

# Virginia



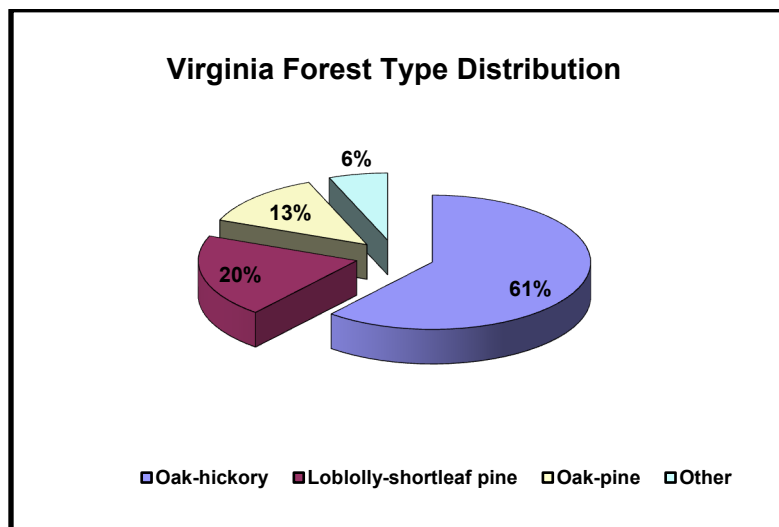
## Forest Health Highlights 2011

### The Resource

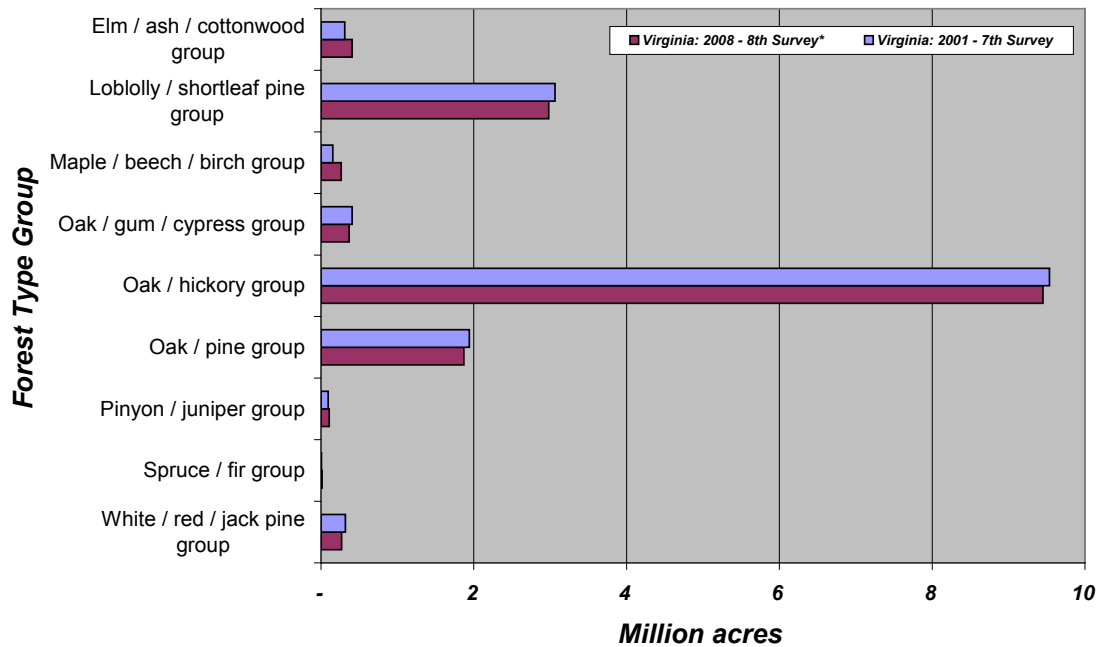
Virginia's forests cover 15.7 million acres, more than 62% of the state's land area. The majority of the state's forested land, some 10 million acres, is in non-industrial private ownership, while approximately 1.6 million acres are in national forests.

