



Image credit: Paul Wray, Ohio State University, Bugwood.org

New Jersey's Forest Resources, 2011

This publication provides an overview of forest resource attributes for New Jersey based on an annual inventory conducted by the Forest Inventory and Analysis (FIA) Program of the U.S. Forest Service, Northern Research Station. These estimates, along with web-posted core tables, will be updated annually. For more information, refer to page 4 of this report.

Table 1.—Annual estimates and uncertainty, New Jersey, 2011

	2011 estimate	Sampling error (%)
Forest Land Estimates		
Area (1,000 acres)	1,964	2.6
Number of live trees 1-inch diameter or larger (1,000,000 trees)	919	5.3
Biomass of live trees 1-inch diameter or larger (1,000 tons)	112,772	3.6
Net volume in live trees (1,000,000 ft ³)	4,070	3.8
Annual net growth of live trees (1,000 ft ³ /year)	86,207	12.3
Annual mortality of live trees (1,000 ft ³ /year)	37,873	14.4
Annual harvest removals of live trees (1,000 ft ³ /year)	14,870	40.8
Annual other removals of live trees (1,000 ft ³ /year)	3,022	55.7
Timberland Estimates		
Area (1,000 acres)	1,845	3.0
Number of live trees 1-inch diameter or larger (1,000,000 trees)	864	5.6
Biomass of live trees 1-inch diameter or larger (1,000 tons)	105,611	3.9
Net volume in live trees (1,000,000 ft ³)	3,814	4.1
Net volume of growing-stock trees (1,000,000 ft ³)	3,540	4.3
Annual net growth of growing-stock trees (1,000 ft ³ /year)	82,232	12.2
Annual mortality of growing-stock trees (1,000 ft ³ /year)	31,010	15.7
Annual harvest removals of growing-stock trees (1,000 ft ³ /year)	12,956	40.9
Annual other removals of growing-stock trees (1,000 ft ³ /year)	5,529	50.9

Note: Sampling errors shown in the tables and figures in this report represent 68% confidence intervals for the estimated values. Volumes are for 5-inch and larger diameter trees.

Research Note NRS-156

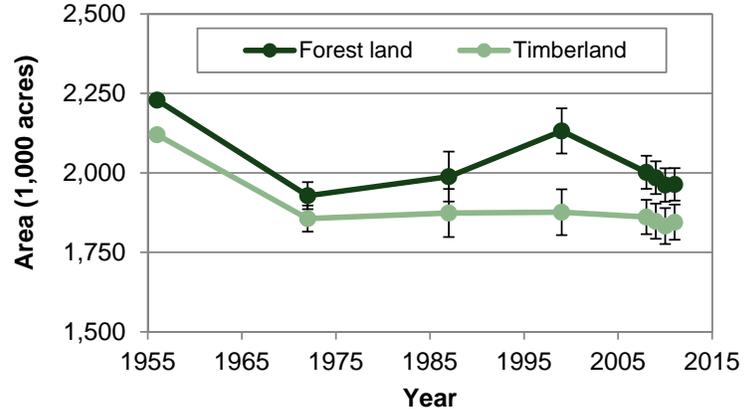


Figure 1.—Area of timberland and forest land by year, New Jersey.

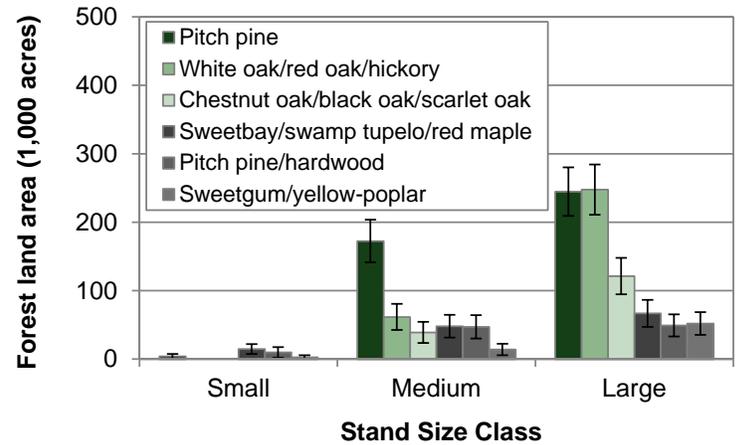


Figure 2.—Area of forest land by top six forest types and stand-size class, New Jersey, 2011.

