USDA Forest Service, U.S. Department of Agriculture
Northern Research Station
Forest Inventory & Analysis

West Virginia's Forest Resources, 2012

Research Note NRS-192

This publication provides an overview of forest resource attributes for West Virginia based on an annual inventory conducted by the Forest Inventory and Analysis (FIA) program at the Northern Research Station of the U.S. Forest Service. These estimates, along with web-posted core tables, will be updated annually. For more information please refer to page 4 of this report.

Table 1 - Annual estimates and uncertainty

	Estimate 2012	Sampling error (%)	Change since 2008 (%)
Forest Land Estimates			
Area (1,000 acres)	12,161	0.7	1.6
Number of live trees 1-inch diameter or larger (million trees)	6,328	1.7	2.1
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	814,461	1.1	3.7
Net volume in live trees (1,000,000 ft^3)	28,122	1.2	3.8
Annual net growth of live trees (1,000 ft^3/year)	608,858	4.3	-12.9
Annual mortality of live trees (1,000 ft^3/year)	258,697	5.9	14.4
Annual harvest removals of live trees (1,000 ft^3/year)	231,010	14.0	-31.5
Annual other removals of live trees (1,000 ft^3/year)	12,204	50.0	-15.0
Timberland Estimates			
Area (1,000 acres)	11,846	0.8	1.2
Number of live trees 1-inch diameter or larger (million trees)	6,164	1.8	1.8
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	789,535	1.2	3.1
Net volume in live trees (1,000,000 ft^3)	27,217	1.3	3.1
Net volume of growing-stock trees (1,000,000 ft^3)	25,397	1.3	1.5
Annual net growth of growing-stock trees (1,000 ft^3/year)	544,624	3.9	-10.8
Annual mortality of growing-stock trees (1,000 ft^3/year)	185,999	6.7	10.1
Annual harvest removals of growing-stock trees (1,000 ft^3/year)	197,448	14.1	-31.2
Annual other removals of growing-stock trees (1,000 ft^3/year)	56,023	26.0	57.4

Note: When available, sampling errors/bars provided in figures and tables represent 68 percent confidence intervals.

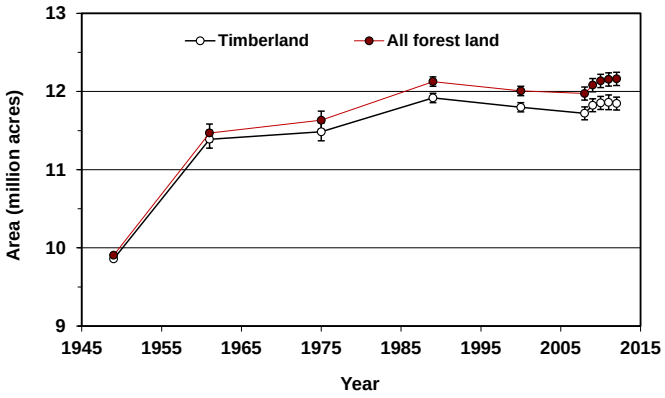


Figure 1. – Area of timberland and forest land by year.

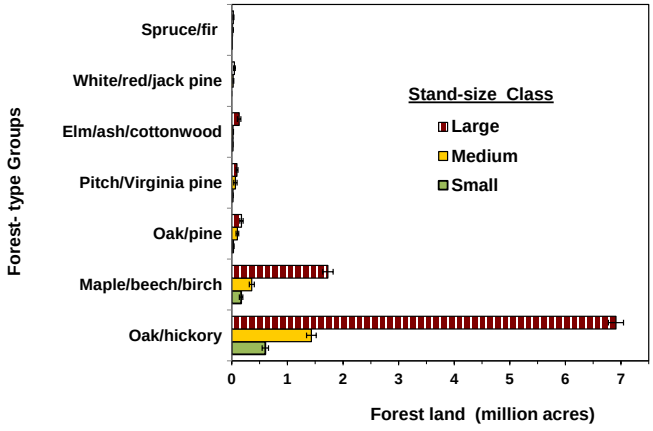


Figure 2. – Forest land area by stand-size class* for most common forest type groups, 2012.

