

# Virginia



## Forest Health Highlights 2012

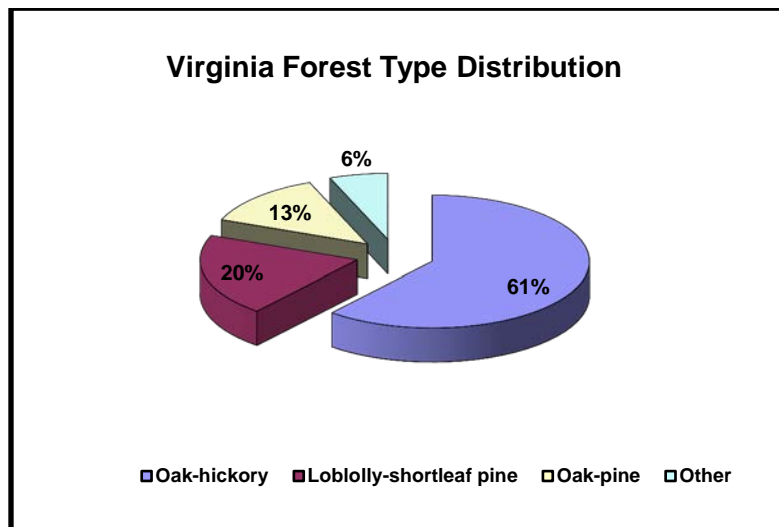
### The Resource

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.

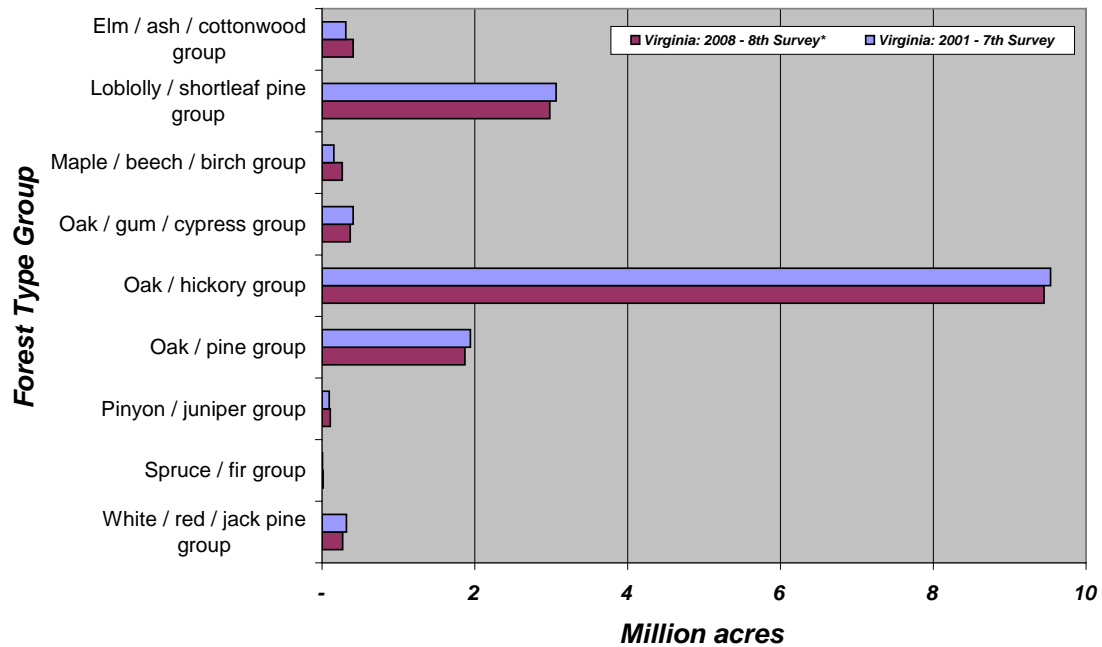
Virginia's forests are prized for their scenic beauty, supporting tourism and outdoor recreation and providing wildlife habitat from the Appalachian Mountains to the lowlands of the Atlantic Coastal Plain. Major forest types in the state include oak-hickory, loblolly-shortleaf pine, and mixed oak-pine. 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