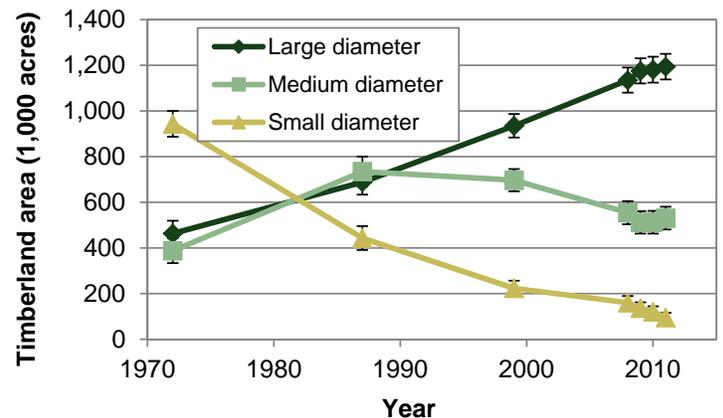


Figure 3.—Area of timberland by stand-size class and year, New Jersey.

Image credit: Paul Wray, Ohio State University, Bugwood.org

Table 2.—Top 10 tree species by statewide volume estimates, New Jersey, 2011

Rank	Species	Volume of live trees on forest land (1,000,000 ft ³)	Sampling error (%)	Volume of sawtimber trees on timberland (1,000,000 bdf ^t)	Sampling error (%)
1	Pitch pine	594	9.8	1,474	11.1
2	Red maple	505	11.1	1,108	15.8
3	Yellow-poplar	298	19.0	1,512	20.8
4	White oak	272	12.0	777	18.9
5	Northern red oak	254	15.4	1,080	17.4
6	White ash	223	15.0	818	18.4
7	Chestnut oak	192	15.2	605	18.6
8	Atlantic white-cedar	181	34.8	488	36.0
9	Black oak	180	15.8	640	20.6
10	Sweetgum	178	26.2	554	26.6
	Other softwoods	198	19.6	510	24.6
	Other hardwoods	995	7.2	2,695	10.4
	All Species	4,070	3.8	12,260	5.5

