USDA Forest Service, US Department of Agriculture
Northern Research Station

Research Note NRS-145

Illinois' Forest Resources, 2011

This publication provides an overview of forest resource attributes for Illinois based on an annual inventory conducted by the Forest Inventory and Analysis (FIA) Program of the Northern Research Station (NRS) of the U.S. Forest Service. These 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 and uncertainty, Illinois, 2011

	2011 estimate	Sampling error (%)	Change since 2006 (%)
Forest Land Estimates			
Area (1,000 acres)	4,848	1.6	1.2
Number of live trees 1-inch diameter or larger (1,000,000 trees)	2,042	2.5	-5.2
Biomass of live trees 1-inch diameter or larger (1,000 tons)	241,977	2.2	5.0
Net volume in live trees (1,000,000 ft^3)	8,905	2.4	4.7
Annual net growth of live trees (1,000 ft^3/year)	187,190	7.3	-37.1
Annual mortality of live trees (1,000 ft^3/year)	129,353	6.7	3.8
Annual harvest removals of live trees (1,000 ft^3/year)	45,521	18.3	8.9
Annual other removals of live trees (1,000 ft^3/year)	20,178	35.3	n/a
Timberland Estimates			
Area (1,000 acres)	4,771	1.6	3.3
Number of live trees 1-inch diameter or larger (1,000,000 trees)	2,014	2.6	-3.1
Biomass of live trees 1-inch diameter or larger (1,000 tons)	237,498	2.2	7.3
Net volume in live trees (1,000,000 ft^3)	8,737	2.4	7.0
Net volume of growing-stock trees (1,000,000 ft^3)	7,258	2.6	-0.7
Annual net growth of growing-stock trees (1,000 ft^3)	205,999	7.1	-10.7
Annual mortality of growing-stock trees (1,000 ft^3/year)	88,107	7.4	-10.4
Annual harvest removals of growing-stock trees (1,000 ft^3/year)	42,160	19.1	6.4
Annual other removals of growing-stock trees (1,000 ft^3/year)	24,777	28.3	n/a

Note: Sampling errors 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.

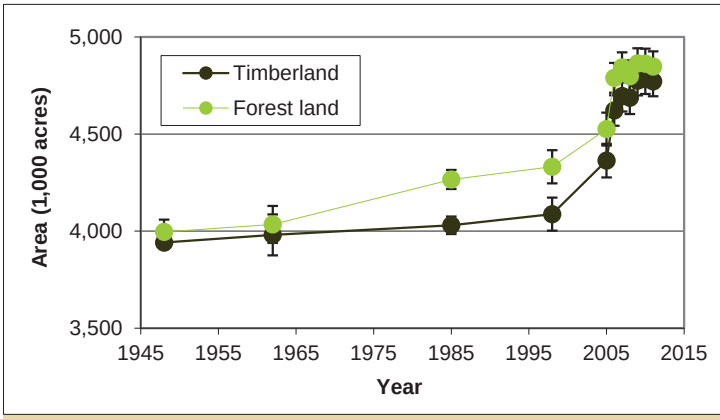


Figure 1.—Area of timberland and forest land by year, Illinois, 1948-2011.

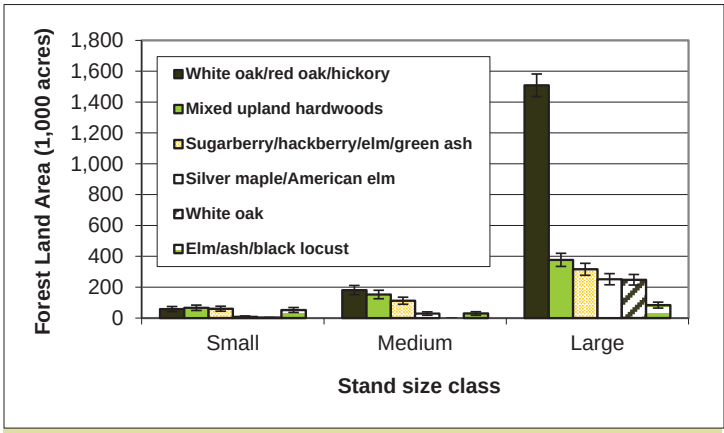


Figure 2.—Area of forest land by top six forest types and stand-size class, Illinois, 2011.