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

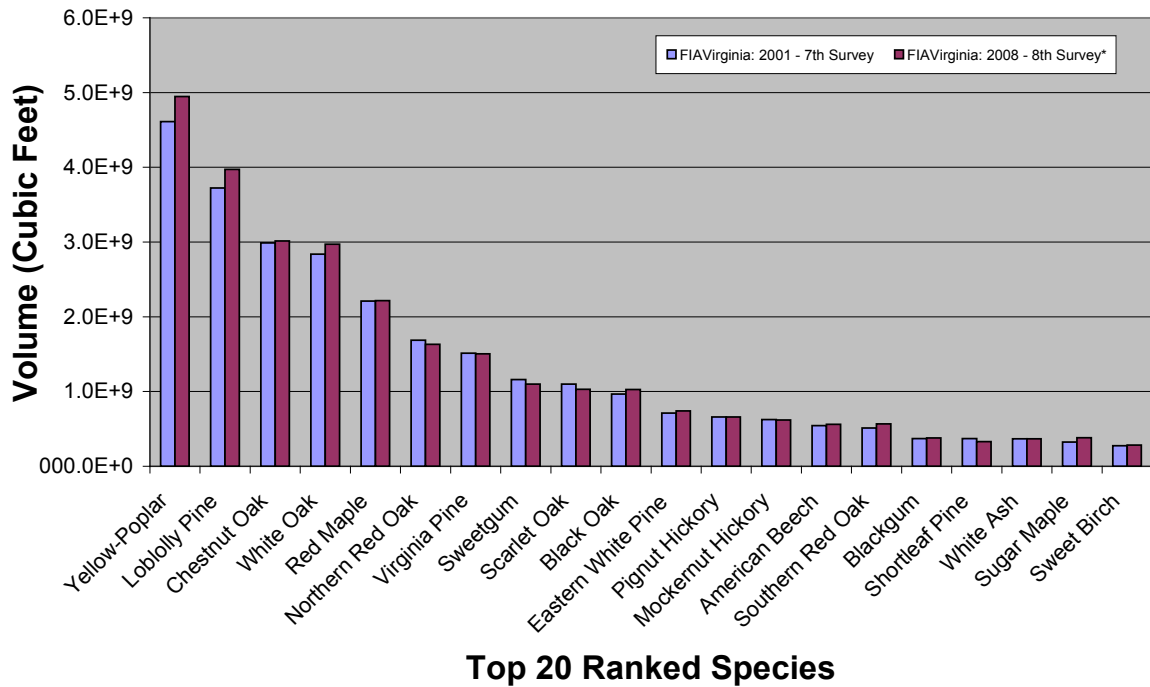
have undergone a significant decline from historical abundance, including table mountain pine, pitch pine, shortleaf pine, eastern hemlock, Atlantic white cedar, and longleaf pine. Restoration efforts are underway for many of these species.



## 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

**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.

During 2011, new TCD finds began to materialize in the East, first in the vicinity of Richmond, Virginia in June, followed by the Philadelphia, PA area shortly thereafter.

By June, the Virginia Department of Agriculture and Consumer Services (VDACS) had, with numerous other states, already initiated a formal survey for TCD across the Commonwealth.

Before the survey was very far under way, VDACS

state plant pathologist Norman Dart was contacted by Bartlett Tree Experts regarding a black walnut exhibiting suspicious-looking symptoms. A landowner on the southern outskirts of Richmond had asked Bartlett to remove a large walnut tree from his property that was mostly dead except for one branch. The Bartlett staff who came to the property had some training previously and were alert enough to recognize the tell-tale but tiny holes created by walnut twig beetle, and the associated cankers characteristic of TCD. Samples submitted to Norm tested positive for TCD, while tiny bark

beetles collected from galleries within the cankers were confirmed to be the walnut twig beetle by James Labonte, an entomologist with the Oregon

Department of Agriculture.



