005-2008) of heavy gypsy moth defoliation spanning some portion of **13,660 acres** during that time interval, resulting in an estimated **122,000 dead trees**, mainly oaks. Mortality throughout this acreage ranged from 5-30% depending on the number of years (1-4) of defoliation overlap. The other major area where we reported significant oak mortality was along Skyline drive in the northern third of Shenandoah National Park. Approximately 10% of the trees were killed over **11,756 acres**, or an estimated 58,780 trees, again mainly oaks.

**Locust leafminer:** This is an annual occurrence, apparent by mid-summer and ubiquitous throughout the state, but varying in severity year to year. It's usually not worth reporting and typically does not lead directly to locust mortality. During this year's aerial survey, however, two separate patches of heavy defoliation appeared along Skyline Drive in Shenandoah National Park. Ground truth revealed both areas to contain heavy concentrations of leaf-mined locust, along with an unusual degree of locust mortality. The first area, just south of Big Meadows, was **1,863 acres** and spanned Page and Madison Counties. The second area, near the north end of the Park, was **1,575 acres** and spanned Warren and Rappahannock Counties.

**Pine bark beetles:** The southern pine beetle continues to be relatively quiet across Virginia as in the rest of the South. There are still the occasional large spots that appear, but overall these spots do not seem to develop into full scale outbreaks at the county or regional level. One particularly impressive outbreak occurred this summer in Accomack County on the eastern shore. The core area was about 25 acres with multiple, smaller infestations surrounding this area in a very large pine stand that was thousands of acres in size. This area is being actively managed and monitored by consulting foresters to limit the spread of the beetle. While other spots in the vicinity have popped up, a flight this summer along the whole eastern shore revealed relatively little activity. This all validates, once again, the results of our spring trapping survey, which suggested low and stable or slightly increasing populations of southern pine beetle across Virginia this year. On the other hand, the drought gripping much of the state since mid-summer is taking a toll on the health of many pine stands suffering from scattered *Ips* and turpentine beetle infestations. An increasing number of calls from our foresters in August and September about scattered pockets of dead pines here and there would seem to confirm this. During prolonged droughts, *Ips* species and turpentine beetles can actually cause a lot of damage. Even though individual spots from these pests don't typically get that large or spread quickly, there can be so many of them that a forest manager may just decide to clear-cut the stand.

**SPB prevention program:** Last spring, with the arrival of a generous new grant from the US Forest Service, we were able to re-open our pre-commercial thinning (PCT) cost-share program after closing it down temporarily last November to avoid over-committing the remaining funding. This new grant will hopefully keep us going for a while without cessation. However, the rate of applications for the last couple of years has gone up significantly, so large sums of money don't last as long as they used to. It's a testament to the excellent job our foresters are doing in selling the program and convincing landowners that PCT is good silviculture and worth doing, even if bark beetles are never a problem for a particular stand. Since 2005, we've cost-shared almost **30,000 acres** worth of PCT jobs and are still going strong. Our logger incentive program, open since July 1, 2009, has been very popular and has been recognized by the US Forest Service as a job-creating or job-retaining program. We certainly hope this is true. To date, almost **1,500 acres** of first commercial thinnings on pine tracts less than 40 acres have been subsidized by this program. Tracts of this size are often not profitable for a logging crew to reach due to high transportation costs.



**The hemlock wooly adelgid** continues to cause significant hemlock decline in many areas, although trees in some areas that have supported infestations for many years are still hanging on. The adelgid continues to spread and has more-or-less permeated the entire range of hemlock within Virginia, minus a few pockets here and there. Hemlock mortality levels average about 16% in the southwest portion of the Commonwealth from Bath and Rockbridge counties southwest to Lee County. The release of predators of the adelgid is on-going in Virginia and other states and offers some long-term hope of reducing the impacts of the adelgid on the hemlock resource. We look to release beetles on a couple of our state forests in the near future.

**Storm damage:** Significant storm damage from three major snow/ice/wind storms was reported for hardwoods and pines across a large area. Between December 2009 and February 2010, three unusually severe winter storms resulted in a record-breaking 55 inches of snow for the season in Central Virginia. Most areas across the Commonwealth received record-breaking snowfall from at least one of these storms. Widespread damage was reported from the following counties: Appomattox, Carroll, Floyd, Fluvanna, King and Queen Loudoun, Orange, Russell and Wise. The greatest axis of damage extended from southwest Virginia into the central Piedmont. Total damage reported was **5,500 acres**, 5,000 of which were from Carroll County alone. This is likely only a fraction of the actual damage but provides some indication of the impact of these storms.

**Weed control work on state forests:** Over the last few years, I have supported a number of chemical weed control and site restoration projects on some of our state forests, including the Lesesne, Paul, Whitney, and Conway Robinson. In some cases, following a harvest, a concerted effort to control invasive weeds is necessary in order to successfully establish a new planting. Aggressive follow-up efforts are often needed as well since some of these plants, such as Ailanthus (right) and oriental bittersweet, are particularly fast growing when suddenly exposed to full sunlight. On the Lesesne, a large area of junk hardwoods with a heavy Ailanthus component was harvested and chemically treated to prevent Ailanthus re-sprouting. Shortleaf pine was planted to restore the site to a mixed pine-hardwood stand. On the Whitney, harvesting of mature loblolly and white pine stands exposed a heavy undergrowth of Ailanthus and oriental bittersweet, which will need to be aggressively controlled prior to a new planting. These are just a few examples of the forest management challenges that lie ahead when non-native invasive weeds are in the mix. We also produced signs for these locations that provide background on the invasive weed problem, what was done there and why, the rationale behind clear-cutting as a silvicultural tool for pine, etc. We hope these sites can be used in perpetuity as educational tools for the landowning public on how to go about maintaining a healthy, useful and productive forest despite the ubiquitous nature of invasive plants across our landscape. I hope to be able to maintain such projects on our state forests across the Commonwealth from base US Forest Service funding into the future.



## Forest Health Assistance in Virginia

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