

# Massachusetts' Forest Resources, 2011

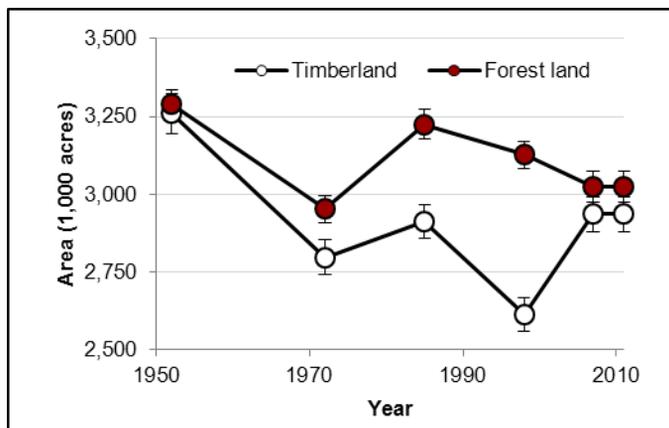
Research Note NRS-150

This publication provides an overview of forest resource attributes for Massachusetts 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.

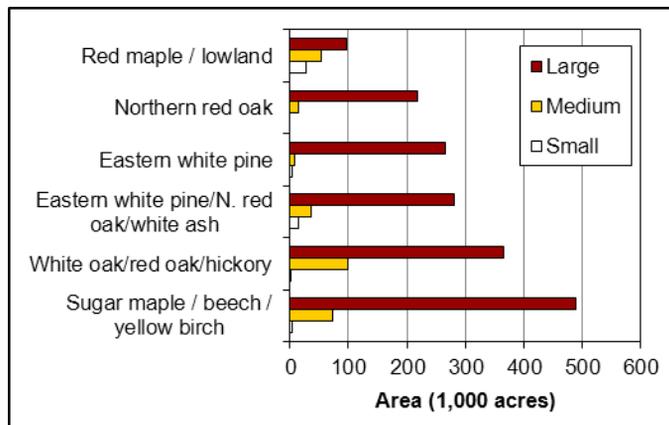
**Table 1. – Annual estimates, uncertainty, and change**

	Estimate 2011	Sampling error (%)	Change since 2007 (%)
<b>Forest Land Estimates</b>			
Area (1,000 acres)	3,024	1.7	-0.3
Number of live trees 1-inch diameter or larger (million trees)	1,568	3.1	0.5
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	209,132	2.4	4.0
Net volume in live trees (1,000,000 ft <sup>3</sup> )	8,066	2.6	4.1
Annual net growth of live trees (1,000 ft <sup>3</sup> /year)	163,872	8.3	1.6
Annual mortality of live trees (1,000 ft <sup>3</sup> /year)	66,186	10.6	22.3
Annual harvest removals of live trees (1,000 ft <sup>3</sup> /year)	34,065	28.4	-46.2
Annual other removals of live trees (1,000 ft <sup>3</sup> /year)	10,932	35.2	106.4
<b>Timberland Estimates</b>			
Area (1,000 acres)	2,936	1.9	1.7
Number of live trees 1-inch diameter or larger (million trees)	1,529	3.1	2.5
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	206,264	2.4	5.1
Net volume in live trees (1,000,000 ft <sup>3</sup> )	7,968	2.6	5.1
Net volume of growing-stock trees (1,000,000 ft <sup>3</sup> )	7,220	2.8	3.9
Annual net growth of growing-stock trees (1,000 ft <sup>3</sup> /year)	161,023	8.1	12.1
Annual mortality of growing-stock trees (1,000 ft <sup>3</sup> /year)	45,121	11.0	25.3
Annual harvest removals of growing-stock trees (1,000 ft <sup>3</sup> /year)	28,313	28.4	-49.1
Annual other removals of growing-stock trees (1,000 ft <sup>3</sup> /year)	7,705	39.6	14.0

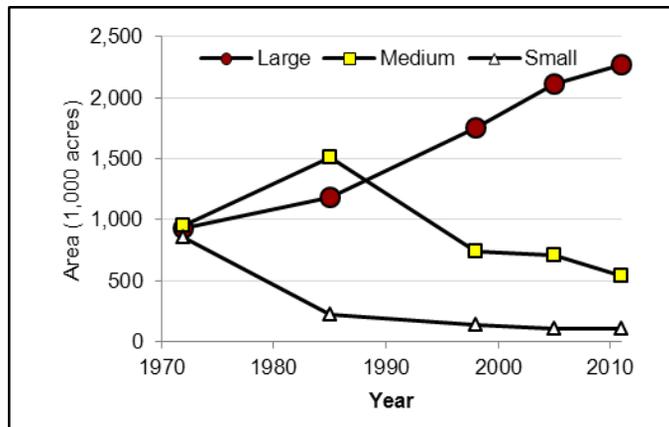
Note: When available, sampling errors/bars provided in figures and tables represent 68 percent confidence intervals.