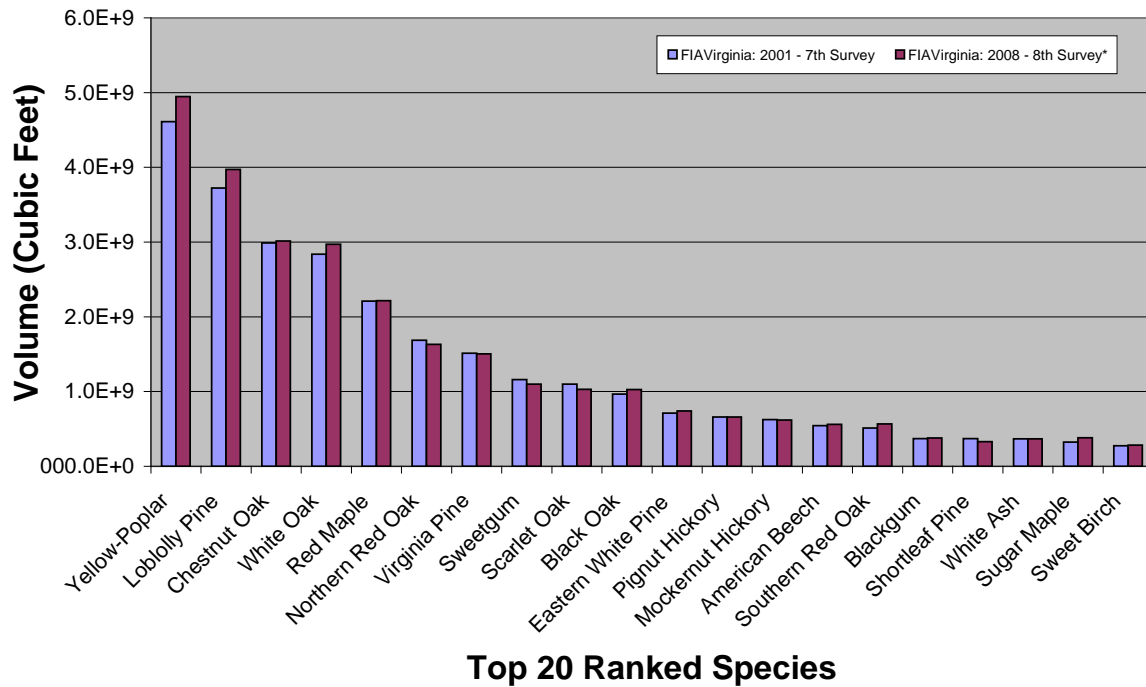
have undergone a significant decline from historical abundance, including table mountain pine, pitch pine, shortleaf pine, eastern hemlock, Atlantic white cedar, and longleaf pine. Restoration efforts are underway for many of these species.



## Acres by Major Forest Types



## Volume of all live on forestland by species (cu/ft)



\*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)]

## Forest Influences and Programs

The **emerald ash borer** trapping survey was continued this year to cover a large swath of Virginia from the southwest to the east, approximately 2/3 of the entire state. Over 5,000 traps were placed in a 2x2 mile grid across this area by federal contractors hired through USDA APHIS. While the federal survey excluded trapping in the northern Virginia counties currently under the quarantine, trapping was also continued in Prince William and Fairfax by those respective counties governments.

This has been a 'breakout' year for EAB in Virginia. Since 2008, EAB has been found only within the northern counties of Alexandria, Fairfax, Prince William and Frederick. Random discovery of new infestations and the results of this summer's trapping effort, however, have produced finds in **13 additional counties**; these include Loudoun and Warren in the north, Caroline, Spotsylvania and Hanover in the northeast, Prince Edward, Pittsylvania, Halifax, Charlotte and Mecklenburg in the south Central, and Lee, Buchanan and Giles in southwestern portions of Virginia. A federal quarantine for the entire state is now in place. While most of these new finds were due to recovery of adults from the purple prism traps, new infestations with extensive tree mortality were also discovered in forested sites. One



was an area spanning approximately 7,000 acres in far northern Frederick County, bordering the West Virginia panhandle. The other large area was along the Roanoke (Staunton) River, which represents the border of Halifax and Charlotte counties. Along a 5 mile stretch of river were thousands of dead ash trees. It looks as though EAB had been present in this area at least five years based on the number of dead trees scattered along 10 mile-15 miles of riverfront extending from the Staunton River to the Dan River over to South Boston. It is likely that new infestations will materialize soon in all these other locations where traps have revealed EAB to be present, although there is always some lag time between trap catch and identification of infestations since EAB is quite cryptic until trees begin to die and draw attention. Shape files of the one larger EAB infestation along the Roanoke River were based on aerial surveys and have been provided.

