

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

New Jersey's Forest Resources, 2010

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, 2010

	2010 estimate	Sampling error (%)
Forest Land Estimates		
Area (1,000 acres)	1,962	2.7
Number of live trees 1-inch diameter or larger (1,000,000 trees)	925	5.3
Biomass of live trees 1-inch diameter or larger (1,000 tons)	111,090	3.7
Net volume in live trees (1,000,000 ft ³)	3,996	3.9
Annual net growth of live trees (1,000 ft ³ /year)	82,604	14.0
Annual mortality of live trees (1,000 ft ³ /year)	40,102	17.2
Annual harvest removals of live trees (1,000 ft ³ /year)	19,305	44.8
Annual other removals of live trees (1,000 ft ³ /year)	3,701	63.7
Timberland Estimates		
Area (1,000 acres)	1,833	3.1
Number of live trees 1-inch diameter or larger (1,000,000 trees)	865	5.8
Biomass of live trees 1-inch diameter or larger (1,000 tons)	103,616	4.1
Net volume in live trees (1,000,000 ft ³)	3,727	4.2
Net volume of growing-stock trees (1,000,000 ft ³)	3,495	4.3
Annual net growth of growing-stock trees (1,000 ft ³ /year)	81,919	13.2
Annual mortality of growing-stock trees (1,000 ft ³ /year)	33,256	18.4
Annual harvest removals of growing-stock trees (1,000 ft ³ /year)	17,179	44.2
Annual other removals of growing-stock trees (1,000 ft ³ /year)	7,009	59.2

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-125

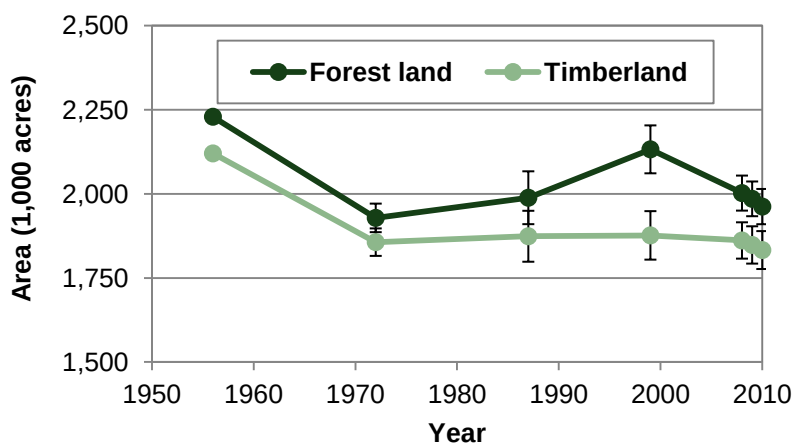


Figure 1.—Area of timberland and forest land by year, New Jersey.

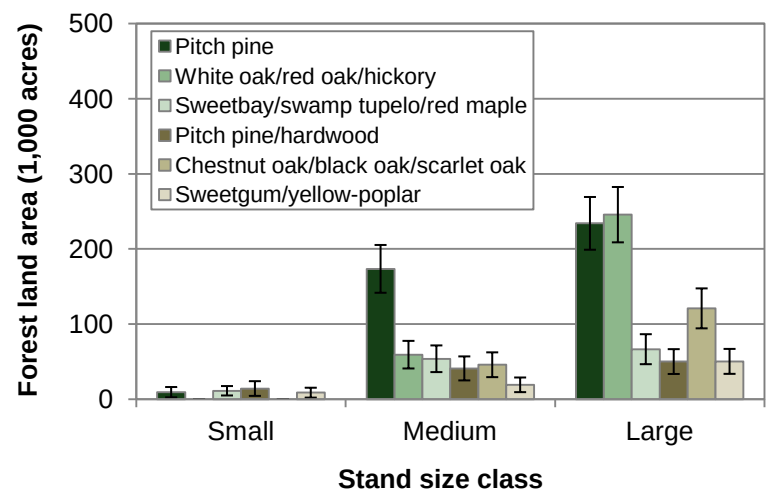


Figure 2.—Area of forest land by top six forest types and stand-size class, New Jersey, 2010.