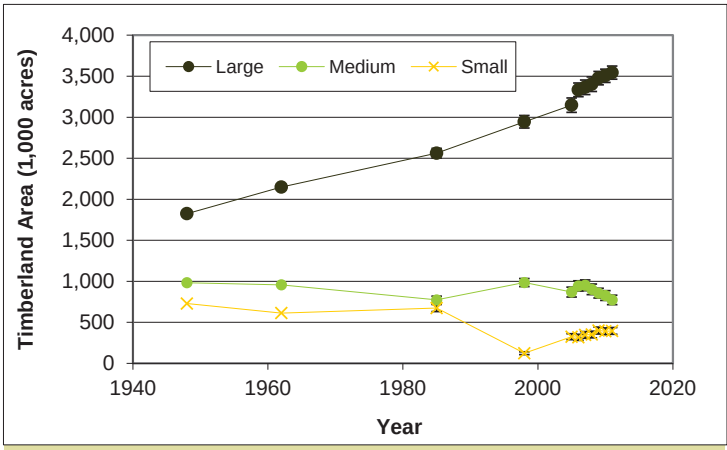
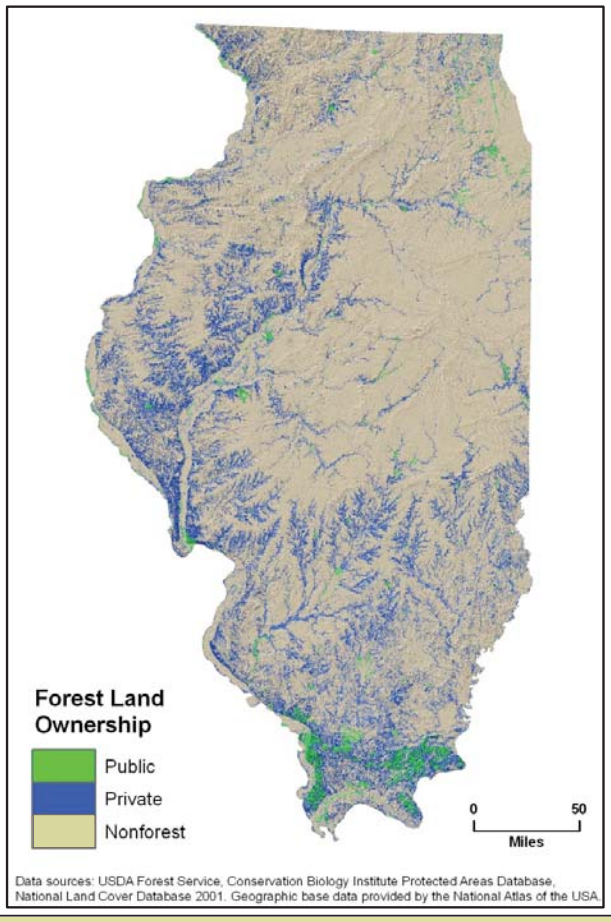


Figure 3.—Area of timberland by stand-size class and year, Illinois, 2011.

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

Rank	Species	Volume of live trees on forest land (1,000,000 ft³)	Sampling error (%)	Change since 2006 (%)	Volume of sawtimber trees on timberland (1,000,000 bdft)	Sampling error (%)	Change since 2006 (%)
1	White oak	961	7.2	-5.4	3,569	8.0	-6.1
2	Silver maple	828	13.0	10.2	2,537	14.5	9.6
3	Black oak	595	8.4	11.6	2,166	9.1	2.7
4	Northern red oak	462	10.1	-3.0	1,821	11.0	-2.9
5	Eastern cottonwood	348	17.4	0.2	1,324	17.3	0.0
6	Shagbark hickory	338	8.4	5.5	1,075	10.3	2.3
7	Black walnut	307	8.0	20.9	937	9.8	23.4
8	Green ash	304	10.5	5.5	909	13.0	13.8
9	American sycamore	295	16.1	-3.2	1,071	16.0	-7.9
10	Sugar maple	295	10.2	1.7	833	13.1	-7.4
n/a	Other softwoods	273	17.4	9.7	966	20.9	6.1
n/a	Other hardwoods	3,899	3.3	6.1	10,101	4.4	1.0
n/a	**All Species**	**8,905**	**2.4**	**4.7**	**27,308**	**3.0**	**1.1**