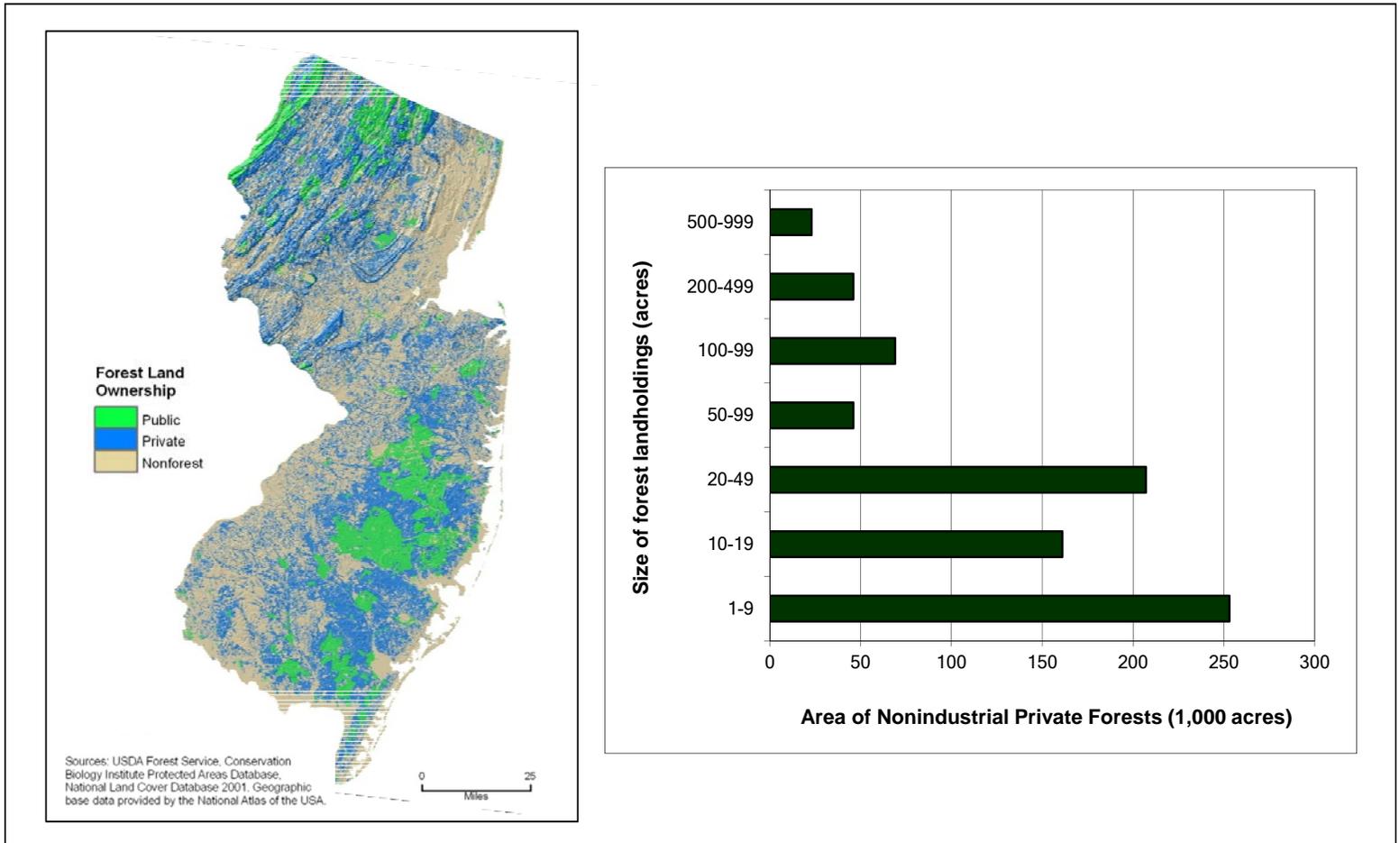


Figure 4.—Distribution of forest land by major owner group (map) and size of nonindustrial private forest landholdings (graph), New Jersey, 2006.



Image credit: Paul Wray, Ohio State University, Bugwood.org

Status and Trends in New Jersey's Atlantic White-cedar Resource

Atlantic white-cedar (*Chamaecyparis thyoides*; AWC) is an important component of freshwater swamps and bogs in the Pinelands region of southern New Jersey (Mylecraine et al. 2004). AWC swamps filter and absorb pollutants, store rainwater, control runoff, and provide habitat for threatened and endangered wildlife, like the barred owl and the Pine Barrens tree frog, as well as rare plants, including swamp pink and curly grass fern (NJDEP 2010a; NJDEP 2010b).

Prior to European settlement, AWC stands covered an estimated 115,000 acres (Mylecraine et al. 2004). By 1956, the AWC forest type decreased to an estimated 46,000 acres (Fig. 5). Harvesting, catastrophic wildfire, conversion of land for agriculture and development, deer browsing, saltwater intrusion and succession contributed to the decline (Mylecraine et al. 2004, NJDEP 2010a). Currently, the AWC forest type covers approximately 42,000 acres.

