USDA Forest Service, US Department of Agriculture
Northern Research Station

Missouri's Forest Resources, 2007

Research Note NRS-29

This publication provides an overview of forest resource attributes for Missouri 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. More comprehensive reports with key findings and definitions are reported every 5 years (Moser et al. 2007).

Table 1. – Annual estimates, uncertainty, and change

	Estimate	Sampling error (%)	Change since 2006 (%)
Forest Land Estimates			
Area (1,000 acres)	15292.9	0.7	1.4
Number of live trees 1 inch diameter or larger (million trees)	8430.7	1.3	0.4
Dry biomass of live trees 1 inch diameter or larger (1,000 tons)	618635.0	1.0	1.9
Net volume in live trees (1,000,000 ft^3)	19763.4	1.1	1.7
Annual net growth of live trees (1,000 ft^3/year)	550495.2	3.9	1.1
Annual mortality of live trees (1,000 ft^3/year)	212172.1	5.2	-8.1
Annual removals of live trees (1,000 ft^3/year)	192432.6	9.4	-1.2
Timberland Estimates			
Area (1,000 acres)	14910.3	0.8	1.6
Number of live trees 1 inch diameter or larger (million trees)	8205.3	1.3	0.6
Biomass of live trees 1 inch diameter or larger (1,000 tons)	602809.7	1.1	2.1
Net volume in live trees (1,000,000 ft^3)	19271.9	1.2	2.1
Net volume of growing stock trees (1,000,000 ft^3)	16709.4	1.3	0.7
Annual net growth of growing stock trees (1,000 ft^3/year)	522948.8	3.6	-2.9
Annual mortality of growing stock trees (1,000 ft^3/year)	126343.5	6.2	-7.8
Annual removals of growing stock trees (1,000 ft^3/year)	162366.8	10.0	-0.4

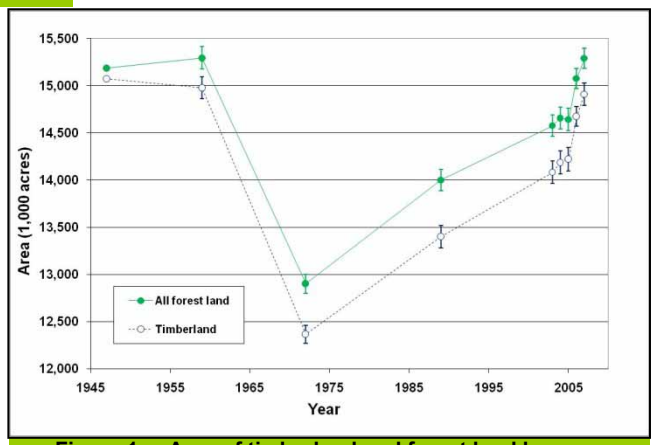

Figure 1. – Area of timberland and forest land by year.

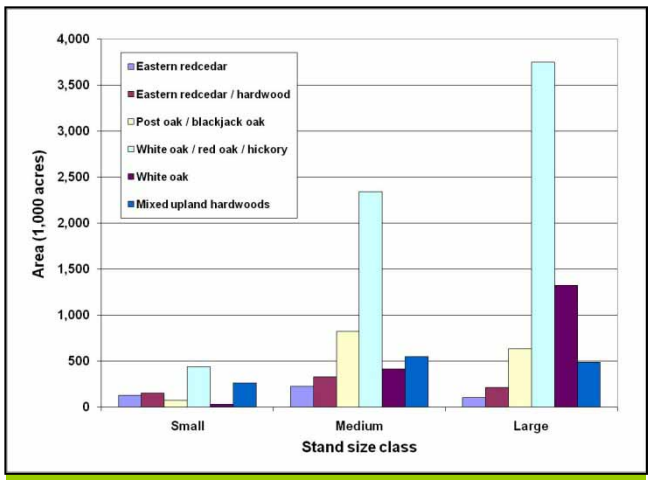

Figure 2. – Area of timberland by top six forest types and stand-size class.

