

Maine's Forest Resources, 2007

Research Note NRS-52

This publication provides an overview of forest resource attributes for Maine 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 annual 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 (2007)	Sampling error (%)	Change(%) since 2003
Forest Land Estimates			
Area (1,000 acres)	17,620.5	0.4	-0.5
Number of live trees > 1-inch diameter (million trees)	22,853.2	1.5	5.7
Dry biomass of live trees > 1-inch diameter (1,000 tons)	659,996.1	1.0	0.9
Net volume of live trees > 5-inch diameter (1,000,000 ft ³)	25,464.1	1.2	-0.5
Annual net growth of live trees > 5-inch diameter (1,000 ft ³ /year)	578,372.7	2.8	1.5
Annual mortality of live trees (1,000 ft ³ /year)	359,802.2	3.1	28.0
Annual removals of live trees (1,000 ft ³ /year)	619,788.7	6.1	15.6
Timberland Estimates			
Area (1,000 acres)	17,087.4	0.5	-0.7
Number of growing-stock trees (million trees)	2,655.2	1.6	-1.4
Dry Biomass of live trees > 1-inch diameter (1,000 tons)	641,686	1.0	0.4
Net volume of live trees > 5-inch diameter (1,000,000 ft ³)	24,731.1	1.2	-0.9
Net volume of growing-stock trees (1,000,000 ft ³)	23,110.6	1.3	-1.0
Annual net growth of growing-stock trees (1,000 ft ³ /year)	555,368.0	2.7	8.4
Annual mortality of growing-stock trees (1,000 ft ³ /year)	275,496.0	3.4	12.1
Annual removals of growing-stock trees (1,000 ft ³ /year)	570,735.0	6.0	8.6

Note: When available, sampling errors/bars provided in Figures and Tables represent 68 percent confidence intervals

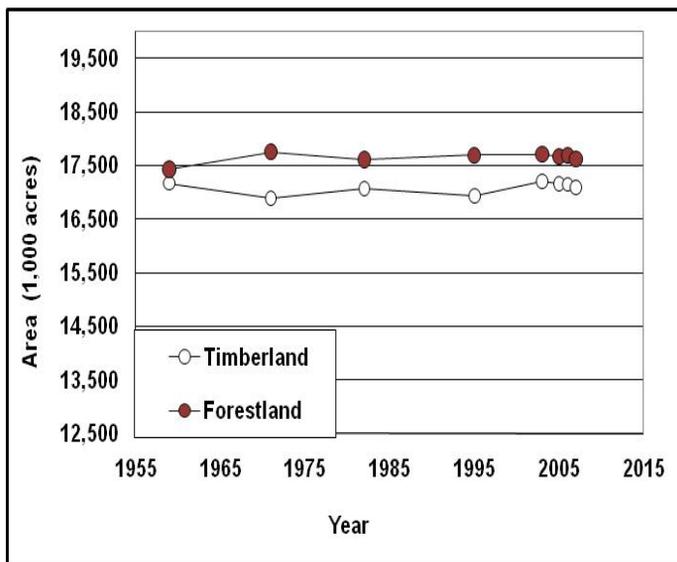


Figure 1. - Area of forest land and timberland by year.

