USDA United States Department of Agriculture
Forest Service
Northern Research Station

Massachusetts' Forest Resources, 2006

Research Note NRS-13

This publication provides an overview of forest resource attributes for Massachusetts based on an annual inventory conducted by the Forest Inventory and Analysis 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 regarding past inventory reports for Massachusetts, inventory program information, and sampling/estimation procedures, please refer to the citations at the end of this report.

Table 1.–Annual estimates, uncertainty, and change

	Estimate	Sampling error (%)	Change since 2005 (%)
Forest Land Estimates			
Area (1,000 acres)	3,055	2.1	-3.7
Number of live trees 1-inch diameter or larger (million trees)	1,578	3.7	-6.0
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	223,971	2.7	-2.9
Net volume in live trees (1,000,000 ft^3)	7,160	3.2	-0.6
Net volume of growing-stock trees (1,000,000 ft^3)	6,654	3.3	-1.3
Annual net growth of live trees (1,000 ft^3/year)	124,295	9.2	NA
Annual mortality of live trees (1,000 ft^3/year)	45,894	11.6	NA
Annual removals of live trees (1,000 ft^3/year)	57,914	25.3	NA
Timberland Estimates			
Area (1,000 acres)	2,897	2.3	-2.1
Number of live trees 1-inch diameter or larger (million trees)	1,510	3.7	-4.9
Biomass of live trees 1-inch diameter or larger (1,000 tons)	218,686	2.9	-2.0
Net volume in live trees (1,000,000 ft^3)	7,031	3.3	0.2
Net volume of growing-stock trees (1,000,000 ft^3)	6,540	3.5	-0.5
Annual net growth of growing-stock trees (1,000 ft^3/year)	83,061	10.8	NA
Annual mortality of growing-stock trees (1,000 ft^3/year)	29,645	10.7	NA
Annual removals of growing-stock trees (1,000 ft^3/year)	49,781	25.5	NA

NA - not available

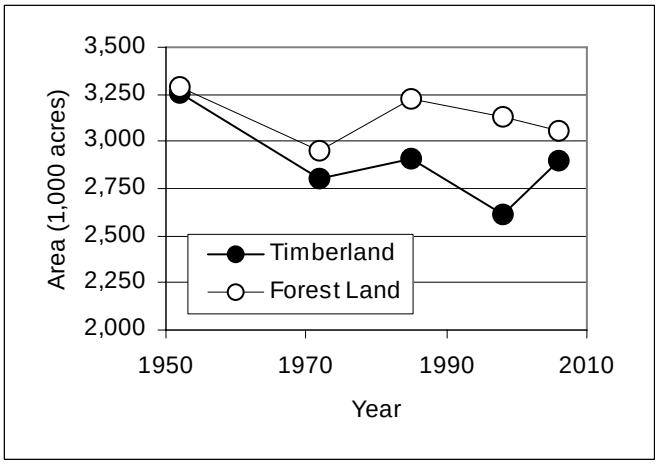

Figure 1.–Area of timberland and forest land by year.

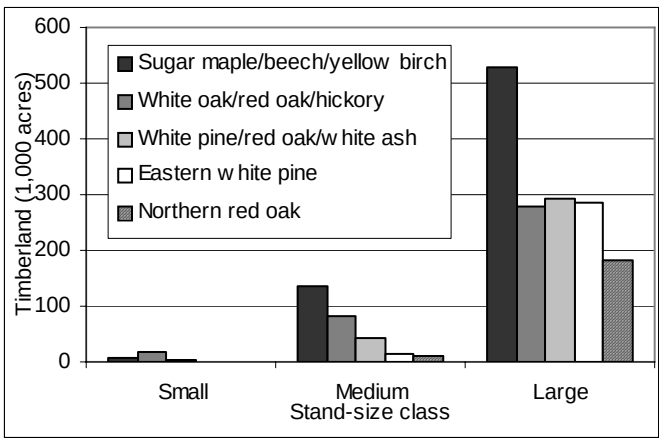

Figure 2.–Area of timberland of top five forest types by stand-size class.

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

Rank	Species	Volume of live trees on timberland (1,000,000 ft^3)	Sampling error (%)	Change since 2005 (%)	Volume of sawtimber trees on timberland (1,000,000 bdft)	Sampling error (%)	Change since 2005 (%)
1	Eastern white pine	1901.8	10	2.1	7848.8	11.1	4.4
2	Red maple	1172.2	6.6	5.5	2297.7	9.1	6.1
3	Northern red oak	798.7	10.1	-8.1	2832.9	11.2	-10
4	Eastern hemlock	713.9	11.9	-4.9	1907.3	13.4	-8.9
5	Sugar maple	307.4	14.2	11.1	800.2	16.8	-1
6	White ash	271.3	15.6	13	830.7	18.6	17.5
7	Sweet birch	231.1	14.2	5.9	498	20.2	19.3
8	Black oak	205.9	12.8	-7.5	578.2	15.2	-9.2
9	Black cherry	184.3	17.4	-7.9	540	23.1	-16.5
10	Scarlet oak	165.2	17.1	-4.9	458.6	20.7	-5.8
	Other softwood species	164.4	23.4	1049.7	428.5	29.2	1042.7
	Other hardwood species	914.8	6.6	269.3	2147	10.3	258.9
	All species	7031	3.3	0.2	21167.9	4.6	-0.1