By July, notification was made statewide that VDACS had enacted a quarantine on black walnut for Henrico, Chesterfield and the City of Richmond based on ongoing surveys that revealed additional infestations. **[TCD Chesterfield, TCD Hanover]** Based on additional survey work extending into fall, Hanover, Goochland and Powhatan counties will soon be added to the list as well. 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 uncomposted 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.

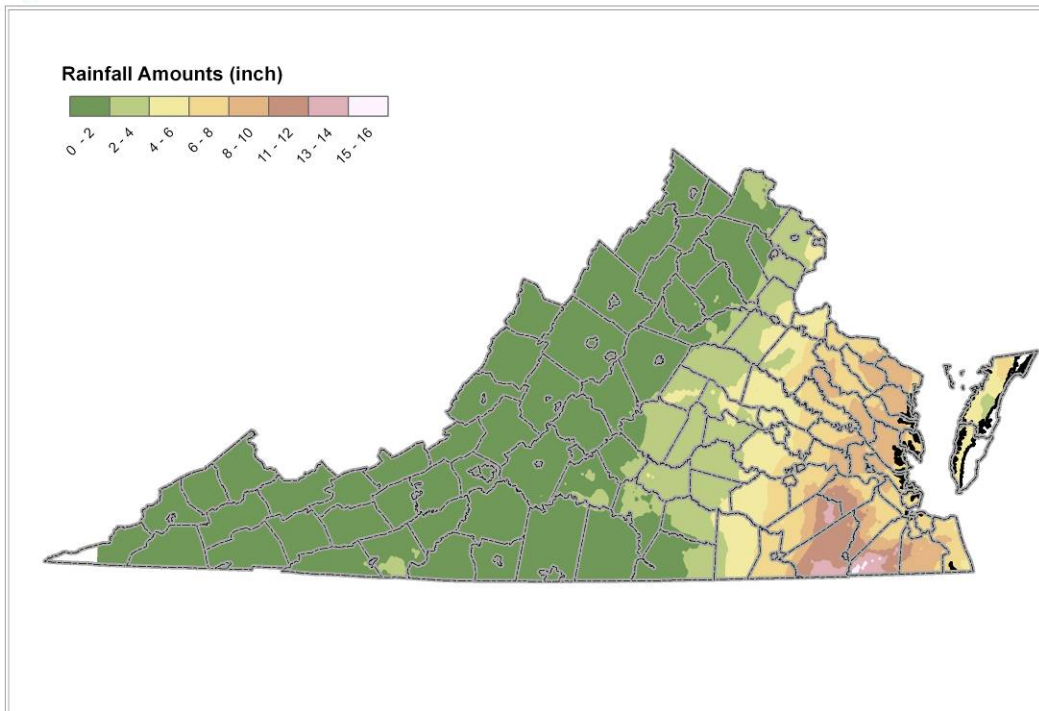
Virginia was beset with storms this year, from **spring tornado outbreaks** to late summer tropical systems such as **Hurricane Irene** and **Tropical Storm Lee**. Tornadoes touched down in many places this spring, with areas that were particularly hard hit including the town of Pulaski, town of Abingdon, and numerous areas throughout Washington, Halifax, Rockingham, Shenandoah,

Dinwiddie, James City, York, Gloucester, and Middlesex Counties. During the most severe tornado outbreak in Virginia, which occurred on April 27-28, the National Weather Service confirmed 16 tornadoes. Of those, four were rated EF0, eight EF1, three EF2, and one EF3 in Washington County that was three quarters of a mile wide and touched down for 18 miles. While many communities were hard hit, aerial surveys revealed that overall forest damage was not too extensive, with the exception of some localized pockets of severe blowdown. In total, our staff reported 1246 acres of damaged forest throughout Virginia, although this is likely a considerable underestimate.