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



**Figure 2. – Area of forest land by top six forest types and stand-size class\*, 2007-2011.**



**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, 2007-2011

Rank	Species	Volume of live trees on forest land			Volume of sawtimber trees on timberland		
		(1,000,000 ft <sup>3</sup> )	Sampling error (%)	Change since 2007 (%)	(1,000,000 bdf)	Sampling error (%)	Change since 2007 (%)
1	Eastern white pine	1,965	7.9	4.6	8,573	8.6	7.6
2	Red maple	1,397	6.0	-1.9	2,993	8.8	1.5
3	Northern red oak	916	8.4	5.4	3,417	9.1	10.4
4	Eastern hemlock	842	10.5	9.4	2,352	12.1	9.8
5	Sugar maple	337	12.8	4.9	962	15.2	9.7
6	Black oak	337	10.7	11.1	1,076	13.6	23.4
7	White ash	303	14.0	8.9	1,001	17.3	13.5
8	Sweet birch	246	12.2	6.5	540	17.5	12.7
9	White oak	222	10.4	3.1	668	14.5	6.4
10	Scarlet oak	213	12.9	1.5	631	15.8	13.2
	Other softwoods	204	15.3	-0.1	484	18.8	2.7
	Other hardwoods	1,086	6.3	3.7	2,806	9.1	13.4
	<b>All Species</b>	<b>8,066</b>	<b>2.6</b>	<b>4.1</b>	<b>25,502</b>	<b>3.6</b>	<b>9.0</b>

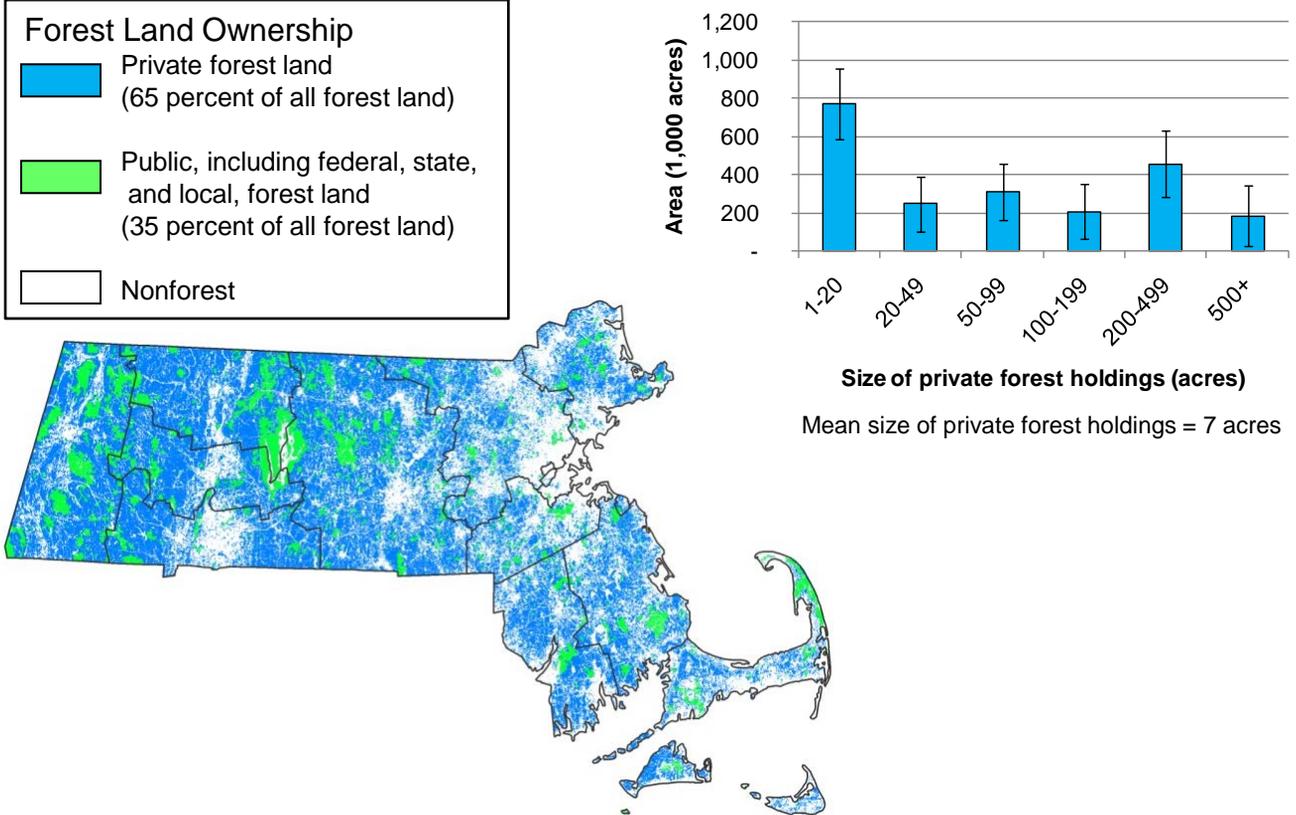


Figure 4. – Area of forest land by major owner group and size of private forest landholding (2002-2006).