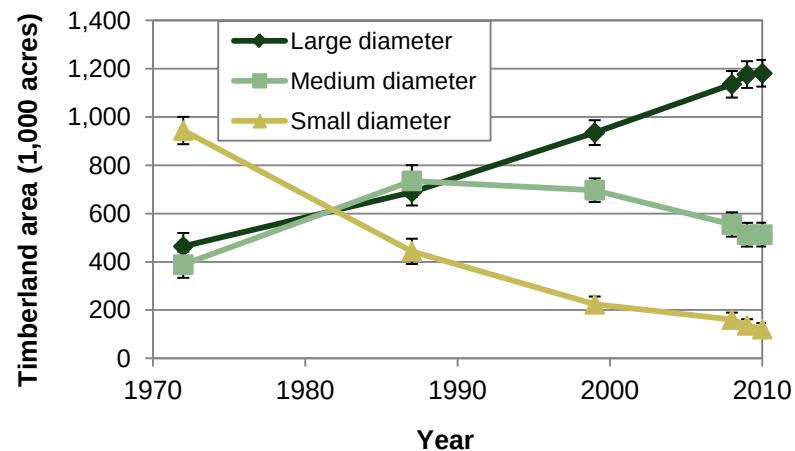


Figure 3.—Area of timberland by stand-size class and year, New Jersey.

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

Table 2.—Top 10 tree species by statewide volume estimates, New Jersey, 2010

Rank	Species	Volume of live trees on forest land (1,000,000 ft³)	Sampling error (%)	Volume of sawtimber trees on timberland (1,000,000 bdft)	Sampling error (%)
1	Pitch pine	585	9.7	1,439	11.2
2	Red maple	494	11.3	1,065	15.9
3	White oak	280	11.8	786	19.0
4	Yellow-poplar	261	20.5	1,328	22.6
5	Northern red oak	246	15.6	1,034	17.8
6	White ash	219	15.3	788	19.0
7	Chestnut oak	193	15.3	602	18.6
8	Black oak	186	15.5	645	20.5
9	Atlantic white-cedar	182	34.8	488	36.1
10	Sweetgum	176	26.5	550	26.8
	Other softwoods	185	20.5	467	26.0
	Other hardwoods	989	7.3	2,711	10.4
	All Species	3,996	3.9	11,903	5.7

