



Connecticut's Forest Resources, 2006

Research Note NRS-15

This publication provides an overview of forest resource attributes for Connecticut 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 Connecticut, 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)	1,746	3.0	-2.7
Number of live trees 1-inch diameter or larger (million trees)	869	5.2	-5.1
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	128,812	4.0	-1.2
Net volume in live trees (1,000,000 ft ³)	3,622	4.2	1.0
Net volume of growing-stock trees (1,000,000 ft ³)	3,401	4.3	-0.1
Annual net growth of live trees (1,000 ft ³ /year)	73,642	9.7	NA
Annual mortality of live trees (1,000 ft ³ /year)	21,440	16.1	NA
Annual removals of live trees (1,000 ft ³ /year)	29,191	29.3	NA
Timberland Estimates			
Area (1,000 acres)	1,698	3.2	-2.8
Number of live trees 1-inch diameter or larger (million trees)	857	5.3	-5.1
Biomass of live trees 1-inch diameter or larger (1,000 tons)	127,159	4.1	-0.5
Net volume in live trees (1,000,000 ft ³)	3,578	4.3	1.9
Net volume of growing-stock trees (1,000,000 ft ³)	3,359	4.4	0.8
Annual net growth of growing-stock trees (1,000 ft ³ /year)	46,399	12.2	NA
Annual mortality of growing-stock trees (1,000 ft ³ /year)	16,693	17.7	NA
Annual removals of growing-stock trees (1,000 ft ³ /year)	25,333	27.0	NA

NA - not available

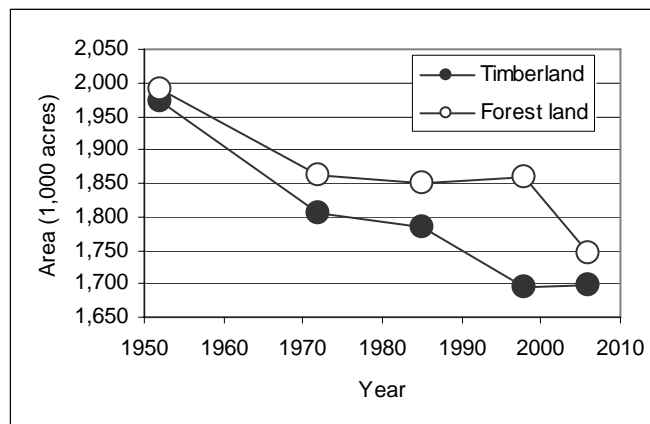


Figure 1.—Area of timberland and forest land by year.

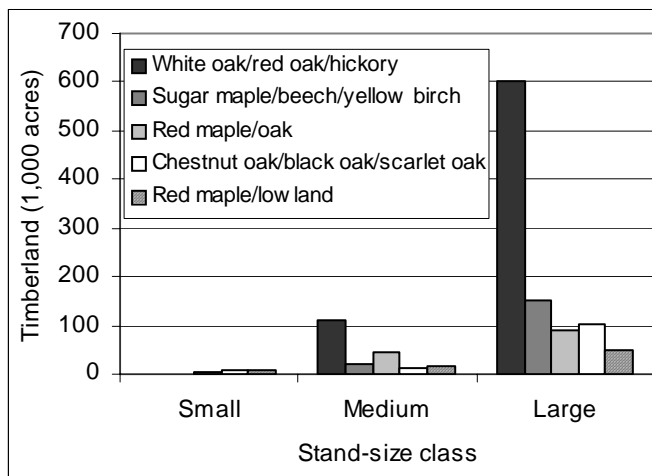


Figure 2.—Area of timberland of top five forest types by stand-size class.



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 bdf)	Sampling error (%)	Change since 2005 (%)
1	Red maple	710.9	10.1	3.00	1,706.1	13.1	4.60
2	Northern red oak	464.4	11.6	2.70	1,726.0	12.4	2.70
3	Eastern white pine	318.3	21.3	30.50	1,272.3	24.8	34.10
4	Black oak	287.2	15.7	-0.90	1,062.4	18.2	-2.50
5	Black birch	256.2	11.0	-11.60	535.7	16.2	-18.00
6	White oak	227.2	12.3	-10.60	754.0	15.6	-17.50
7	Eastern hemlock	173.7	22.7	-15.30	488.4	25.9	-24.30
8	White ash	171.8	18.7	-8.20	555.5	25.5	-16.40
9	Scarlet oak	169.1	16.3	64.80	582.3	17.5	89.20
10	Sugar maple	130.2	19.4	0.60	347.3	25.6	-11.20
	Other softwood species	35.8	40.5	12.90	79.4	72.7	97.50
	Other hardwood species	633.8	9.3	142.30	1,803.0	13.0	147.30
	All species	3,578.4	4.3	1.90	10,912.4	5.6	1.50

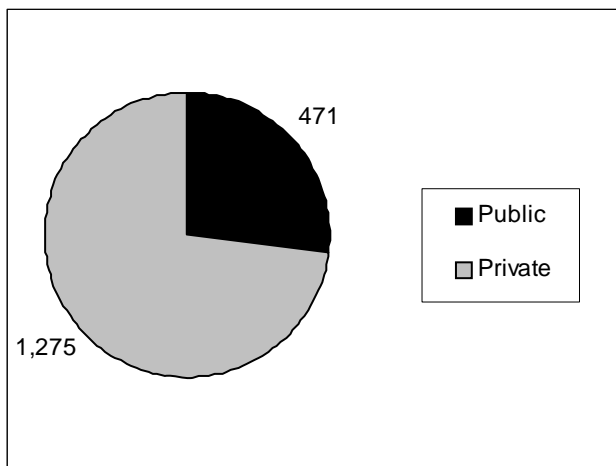


Figure 3.—Area of forest land (1,000 acres) by owner category.