Hurricane Irene blew through eastern Virginia over the August 26<sup>th</sup>-28<sup>th</sup> weekend, maintaining Category 1 strength most of the way. While there were widespread power outages due to downed trees and considerable flooding in places, it could have been much worse. Subsequent aerial survey revealed no widespread catastrophic damage to core forested areas in general. Our folks reported a little over 450 acres of forest damage, although reporting was spotty and likely to be underestimated considerably. Most places east of I-95 saw at least 5 inches of rain, while parts of 5 counties in southeastern Virginia saw 11-15 inches (Figure 1). To add insult to injury, less than two weeks later Tropical Storm Lee came straight up the I-95 corridor and dumped another 5 to 15 inches of rain in many locations in the northern coastal plain and northeastern piedmont (Figure 2). This resulted in a number of places receiving up to 20 inches of rain in a two-week period.



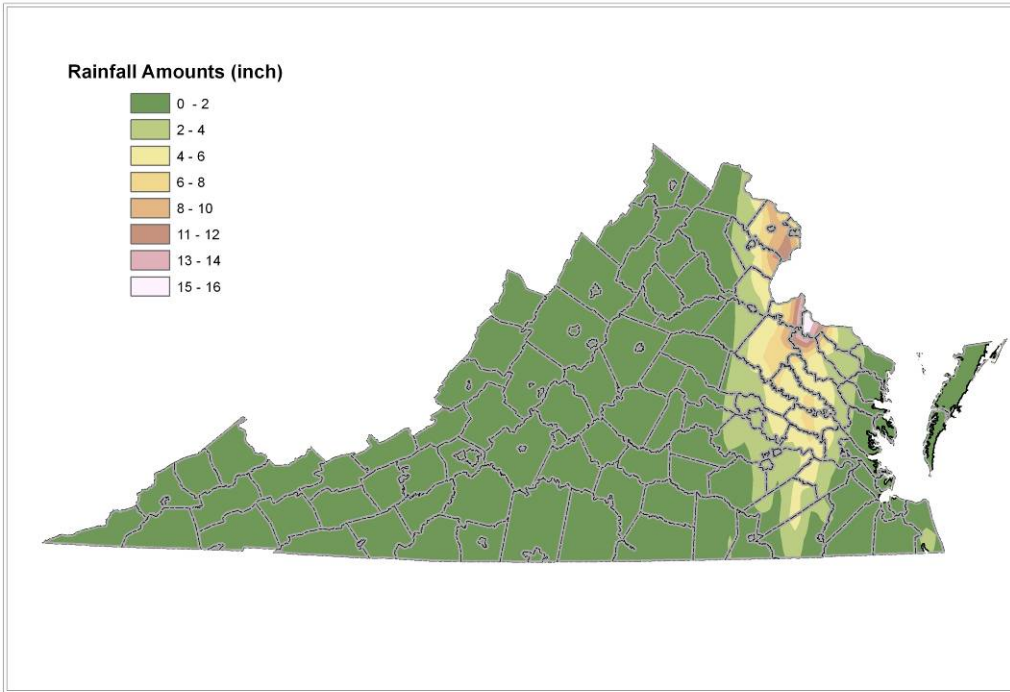
### **Hurricane Irene: Rainfall Amounts 8/29/2011 - 9/1/2011**