**Thousand cankers disease** of black walnut, caused by a fungus (*Geosmithia morbida*) and spread by the walnut twig beetle (*Pityophthorus juglandis*), is believed to have originated throughout the southwestern U.S. (CA, AZ, NM, TX) and Mexico, throughout the ranges of four species of western walnuts. Presumably the twig beetle and the associated fungus made the jump to eastern black walnut as planting of this species became more widespread in the West. The disease was first detected in Utah and Oregon in the 1990s, followed by New Mexico (2002), Colorado (2003), California (2008), Washington (2008), Arizona (2009), and Idaho (2009). In July 2010, fears that the beetle/fungus would find their way to the native range of eastern black walnut were realized when TCD was detected in Knoxville, TN.



Beginning in June 2011, positive identification of the fungus and the associated walnut twig beetle occurred for five counties and two municipalities: these include the counties of Henrico,

Chesterfield, Hanover, Goochland, and Powhatan, plus the cities of Richmond and Colonial Heights. In 2012, with the deployment, by VDACS, of walnut twig beetle pheromone traps across the Commonwealth, new TCD infestations were discovered in northern Prince William and Fairfax Counties in northern Virginia. This now makes two major metropolitan areas in Virginia where WTB/TCD appear to be pretty widespread.

According to the quarantine, regulated articles include any life stage of the walnut twig beetle or the *Geosmithia morbida* pathogen, as well as 'all plants and plant parts of the genus *Juglans* including but not limited to nursery stock, budwood, scionwood, green lumber, firewood, and other material living, dead, cut or fallen including stumps, roots, branches, mulch, and composted and un-composted chips.' Specific exemptions include, but are not limited to 'nuts, nut meats, hulls, processed lumber (100% bark-free, kiln-dried, with squared edges), and finished wood products without bark, including walnut furniture, instruments, and other items derived from the genus *Juglans*.' VDACS can issue certificates or limited permits that allow for movement of regulated articles if certain conditions are met.

The **hemlock woolly 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 20% 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 continue to monitor releases of predator beetles for biological control of the adelgid on a few of our State Forests and State Parks.

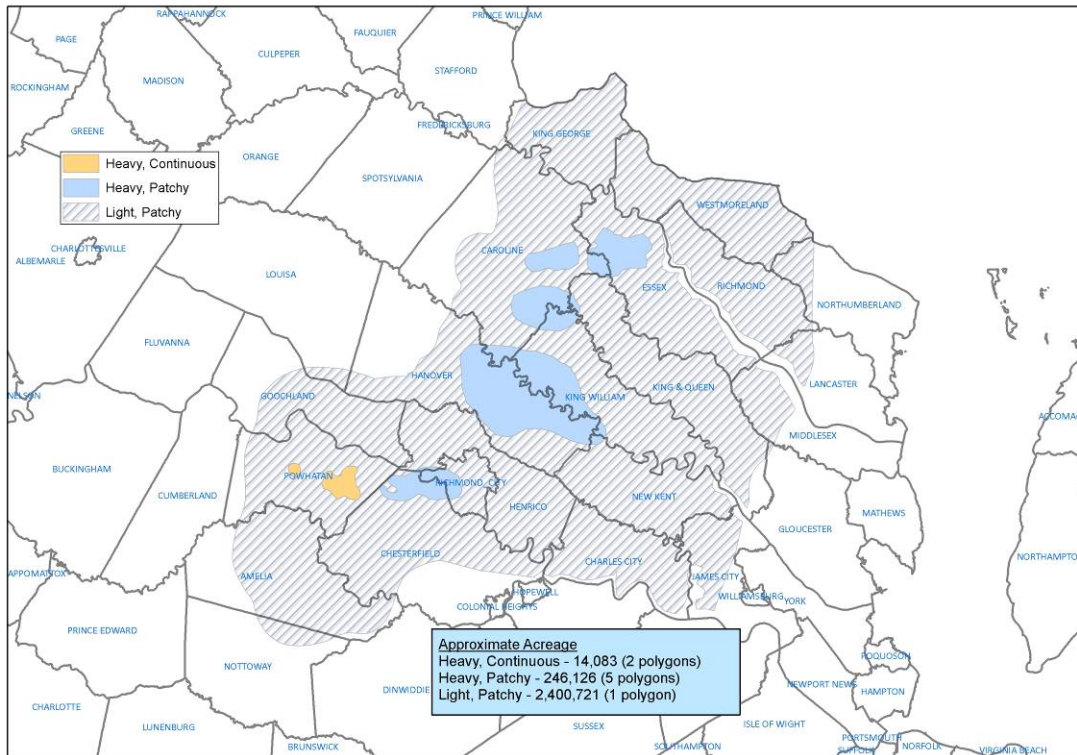
For the third year in a row, we have reported **0 defoliated acres** due **to gypsy moth** from aerial survey efforts, although **4 acres** worth of light to moderate defoliation were reported from ground observations. The wet spring of 2009 and the resultant impact of *Entomophaga maimaiga* decimated gypsy moth populations across the Commonwealth. With successive wet springs each year since 2009, populations have not shown a significant resurgence to levels where defoliation can occur on a wide scale. This trend should hold until we see successive dry spring weather, especially during May, which will allow populations to gradually build up to damaging levels again.