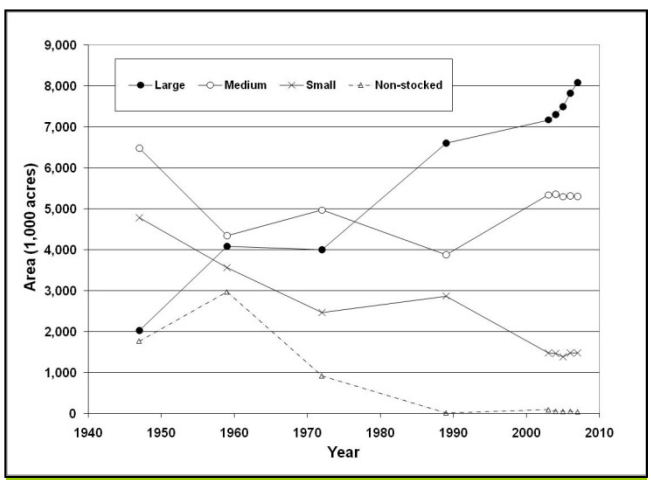

Figure 3. – Area of timberland by stand-size class and year.

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

Rank	Species	Net volume of live trees on timberland (1,000,000 ft^3)	Sampling Error (%)	Change since 2006 (%)	Net volume of sawtimber trees on timberland (1,000,000 bdft)	Sampling error (%)	Change since 2006 (%)
1	White oak	4,012.9	2.8	2.10	12,244.5	3.5	3.20
2	Black oak	2,943.4	3.0	1.90	9,542.7	3.8	0.90
3	Post oak	2,070.4	3.4	2.40	4,475.3	4.8	-0.60
4	Northern red oak	1,012.6	5.4	-2.90	3,621.9	6.6	-3.70
5	Shortleaf pine	883.0	6.6	2.80	3,653.8	7.0	5.60
6	Scarlet oak	657.6	5.4	2.60	2,075.0	6.7	2.90
7	Eastern redcedar	653.6	5.2	5.70	1,142.8	8.4	-2.20
8	Black walnut	601.0	6.4	5.90	1,690.9	8.5	8.50
9	Shagbark hickory	535.6	5.9	4.80	1,285.8	8.8	4.90
10	Black hickory	435.8	4.9	-2.90	895.6	8.5	-4.30
	Other softwood species	9.5	69.1	-15.20	40.4	74.4	-16.70
	Other hardwood species	5,948.0	2.6	1.00	13,502.4	4.0	0.60
	All species	19,763.4	1.1	1.70	54,171.3	1.7	1.40

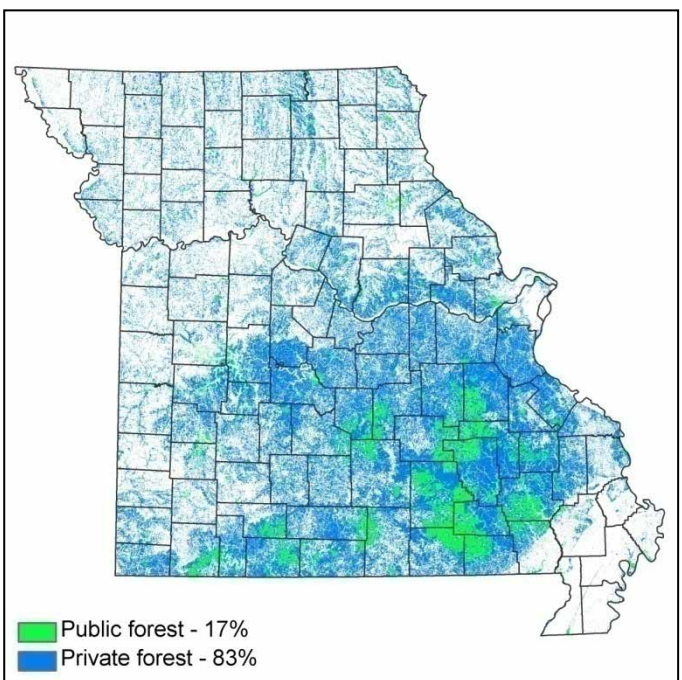

Figure 4. – Area of forest land by major owner group (34% of Missouri is forested).
Map courtesy of D.M. Meneguzzo

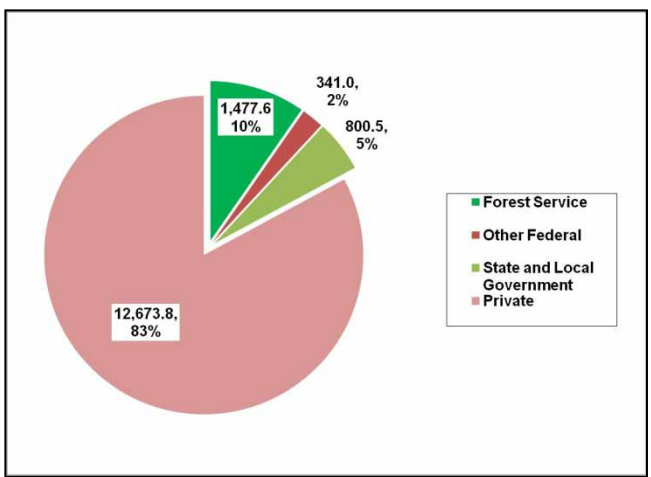

Figure 5. – Area of forest land, in 1000s of acres, by major owner group.