### Tropical Storm Lee: Rainfall Amounts (7day period following)

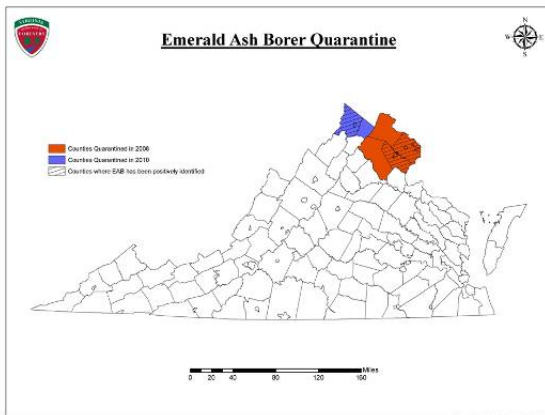


Mapped by TE, data supplied by NOAA/NWS Hurricane portal 9/27/11

The **emerald ash borer** trapping survey was expanded this year to cover a large swath of Virginia from the southwest to the east. Over 4,500 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, limited trapping was done in Prince William and Fairfax by those respective counties. While there were some positive traps in new locations, this only occurred in Fairfax and Prince



UGA2106098



Map by John Edinger, 7/1/2010

William counties, among those where EAB was already known to be present. No new detections in new counties in Virginia have occurred based on the 2011 survey. That's the good news. The bad news is that similar survey efforts in adjacent states such as MD and WV have shown a dramatic expansion in the number of known infested counties just in the last year, with the expansion in southern West Virginia bringing it very close to Buchanan

County, VA. The Knoxville, TN infestation has also crept further north by another couple of counties and is right on the doorstep of Lee County, Virginia. Based on these developments, the next infested location in Virginia could be somewhere in the Southwest.

The **gypsy moth**, as predicted, produced no significant defoliation this year that could be detected through aerial survey. Populations will likely remain low at least for the next two years. Consecutive dry spring weather will result in an upsurge in populations. For the last few years, however, May has been a wet month, which means the fungus *Entomophaga maimaiga* is able to thrive and attack larval populations when they are most vulnerable. Dead larvae mean few adult moths, and that in turn means few egg masses next year. Few egg masses mean no detectable defoliation.

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. To date, we have approximately 300 reported acres killed for 2011, with the majority of that acreage coming from a couple of locations where spots went undetected and unreported and had been growing for the last couple of years. They were noticed during aerial survey flights by our staff, but it is very puzzling why nobody reported them to the Department of Forestry. Both of these locations have many similarities – maturing pine stands that were never thinned, sold by industry and subdivided. No spots were reported from national forest or other federal lands. Due to an excess of rain this year, the elevated **lps** and turpentine beetle activity witnessed last year seems to have abated for the most part.



We are approaching 35,000 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. The US Forest Service' SPB Prevention and Restoration Program has reached a milestone this year in having reached one-million acres treated across the South. In commemoration of this milestone, we held a ceremony with USFS personnel at their request at the end of October, 2011. It was held on a private landowners property in New Kent County, Virginia on a site that received a 1<sup>st</sup> commercial thinning under our Logger Incentive Program during the last year. The Forest Service plan awarded the landowner, logging outfit, and consulting forester involved with the job a plaque in recognition of the importance of each of these respective constituencies in maintaining good forestry practices. Efforts were made to bring media attention to this event in order to bring further recognition to what good forest management is all about and why it is important.

**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

19% 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.

## **Forest Health Assistance in Virginia**

<p><b>Virginia Department of Forestry</b> <b>900 Natural Resources Drive, Suite 800</b> <b>Charlottesville, VA 22903-0758</b> <b>804-977-6555</b> <b><u><a href="mailto:chris.asaro@dof.virginia.gov">chris.asaro@dof.virginia.gov</a></u></b> <b><u><a href="http://www.dof.virginia.gov/index/shtml">http://www.dof.virginia.gov/index/shtml</a></u></b></p>	<p><b>USDA Forest Service</b> <b>Southern Region, State &amp; Private Forestry</b> <b>Forest Health Protection</b> <b>200 W.T. Weaver Road</b> <b>Asheville, NC 28804</b> <b>828-257-4320</b> <b><u><a href="http://www.fs.fed.us/r8/foresthealth/">http://www.fs.fed.us/r8/foresthealth/</a></u></b></p>
--	---