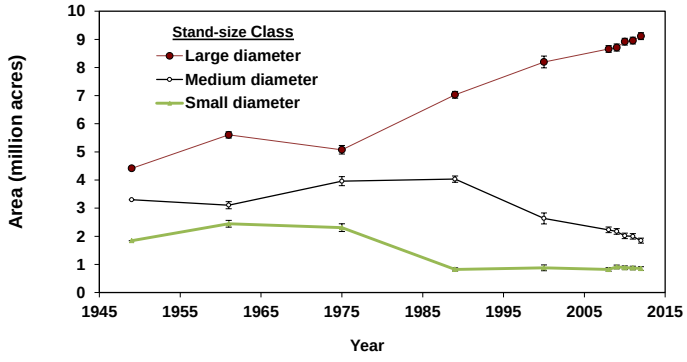
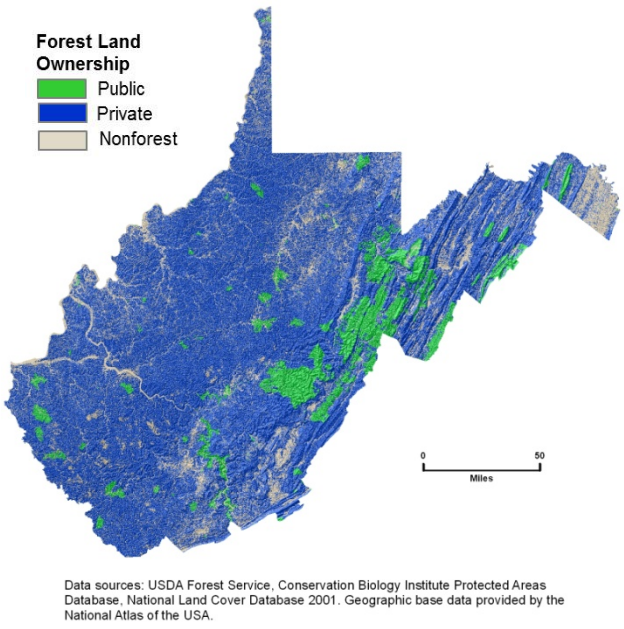


Figure 3. – Area of timberland by stand-size class* and year.

* Small: dominated by trees less than 5.0 inches d.b.h.; Medium: 5.0 to 8.9 inches d.b.h. for softwoods and 5.0 to 10.9 inches d.b.h. for hardwoods; Large:≥ 9.0 inches for softwoods and 11.0 d.b.h. for hardwoods.

Table 2. – Top 10 tree species by statewide volume estimates, 2012

Rank	Species	Volume of live trees on forest land (million ft^3)	Sampling error (%)	Change since 2008 (%)	Volume of sawtimber trees on timberland (million bdft)	Sampling error (%)	Change since 2008 (%)
1	Yellow-poplar	4,150	4.2	6.5	16,734	4.7	6.4
2	Red maple	2,611	3.7	7.0	6,418	5.1	10.2
3	Chestnut oak	2,550	4.6	5.9	8,253	5.3	8.5
4	White oak	2,382	4.6	1.4	8,825	5.4	3.4
5	Northern red oak	2,265	5.0	5.8	9,749	5.8	6.4
6	Sugar maple	1,968	4.5	4.0	5,355	6.2	3.8
7	Black oak	1,158	5.9	-7.3	4,510	7.1	-10.3
8	Black cherry	1,091	7.3	6.6	3,429	9.7	5.5
9	American beech	1,091	6.5	2.6	3,582	8.7	3.5
10	Pignut hickory	793	6.2	0.6	2,392	7.8	2.1
	Other softwoods	1,522	5.9	7.7	4,487	7.6	7.6
	Other hardwoods	6,542	2.3	1.6	17,910	3.4	1.5
	All Species	28,122	1.2	3.8	91,643	1.7	4.3



Data sources: USDA Forest Service, Conservation Biology Institute Protected Areas Database, National Land Cover Database 2001. Geographic base data provided by the National Atlas of the USA.

Public forest land – 13 percent of all forest land

Private forest land – 87 percent of all forest land

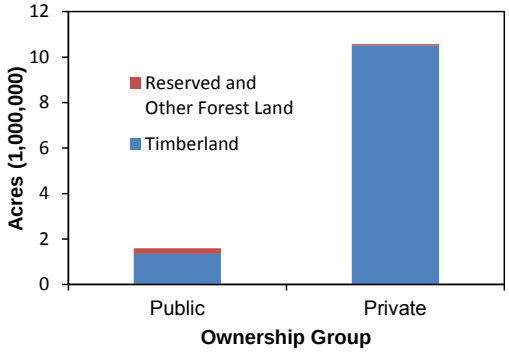


Figure 4. – Area of forest land by major owner group, West Virginia, 2012.