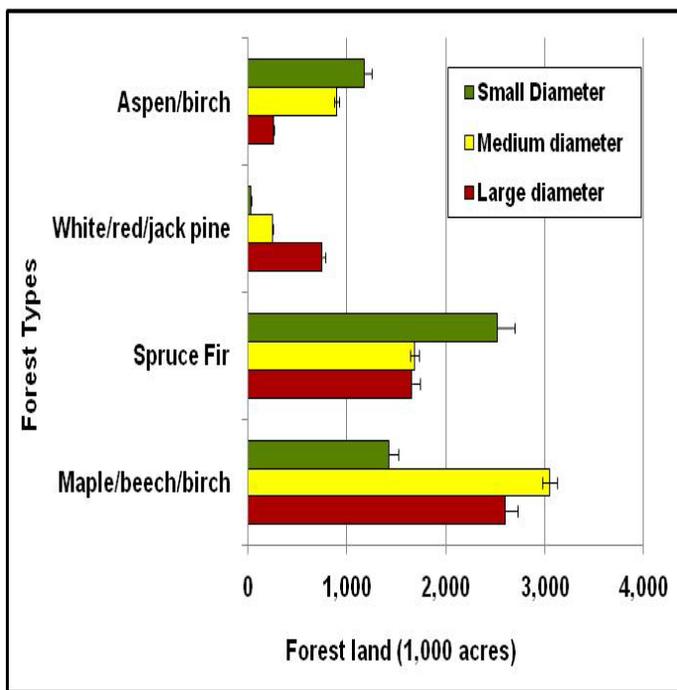


Figure 2. - Area of forest land of the top four forest types by stand-size class.

Table 2. - Top 10 species by statewide volume estimates 2007

Species	Volume of live trees on forest land (1,000,000 ft ³)	Sampling error (%)	Change (%) since 2003	Volume of sawtimber trees on timberland (1,000,000 bdf ^t)	Sampling error (%)	Change (%) since 2003
Red spruce	3,208.8	3.7	-1.3	8,085.3	4.6	-1.4
Red maple	3,142.1	2.8	1.2	4,748.7	4.7	2.1
Eastern white pine	2,679.9	5.2	2	9,955.0	5.8	2.9
Northern white-cedar	2,185.9	5	0.9	4,490.1	5.7	0.9
Balsam fir	2,172.4	3.0	-0.3	2,633.3	5.3	-3.7
Sugar maple	2,120.5	5.3	-3.5	5,744.8	6.7	-4.4
Eastern hemlock	1,861.4	5	2	5,208.3	5.9	3.2
Yellow birch	1,605.5	4	-2.5	3,789.3	5.7	-2.8
Paper birch	1,196.1	4.2	-1.2	1,272.5	7.6	-1.4
American beech	940.3	5.5	-2.5	1,260.7	9.0	-3.0
Other softwoods	1,449.5	4.6	0.8	3,208.0	3.0	1.0
Other hardwoods	2,901.7	3.9	-1.1	6,141.7	2.9	-0.3
All species	25,464.1	1.2		56,537.8	1.4	

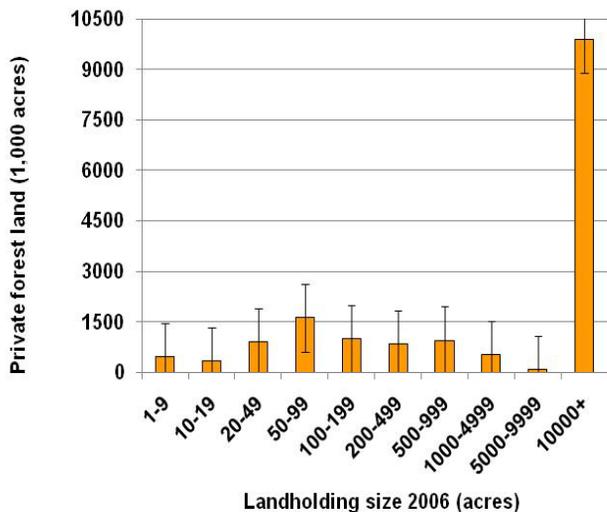
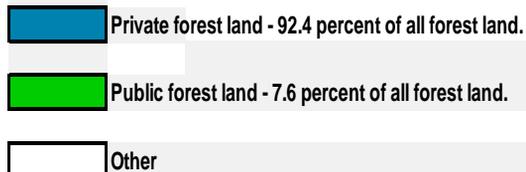
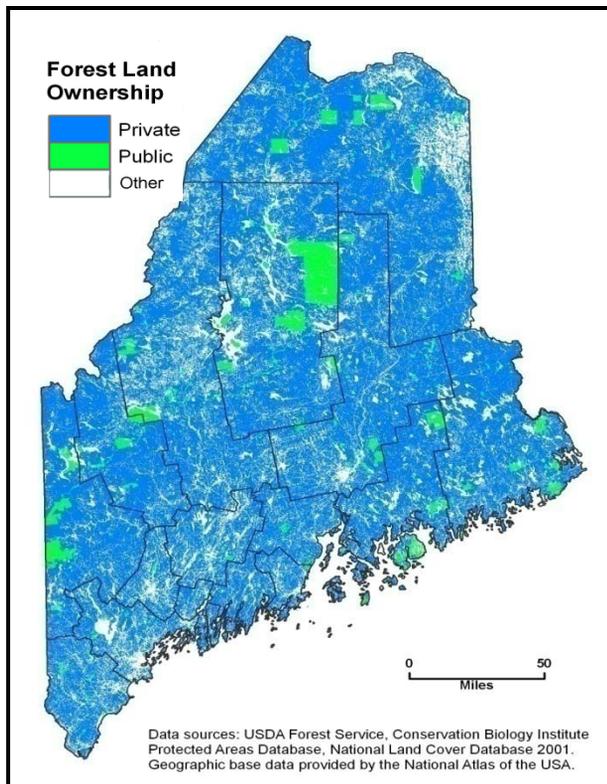