The second year of an extensive **cankercworm outbreak** spanned a very large area covering much eastern Virginia. There was actually a mix of fall cankerworm, spring cankerworm, and a complex of other native defoliators in lesser amounts. The worst-hit areas included Chesterfield, Powhatan, Hanover and King William Counties in mostly rural and suburban areas to the west and north of the Richmond city limits. In total, over 15 counties and a total area spanning over **2.5 million acres** were variably impacted, although a majority of this was light and patchy in nature. Approximately **246,000 acres** were classified as having heavy but patch defoliation, while an additional **14,000 acres** were severely and continuously defoliated. Most of the severely defoliated trees were chestnut oaks, while scarlet oak, red maple, and beech also saw some moderate to heavy defoliation. Most trees re-foliated and are expected to live through the event, but some mortality of oaks was reported. While fall cankerworm is a recurring native defoliator in Virginia, the extent of this outbreak is unprecedented as far as records go. Shape file data for this even was submitted separately.





## Fall Cankerworm - 2012 : Affected Areas



Mapped by TE, 8/15/2012

As forecast by our spring trapping season, **southern pine beetle** activity continues to be generally low across the Commonwealth, although localized activity has been picking up in a few areas. Numbers remain low in most places based on the spring trapping survey results and relatively few reports, although there has been an increase in activity since last year. In total, **28 spots amounting to 323 acres of dead pine across 6 counties were detected**. A large majority of this acreage (xx ac) came from one area in western Hanover County where, last year, a spot within an unthinned pine stand that was converted into subdivisions and had gone undetected for years was allowed to grow and was never reported or dealt with. About 400 acres of this area was clear-cut and managed, but due to the complex ownerships and insufficient cutting and removals, SPB has since spread to other adjacent properties. No spots were reported on federal land and no counties were in outbreak status. Affected counties were concentrated in the far eastern Piedmont and western Coastal Plain.



We have exceeded 40,000 acres treated under the **Southern Pine Beetle Prevention Program** in Virginia. A majority of this acreage is from cost-sharing with landowners for pre-commercial thinning, but also includes longleaf pine restoration and 1<sup>st</sup> commercial thinnings via our Logger Incentive Program.

Brood I (The Blue Ridge Brood) of the **Periodical (17-year) cicada** emerged in and along the Blue Ridge Mountains this May, from east and west of the Roanoke area, up along the Blue Ridge, Shenandoah Valley, and Appalachians north to around Harrisonburg. Many locations within this areas showed extensive ‘flagging’ of vegetation due to oviposition damage by the cicadas. In some instances, this flagging was heavy enough on mid-to upper slopes that it could be seen from miles away, giving the foliage an off-color appearance as one would see with light defoliation. A major emergence of Brood II across much of the Piedmont is expected next spring.



## Forest Health Assistance in Virginia

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