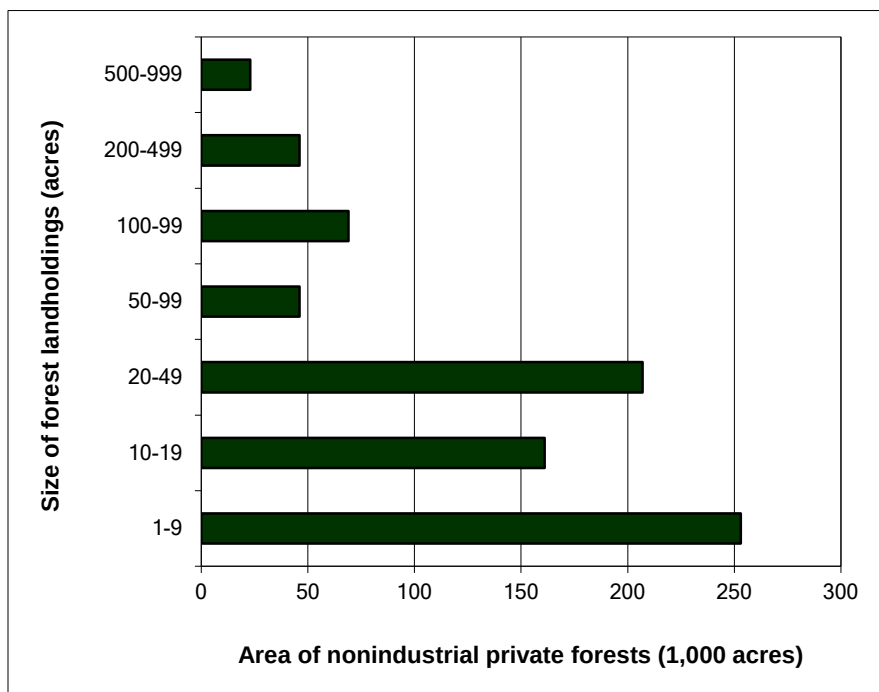
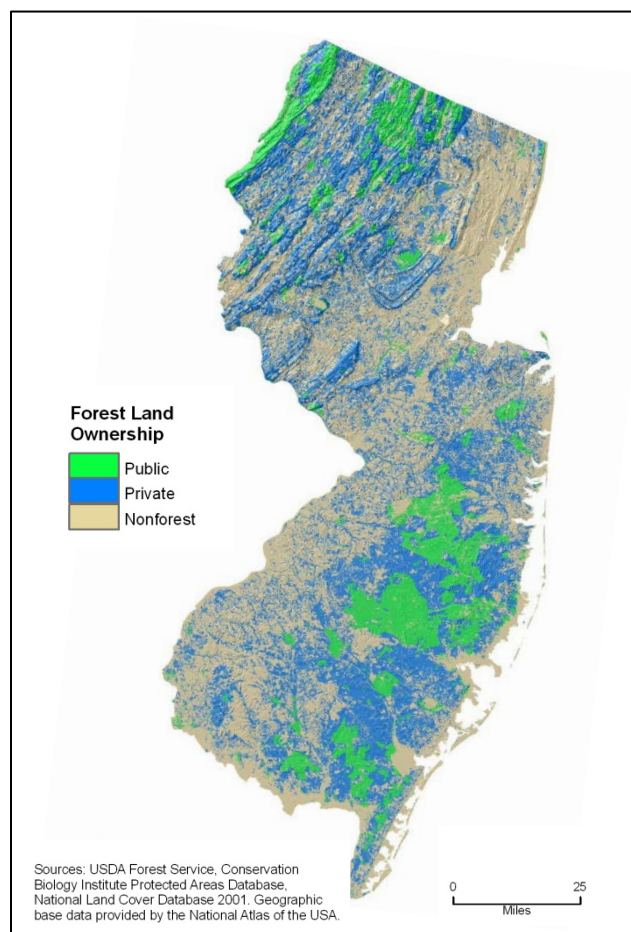


Figure 4.—Distribution of forest land by major owner group (map) and size of nonindustrial private forest landholdings (graph), New Jersey, 2006.

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

Southern pine beetle

Outbreaks of southern pine beetle (*Dendroctonus frontalis*; SPB) were initially documented in the United States in the 1750s (Thatcher et al. 1980). Since that time, SPB has proven to be one of the most destructive pests of pine in the southeastern United States (Clarke and Nowak 2009). After an outbreak in 1939, SPB was not detected in New Jersey forests until 2001 (NJDEP 2010). SPB populations have since fluctuated, but in 2010 reached their highest population on record, destroying approximately 14,100 acres (NJPC 2011, NJDEP 2011). Southern New Jersey marks the northernmost range of SPB, where it has been detected in all counties south of and including, Burlington and Ocean counties. Pitch, shortleaf, loblolly, pond, and Virginia pines are the preferred hosts, however, during outbreaks, SPB may attack all pine species (Clarke and Nowak 2009). Tree death results from girdling due to gallery construction by the beetles and blockage of water-conducting cells by the growth of blue stain fungi, spores of which are carried by SPB. Periodically, populations of SPB reach outbreak proportions and cause extensive tree mortality (Clarke and Nowak 2009).

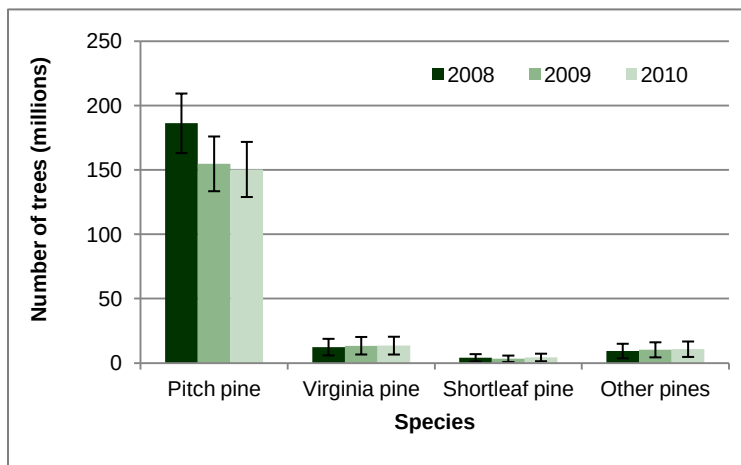


Figure 5.—Number of trees on forest land by species and year, New Jersey (Other pines are pond, loblolly, red, eastern white, and scotch pine).