Figure 3. - Area of forest land by major owner group (2007) and size of family forest landholding (2006).

Maine Issue Updates – Size Class Distribution

Even though Maine’s total forest land area has remained relatively stable over the past few decades, there have been long-term concerns about the comparative stocking levels of large, medium, and small stand-size classes within Maine’s forests (Irland 1998). The effects of the latest spruce budworm infestation coupled impacts of various other insects and disease outbreaks have reduced stocking of both hardwoods and softwoods (Maine Forest Service 2010, Solomon and Brann 1992).

The latest FIA data shows the acreage of timberland to be evenly distributed across small, medium, and large stand-size classes (Figure 4 and 5; Powell and Dickson 1984, Griffith and Alerich 1996, McWilliams et al. 2005). This even distribution is the result of increases in small-diameter stands and decreases in medium-diameter stands.

Managing the density of balsam fir dominated stands and conducting thinning-from-below treatments can accelerate the growth of the smaller-diameter classes into the larger classes (McCarthy and Weetman 2007, Homyack et al. 2004).

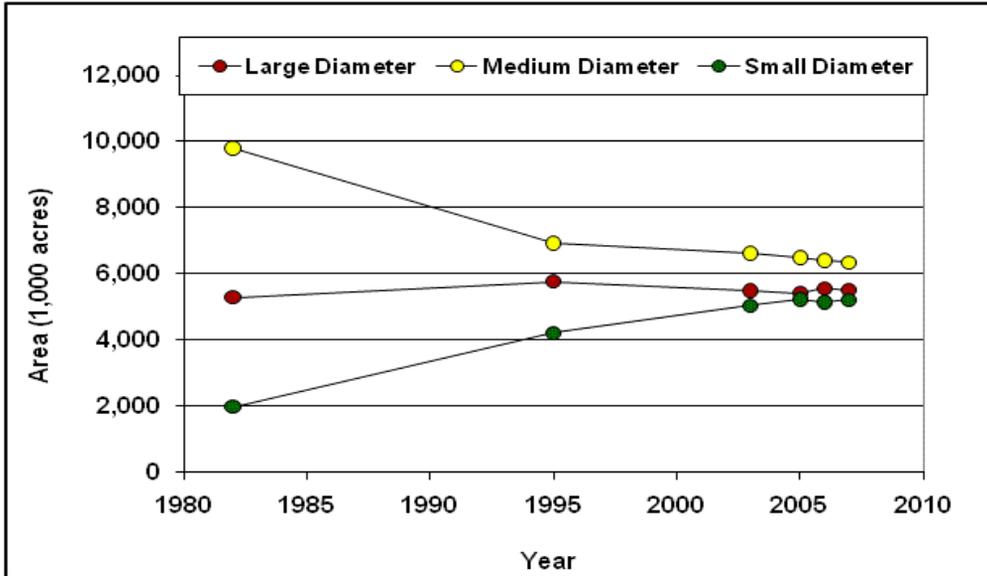


Figure 4. - Area of timberland by stand-size class and year.