## Wildlife Habitat

The forests of Southern New England provide food, shelter, and other habitat features critical to the survival of many of the region's wildlife species. Through Forest Inventory and Analysis data, the abundance and quality of these habitats can, at least in general terms, be assessed. Stand age, stand size, and numbers of snags are three metrics that can be used in this way. Due to sample size issues, data for Connecticut, Massachusetts, and Rhode Island are combined on this page.

The average age of forests across Southern New England has been steadily rising. Seventy-two percent of the forest land across the region is now in stands that are estimated to be between 61 and 100 years of age (Fig. 5). These stands are largely the result of the abandonment of agricultural fields in the early 1900s. Partially as a result of this age distribution, most of the forest stands are dominated by larger trees (i.e., dominated by softwoods  $\geq 9.0$  in. d.b.h. or hardwoods  $\geq 11.0$  in. d.b.h.) (Fig. 3). This has important implications for wildlife as forests of different ages and sizes offer different elements. The general dearth of young/small stand size forests has been raised as a major concern by many wildlife biologists across the region; less than 5 percent of the forest land in Southern New England is in the seedling/sapling stand size.

Snags, or standing dead trees, are an important structural component of forests that provide nesting and denning sites. For every 1,000 living trees ( $\geq 5$  in. d.b.h.), there are, on average, 96 snags ( $\geq 5$  in. d.b.h.). This number varies significantly by species with white ash, eastern white pine, white oak, and American beech having the greatest relative numbers of snags among the most common species (Fig. 6).

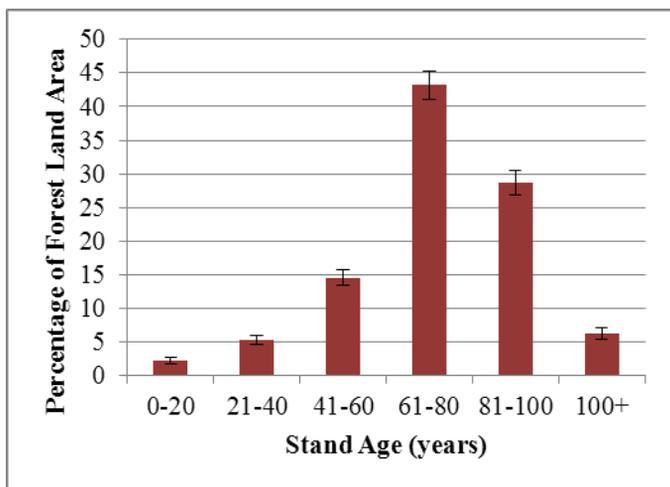


Figure 5. – Area of forest land by stand-age class, Southern New England, 2006-2010.

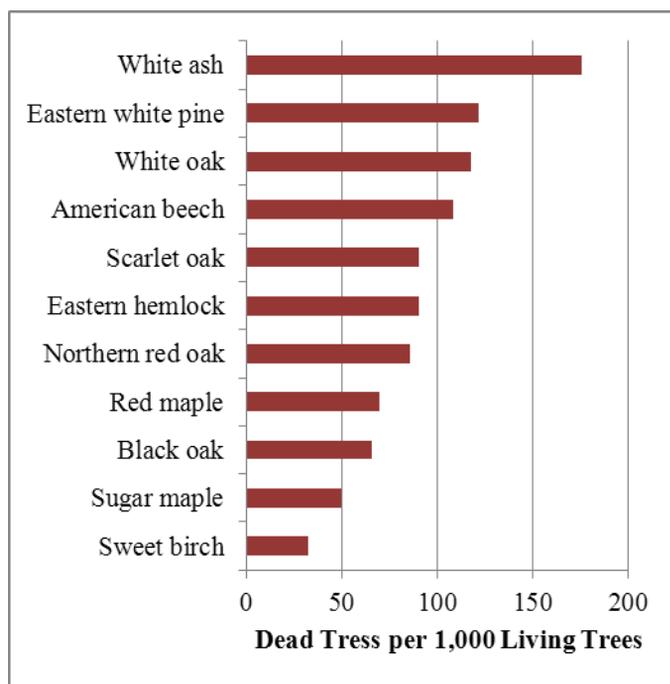


Figure 6. – Standing dead trees (5+ in. d.b.h.) per 1,000 living trees (5+ in. d.b.h.) for selected species, Southern New England, 2006-2010.

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### FIA Program Information

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### Additional Massachusetts Inventory Information

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Estimates, tabular data, and maps from this report may be generated at: [www.fiatools.fs.fed.us](http://www.fiatools.fs.fed.us)

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