Pine species make up 19 percent of all trees on New Jersey's forest land. With an estimated 150.4 million trees, pitch pine is the most numerous species (Fig. 5). While it is found on the ridgetops of northwestern New Jersey, it is most prevalent in the southern half of the State, especially within the Pine Barrens (Fig. 6). Pitch pine occurs on 40 percent of forest land or 776 thousand acres (Fig. 7). When present in a stand, pitch pine is generally the dominant species, often making up greater than 75 percent of total live-tree basal area. Stand density is considered a critical factor in determining risk and expansion rate (Clarke and Nowak 2009). Therefore, the high density of pitch pine stands increases the risk of continued SPB outbreak. SPB has the potential to affect a vast area of southern New Jersey and cause extensive pine mortality. In addition, large amounts of dead trees increase the risk of forest fire.

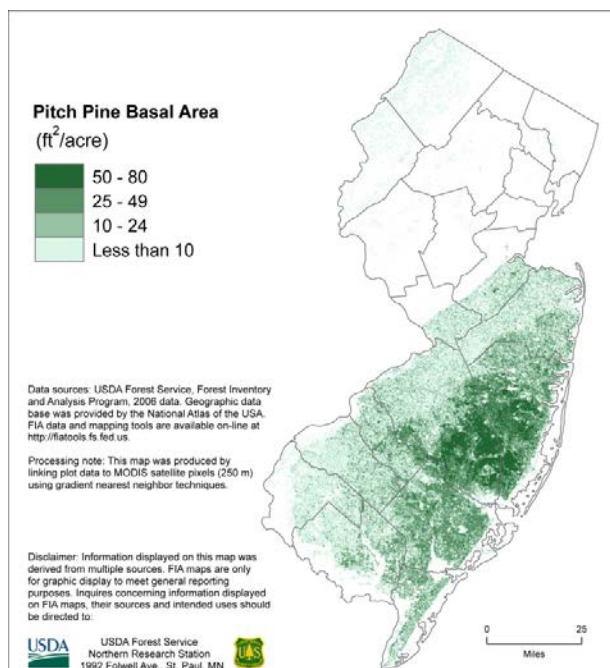


Figure 6.—Pitch pine density on forest land, New Jersey, 2010.

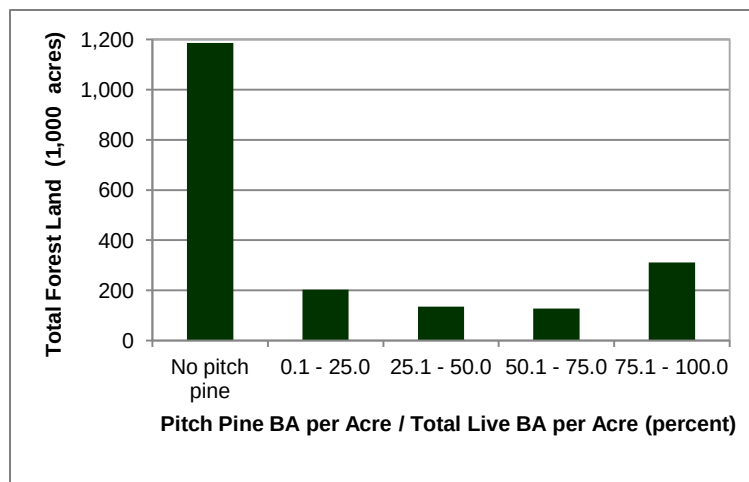


Figure 7.—Presence of pitch pine on forest land, as a percentage of total live-tree basal area (BA; ft²/acre), New Jersey, 2010.

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

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Information published in this report and in related tables is based on data collected between 2006 and 2010, stored in the Forest Inventory and Analysis Database (FIADB), and processed using field guide 4.01 and National Information Management System (NIMS) version 4.0 (patch 28), January 2011. 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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