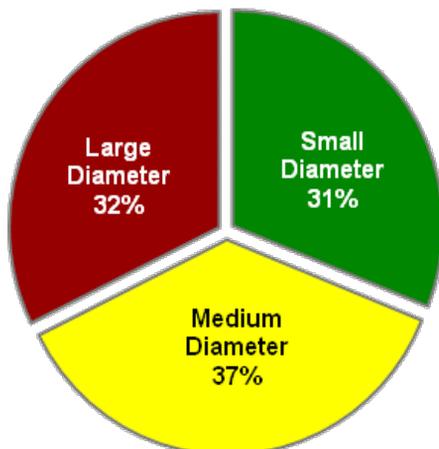


Figure 5. - Area of timberland in percent by stand-size class, 2007.

Citation for this Publication

McCaskill, G.L.; McWilliams, W.H.; Butler, B.J.; Meneguzzo, D.M.; Barnett, C. J.; Hansen, M.H. 2010. Maine's forest resources, 2007. Res. Note NRS-52. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

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: 233-242.

USDA Forest Service. 2009. Forest inventory and analysis national core field guide, Vol. 1, field data collection procedures for Phase 2 plots, Ver. 5.0. Available at www.fia.fs.fed.us/library/field-guides-methods-proc.

Additional Maine Inventory Information

Butler, B.J. 2008. Family forest owners of the United States, 2006. Gen. Tech. Rep. NRS-27. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.

Griffith, D. M.; Alerich, C.L. 1996. Forest statistics for Maine, 1995. Resour. Bull. NE-135. Radnor, PA: U.S. Department of Agriculture, Forest Service. 134 p.

Homyack, J.A.; Harrison, D.J.; Krohn, W.B. 2004. Structural differences between precommercially thinned and unthinned conifer stands. Forest Ecology and Management 194 (1) : 131-143.

Irland, L.C. 1998. Condition and outlook for Maine's spruce-fir forest. MPPA Working Paper. Winthrop, ME: The Irland Group. 31 p.

Maine Forest Service 2010. Forest and shade tree insect & disease conditions for Maine: A summary of the 2009 situation. 54 p. Available at <http://www.maine.gov/doc/mfs/documents/FHMSummaryReport2009March2010.pdf>

McCarthy, J. W.; Weetman, G. 2007. Self-thinning dynamics in a balsam fir (*Abies balsamea* (L.) Mill.) insect-mediated boreal forest chronosequence. Forest Ecology and Management . 241 (3) :295-309.

McWilliams, W.H. 2005. The forests of Maine: 2003. Res. Bull. NE-164. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 188 p.

Powell, D.S.; Dickson, D.R. 1984. Forest statistics for Maine 1971 and 1982. Resour. Bull. NE-81. Broomall, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 194 p.

Solomon, D.S.; Braun, T.B. 1992. Ten-year impact of spruce budworm on spruce-fir forests of Maine. Gen. Tech. Rep. NE-165, Radnor, PA. U.S. Department of Agriculture, Forest Service, Northeastern Research Station . 44 p.

Contact Information

Analyst: George L. McCaskill (610) 557-4045, georgemccaskill@fs.fed.us
Data Acquisition / web sites: Carol L. Alerich, 610-557-4068, calerich@fs.fed.us
Website: fiatools.fs.fed.us

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternate means for communication of program information (Braille, large print, audiotope, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410, or call (800)795-3272 (voice) or (202)720-6382 (TDD). USDA is an equal opportunity provider and employer.