Missouri Issue Update – Emerald ash borer

The emerald ash borer (EAB) is an exotic bark-boring beetle that was discovered in southeastern Michigan in 2002. Since that time, EAB has killed tens of millions of ash trees in the north-central and eastern portions of the U.S. Surveys conducted in Missouri in 2007 did not reveal evidence of EAB; however, EAB was found in Wayne County in 2008 and was most likely present in the State during the 2007 inventory period.

With an estimated 271 million trees (1-inch diameter or greater), ash represents 3 percent of all species on forest land and accounts for 444 thousand ft^3 of live-tree volume. The species also constitutes up to 14 percent of street trees in the State (Treiman et al. 2008). Ash density is concentrated in the central and southeastern portions of the state (Fig. 6). When ash is present in a stand, it is rarely the most dominant species; in general, ash makes up less than 25 percent of total live-tree basal area (Fig. 7).

The economic impact is not trivial. Treiman et al. (2008) estimates that if EAB becomes established statewide, Missouri's forest-based economy will lose over $6.7 million annually. The economic impact due to the loss of ash street trees is harder to estimate. It is comprised of the trees' aesthetic value, costs of removal, loss of property values, and impact on home-cooling costs. Treiman et al. calculated a one-time cost, spread out over many years, of $20.3 million for Missouri.

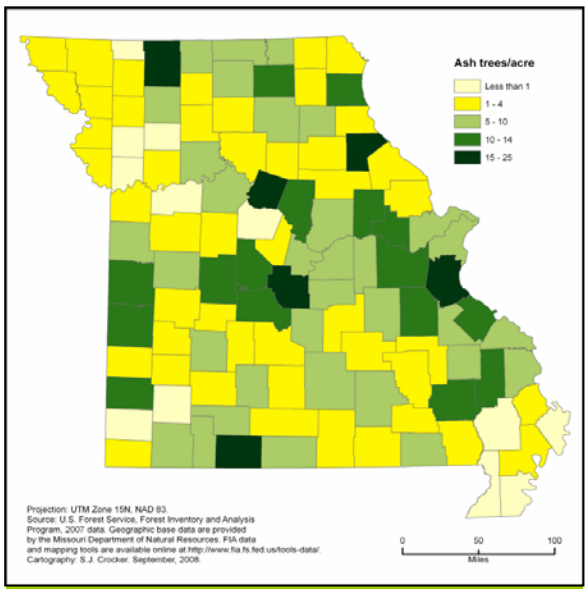

Figure 6. – Ash density by county as a percentage of total county land, Missouri, 2003-2007.

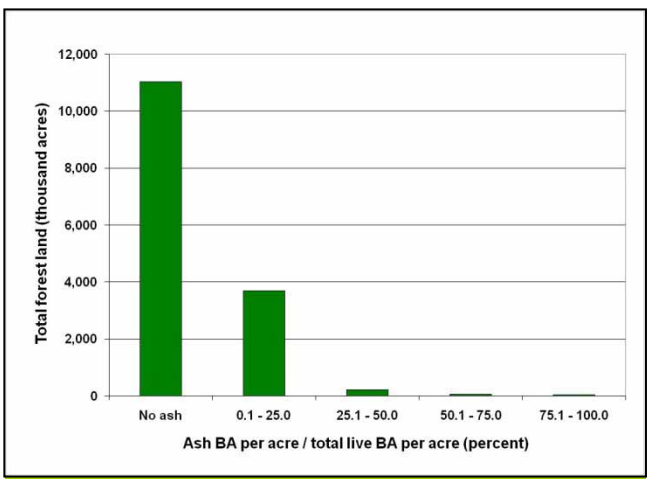

Figure 7. – Presence of ash on forest land, expressed as a percentage of stand basal area (ash BA per acre/ total live BA per acre), Missouri, 2003-2007.

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Contact Information

Author and lead analyst: W. Keith Moser, (651) 649-5155, wkmoser@fs.fed.us
Data processing/access: Gary Brand, (651) 649-5170, gbrand@fs.fed.us
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