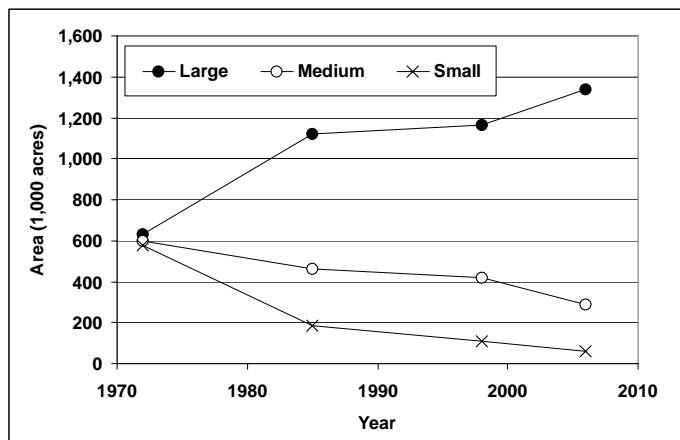


Figure 4.—Area of timberland by stand-size class and year.



Connecticut Issue Update – The Health of the Hemlocks

Eastern hemlock (*Tsuga canadensis*) is an important tree in Connecticut. It is the seventh most common tree in the State and accounts for 5 percent of the State's total 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 State. It 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 Connecticut Department of Environmental Protection or the Connecticut Agricultural Experiment Station.

The long-term effect of the adelgid on the State'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 State, but has its highest concentrations in northwestern Connecticut (Fig. 5). Between 1972 and 1998, the volume of eastern hemlock increased by 39 percent, but between 1998 and 2006, the volume decreased by 30 percent with hemlock levels returning to roughly 1972 levels (Fig. 6). Eastern hemlock is a shade-tolerant, late successional species. Although there are a significant number of hemlocks continuing to establish and grow due to the successional stage of many of the State's forests, hemlock mortality is high and hemlock wooly adelgid is part of the reason why.

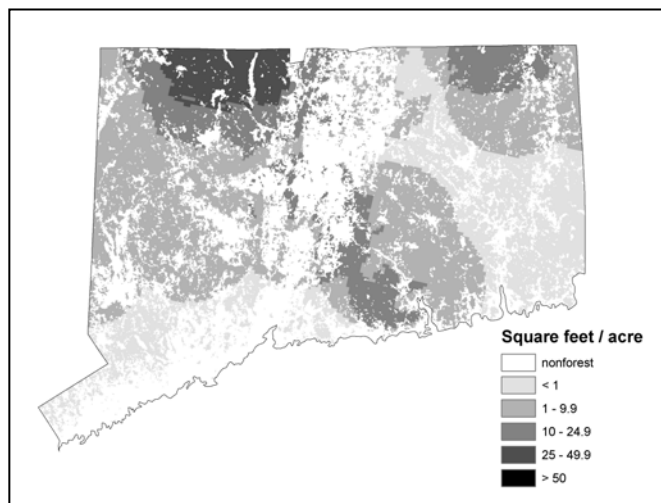


Figure 5.—Average basal area of eastern hemlock.

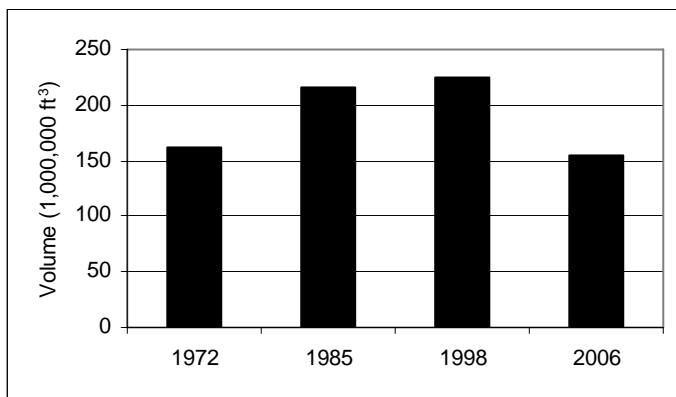


Figure 6.—Net volume of eastern hemlock growing stock on timberland by year.



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FIA Program Information

Bechtold, W.A.; Patterson, P.L. 2005. The enhanced Forest Inventory and Analysis program: national sampling design and estimation procedures. Gen. Tech. Rep. SRS-80. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 85 p.

Smith, W.B. 2002. Forest inventory and analysis: a national inventory and monitoring program. Environmental Pollution. 116: S233-S242.

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Additional Connecticut Inventory Information

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Dickson, David R.; Bowers, Theresa M. 1976. Forest statistics for Connecticut. Resour. Bull. NE-44. Upper Darby, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 40 p.

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Wharton, Eric H.; Widmann, Richard H.; Alerich, Carol L.; Barnett, Charles H.; Lister, Andrew J.; Lister, Tonya W.; Smith, Don; Borman, Fred. 2004. The forests of Connecticut. Res. Bull. NE-160. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 35 p.

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