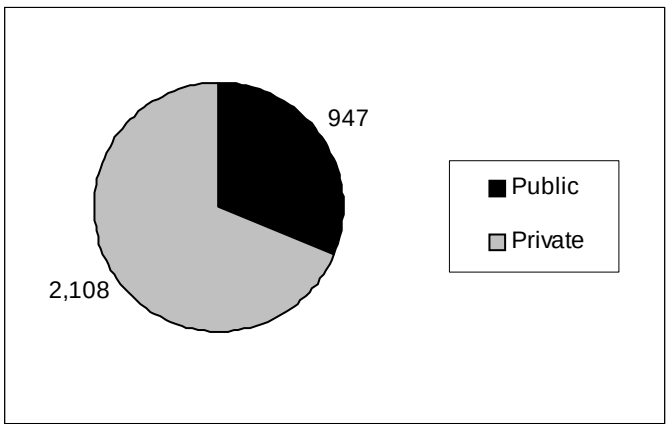

Figure 3.–Area of forest land (1,000 acres) by ownership group.

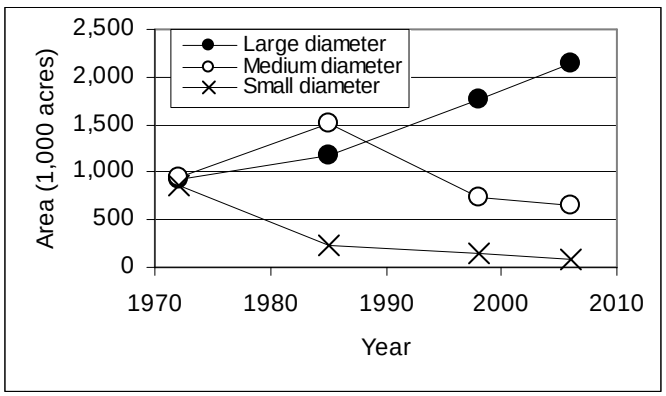

Figure 4.–Area of timberland by stand-size class and year.

Massachusetts Issue Update – The Health of the Hemlocks

Eastern hemlock (*Tsuga camadensis*) is an important tree in Massachusetts. It is the fourth most common tree in the Commonwealth and accounts for 10 percent of the total inventory volume (Table 2). In the 1950s, hemlock wooly adelgid (*Adeges tsugae*) was introduced to the United States from Asia and this insect has since been detected in all counties of the Commonwealth. This adelgid feeds on the starches stored in the twigs, which reduces tree vitality and can lead to mortality. More information on the hemlock wooly adelgid is available in U.S. Forest Service Pest Alert NA-PR-09-05 or by contacting the Massachusetts Department of Conservation and Recreation, Bureau of Forestry.

The long-term effect of the adelgid on the Commonwealth's forests is yet to be determined, but looking at the FIA data we can begin to analyze some trends. Eastern hemlock is found throughout the Commonwealth and has its highest concentrations in the western part of the Commonwealth (Fig. 5). Between 1972 and 1998, the average annual increase in the volume of eastern hemlock was 14 million ft^3, but between 1998 and 2006 the rate of increase dropped to 3 million ft^3 (Fig. 6). Eastern hemlock is a shade-tolerant, late successional species and this habitat is continuing to increase. The adelgid is probably one factor causing the slow down, but there may also be other reasons.

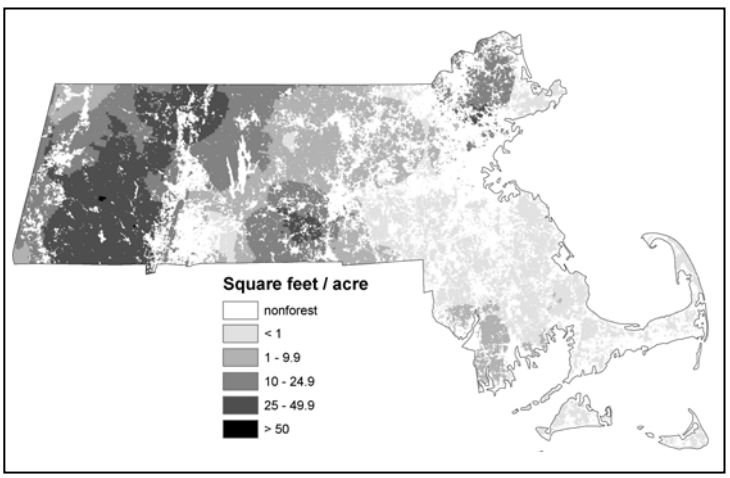

Figure 5.–Relative importance of eastern hemlock.

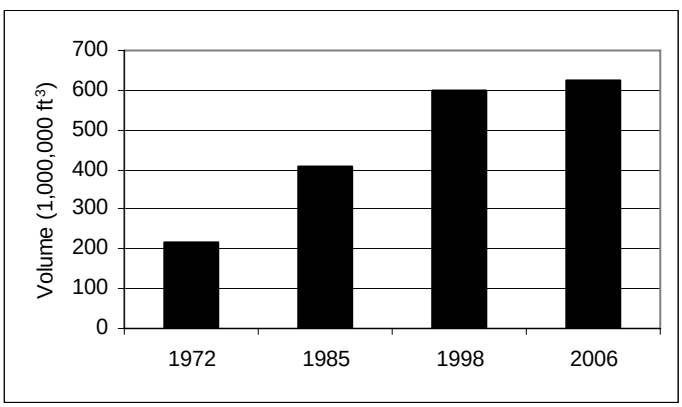

Figure 6.–Net volume of eastern hemlock growing stock on timberland by year.

Citation for this Publication

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FIA Program Information

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Additional Massachusetts Inventory Information

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