Primarily found in the Pinelands, AWC typically forms dense, pure, even-aged stands (Fig. 6; NJDEP 2010b). While AWC forest types presently average 1,460 AWC trees per acre and AWC makes up greater than 50 percent of total live-tree basal area in 37 percent of stands in which it is found, AWC most often comprises 25 percent or less of total live-tree basal area (Fig. 7). The majority of AWC forests are mature stands, greater than 60 years old (Fig. 8).

Restoration of AWC stands has been a major focus over the past few decades (Mylecraine et al. 2004). Continued efforts aim to maintain current stands and restore AWC in suitable sites.

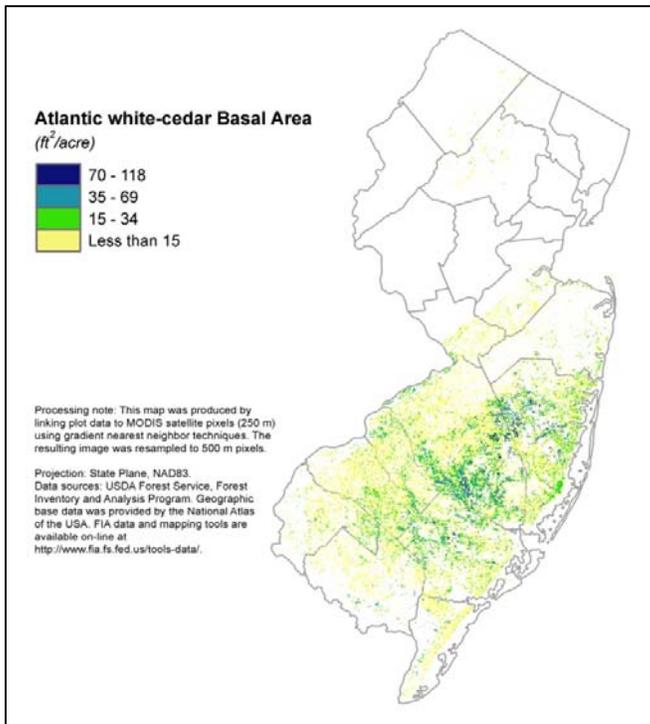


Figure 6.—Atlantic white-cedar density on forest land, New Jersey, 2011.

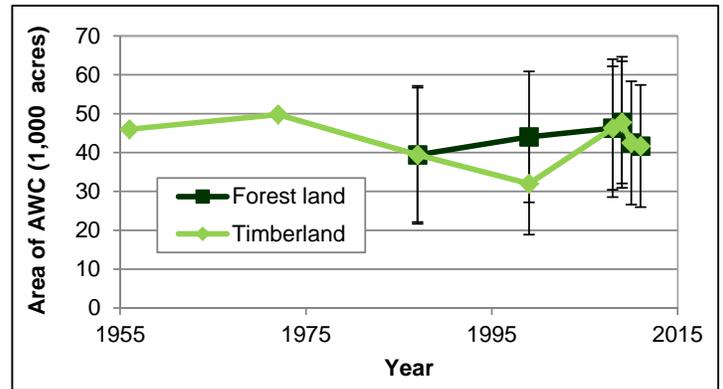


Figure 5.—Area of Atlantic white-cedar forest type on timberland and forest land by year, New Jersey, 2011.

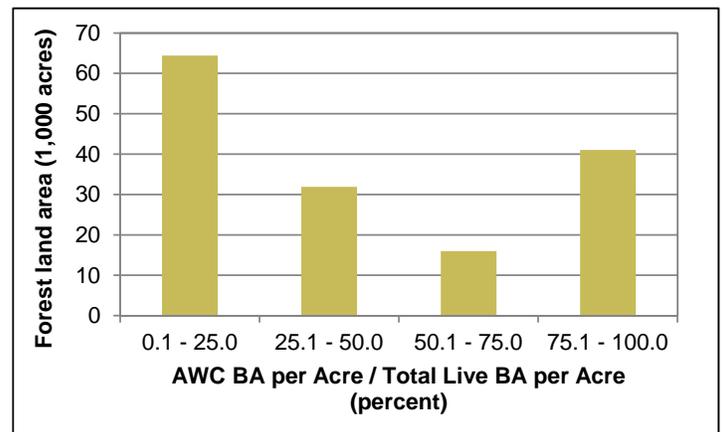


Figure 7.—Presence of Atlantic white-cedar on forest land, New Jersey, 2011.