Native Hard Pines in West Virginia

As a group, pitch pine, Virginia pine, and table mountain pine are referred to as hard pines. Their distribution in West Virginia is spotty as they are mostly found on poorer soils and drier sites. They are considered pioneer species that are eventually replaced by more shade tolerant hardwoods, except on the poorest soils (Burns1990). Because seedlings do not thrive under shaded conditions, most stands of hard pines in West Virginia were established after major disturbances such as intense wildfire and heavy logging. Though they are not considered high value species, hard pines do fill some niche markets such as providing softwood fiber for pulpwood and posts for fencing. Also, seeds shed in winter are an important source of food for small birds.

Hard pines make up 2 percent of the total volume of trees in West Virginia and average 37 cubic feet per acre statewide. The heaviest concentrations are along the Ohio/West Virginia border and in the eastern panhandle (Fig. 5). Since 1989 the volume of hard pines has decreased by 17 percent (Fig. 6), while the total volume of all species has increased by 29 percent. Though the volume of hard pines is unchanged since 2008, changes in the numbers of trees by diameter class indicate that the hard pines are a maturing resource. Since 2000, there have been decreases in the numbers of trees in all diameter class below 16 inches (Fig. 7). Besides declining numbers of small trees, hard pines have experienced higher mortality rates than other species. As a percentage of current volume, the mortality rate for hard pines in West Virginia is 1.7 percent per year versus 0.9 percent for all species.

The history of forestry in West Virginia shows that disturbances from logging and wildfires were much more common and intense during the early 1900s than they are today. Many of the large hard pines growing in West Virginia today are likely relics of these past disturbances. In the absence of large disturbances the hard pine resource in West Virginia will likely continue to decrease. Although hard pines only represent a small part of the forest resource, they contribute to forest diversity. Diverse forests tend to be more resistant to attacks by insects and diseases and better able to recover from disturbances.

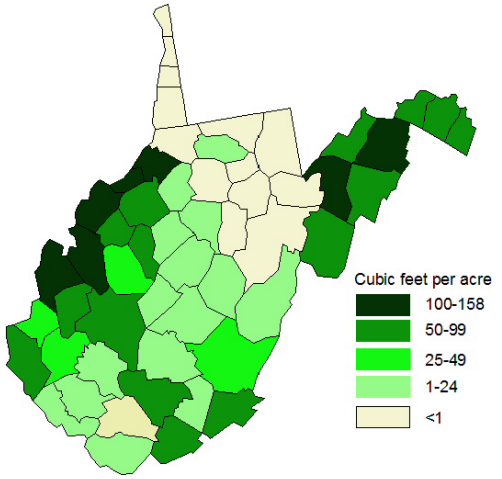


Figure 5. – Average net volume (cubic feet) per acre of hard pines on timberland, West Virginia, 2012 .

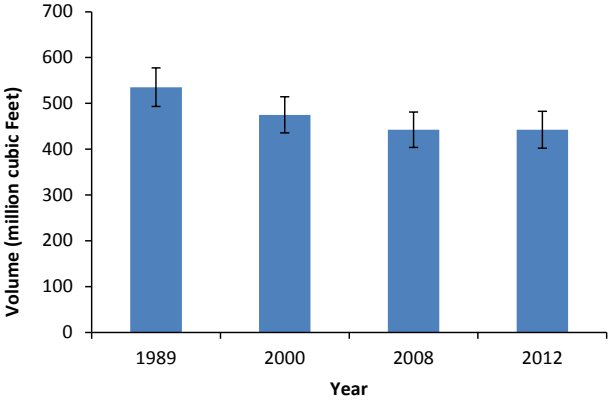


Figure 6. – Net volume (cubic feet) of hard pines by inventory year on timberland, West Virginia.

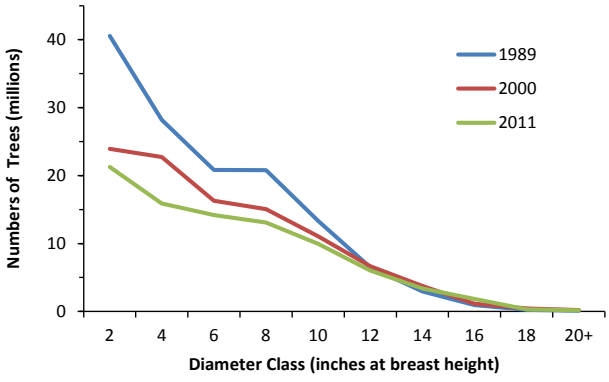


Figure 7. – Number of hard pine by diameter class and inventory year on timberland, West Virginia.

Citation for this Publication

Widmann R.H. 2013. **West Virginia's forest resources, 2012**. Res. Note NRS-192. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

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Estimates, tabular data, and maps from report may be generated at: www.fia.fs.fed.us/tools-data