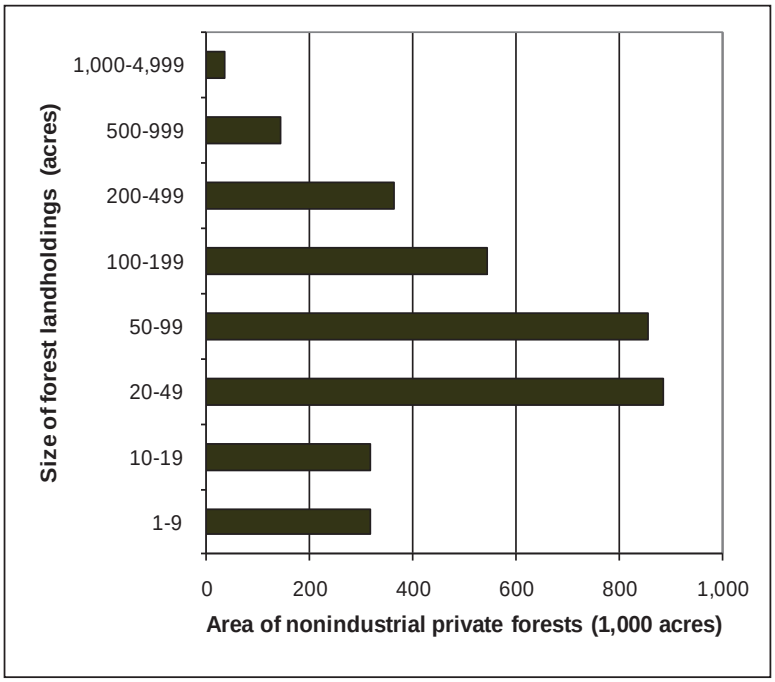


Figure 4.—Distribution of forest land by major owner group (map) and size of nonindustrial private forest landholdings (graph), Illinois, 2006.

The Black Walnut Resource and Thousand Cankers Disease

Thousand cankers disease (TCD) is a newly described disease complex that is considered endemic to the western United States (USDA APHIS 2011). Affecting walnut species, TCD results from the interaction between the *Geosmithia morbida* fungus and the walnut twig beetle, *Pityophthorus juglandis*. Fungal spores are introduced into the phloem by the beetles as they construct galleries. Numerous cankers develop along the galleries, which ultimately girdle the tree (Seybold et al. 2011). TCD occurs in many western states, and it was introduced to Tennessee in 2010 and to Virginia and Pennsylvania in 2011. While not found in Illinois during the 2011 inventory, natural and artificial spread increases the risk of TCD introduction to the State (USDA APHIS 2011). In a 2012 response to this risk, Illinois established regulations restricting the movement of walnut and walnut products into and through the State.

Black walnut is found throughout Illinois, but is heavily concentrated in the central part of the State (Fig. 5). It is present on 1.4 million acres, or 30 percent of Illinois forest land and generally makes up less than 25 percent of the total live-tree basal area (Fig. 6). There are an estimated 39.7 million black walnut trees (greater than 1 inch in diameter) on forest land. Net volume of live trees at least 5 inches in diameter is 307.2 million cubic feet and sawtimber volume totals 937.2 million board feet. Black walnut accounts for 4 percent of total industrial roundwood that was harvested in 2010.

Black walnut makes up an important piece of Illinois' forested landscape and is a highly valuable commercial species. Introduction of TCD to the State could cause extensive walnut mortality and dramatically impact Illinois' forest ecosystem and timber industry.