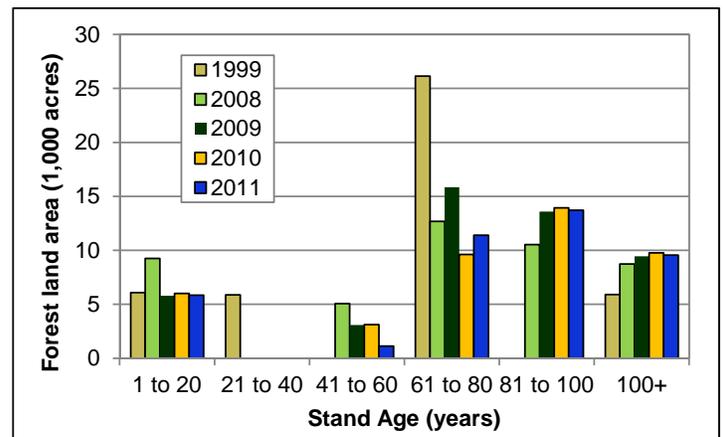


Figure 8.—Area of Atlantic white-cedar forest type on forest land, by stand age and year, New Jersey, 2011.



Image credit: Paul Wray, Iowa State University, Bugwood.org

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References

Bechtold, W.A.; Patterson, P.L., eds. 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.

Griffith, D.M.; Widmann, R.H. 2001. **Forest statistics for New Jersey: 1987 and 1999**. Resour. Bull. NE-152. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, North Central Research Station. 70 p.

Mylecraine, K.A.; Zimmermann, G.L.; Williams, R.R.; Kuser, J.E. 2004. **Atlantic white-cedar wetland restoration on a former agricultural site in the New Jersey Pinelands**. Ecological Restoration. 22(2): 92-98.

New Jersey Department of Environmental Protection. [NJDEP]. 2010a. **Atlantic white-cedar**. Trenton, NJ: New Jersey Department of Environmental Protection, Division of Parks and Forestry, New Jersey Forestry Services. Available at <http://www.state.nj.us/dep/parksandforests/forest/Atlantic%20white-cedar.pdf> (Accessed September 2, 2012).

New Jersey Department of Environmental Protection. [NJDEP]. 2010b. **Atlantic white-cedar initiative**. Trenton, NJ: New Jersey Department of Environmental Protection, Division of Parks and Forestry, New Jersey Forestry Services. Available at http://www.state.nj.us/dep/parksandforests/forest/njfs_awc_initiative.html (Accessed September 2, 2012).

Smith, W.B. 2002. **Forest inventory and analysis: a national inventory and monitoring program**. Environmental Pollution. 116: 233-242.

USDA Forest Service. 2007. **Forest inventory and analysis national core field guide, Vol. 1, field data collection procedures for phase 2 plots, ver. 4.0**. Washington, DC: U.S. Department of Agriculture, Forest Service. Available at <http://www.fia.fs.fed.us/library/field-guides-methods-proc/> (verified September 2, 2011).

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Information published in this report and in related tables is based on data collected between 2007 and 2011, stored in the Forest Inventory and Analysis Database (FIADB), and compiled in National Information Management System (NIMS) version 5.1(patch 1), January 2012. Due to periodic changes to FIADB and NIMS, trend analyses should be made using FIA's online estimation tools, not by comparing published reports or tables. FIA estimates, tabular data, and maps may be generated at <http://fiatools.fs.fed.us/>.

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