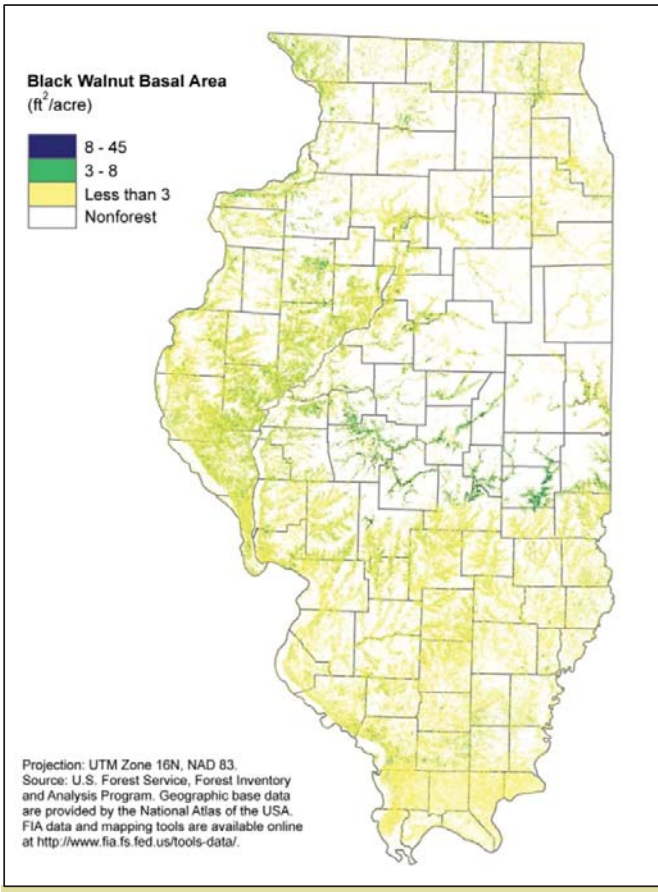


Figure 5.—Black walnut density on forest land, Illinois, 2011.

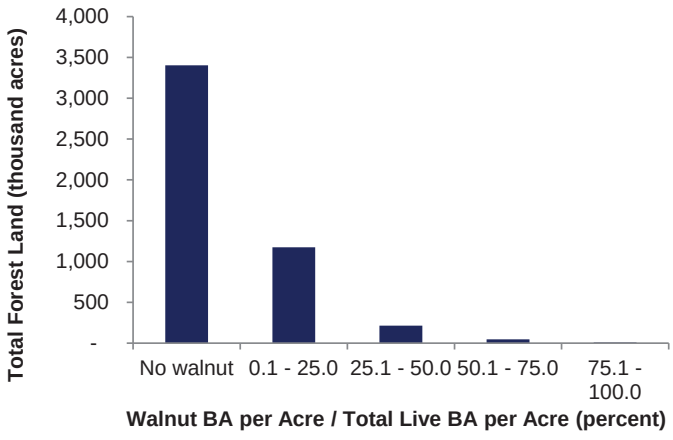


Figure 6.—Presence of walnut on forest land, as a percentage of total live-tree basal area (BA), Illinois, 2011.

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Definitions

Forest land — Land that is at least 10 percent stocked by trees of any size or formerly having had such tree cover and is not currently developed for nonforest uses. The area with trees must be at least 1 acre in size and at least 120 feet wide.

Timberland — Forest land that is producing or is capable of producing in excess of 20 cubic feet per acre per year of industrial wood in natural stands and is not withdrawn from timber utilization by statute or administrative regulation.

Growing-stock volume — The amount of sound wood in live, commercial tree species; trees must be at least 5 inches in d.b.h. or greater and free of defect.

Sawtimber volume — Net volume of the saw log portion of live sawtimber, measured in board feet, from a 1-foot stump to minimum top diameter (9 inches for hardwoods and 7 inches for softwoods).

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Heading image credit: Paul Wray, Iowa State University, Bugwood.org

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), collected under field guides 3.0 to 5.0, and compiled in the National Information Management System (NIMS) version 5.1 installed 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/.