

Illinois' Forest Resources, 2010

Research Note NRS-120

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, 2010

	2010 estimate	Sampling error (%)	Change since 2005 (%)
Forest Land Estimates			
Area (1,000 acres)	4,862	1.6	7.4
Number of live trees 1-inch diameter or larger (1,000,000 trees)	2,065	2.6	1.9
Biomass of live trees 1-inch diameter or larger (1,000 tons)	238,535	2.2	10.5
Net volume in live trees (1,000,000 ft ³)	8,794	2.4	10.5
Annual net growth of live trees (1,000 ft ³ /year)	203,800	7.6	n/a
Annual mortality of live trees (1,000 ft ³ /year)	130,424	6.9	n/a
Annual harvest removals of live trees (1,000 ft ³ /year)	30,492	22.9	n/a
Annual other removals of live trees (1,000 ft ³ /year)	27,487	20.2	n/a
Timberland Estimates			
Area (1,000 acres)	4,783	1.6	9.6
Number of live trees 1-inch diameter or larger (1,000,000 trees)	2,036	2.7	4.3
Biomass of live trees 1-inch diameter or larger (1,000 tons)	233,669	2.2	12.6
Net volume in live trees (1,000,000 ft ³)	8,605	2.5	12.6
Net volume of growing-stock trees (1,000,000 ft ³)	7,192	2.6	4.6
Annual net growth of growing-stock trees (1,000 ft ³)	214,934	7.0	-34.3
Annual mortality of growing-stock trees (1,000 ft ³ /year)	91,840	7.7	6.0
Annual harvest removals of growing-stock trees (1,000 ft ³ /year)	29,128	23.5	13.4
Annual other removals of growing-stock trees (1,000 ft ³ /year)	36,938	21.6	2.1

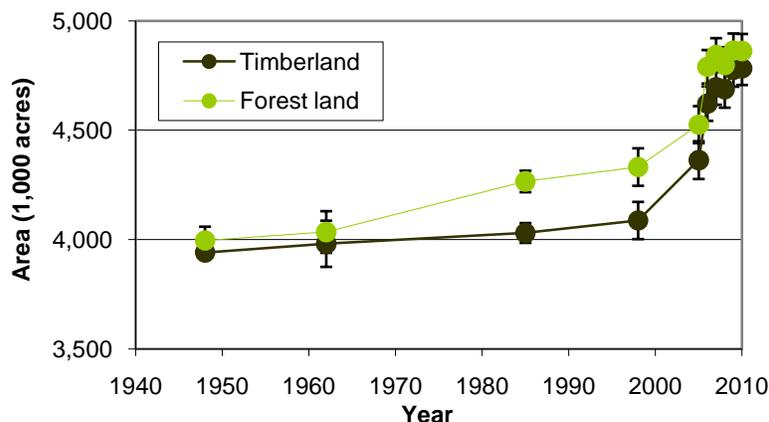


Figure 1.—Area of timberland and forest land by year, Illinois, 1948-2010.

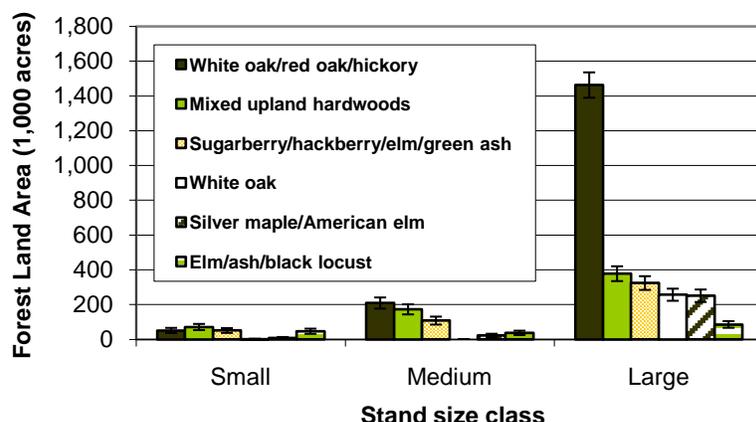


Figure 2.—Area of forest land by top six forest types and stand-size class, Illinois, 2010.

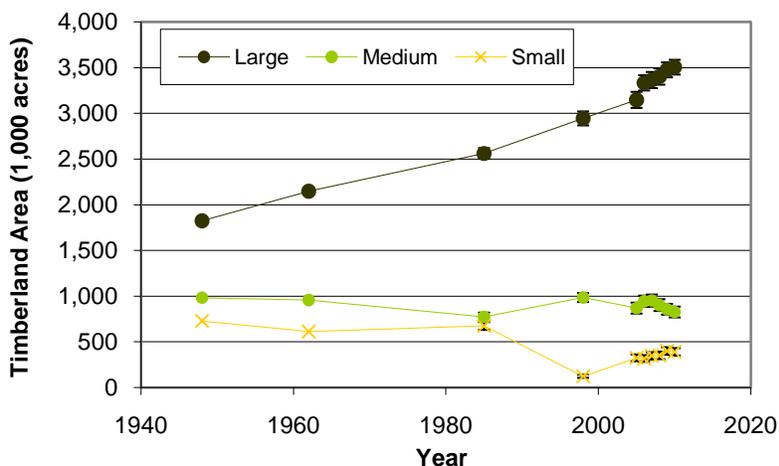


Figure 3.—Area of timberland by stand-size class and year, Illinois, 2010.

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.

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

Rank	Species	Volume of live trees on forest land (1,000,000 ft ³)	Sampling error (%)	Change since 2005 (%)	Volume of sawtimber trees on timberland (1,000,000 bdf ^t)	Sampling error (%)	Change since 2005 (%)
1	White oak	952	7.2	-0.5	3,541	7.9	0.1
2	Silver maple	833	13.3	27.1	2,466	15.0	18.9
3	Black oak	555	8.5	5.4	2,081	9.2	1.5
4	Northern red oak	448	10.1	0	1,769	11.1	0
5	Eastern cottonwood	354	17.2	7.9	1,334	16.7	4.9
6	Shagbark hickory	323	8.5	6.3	993	10.7	-1.0
7	Green ash	304	10.2	15.5	916	12.5	28.0
8	Black walnut	294	8.1	23.7	885	10.0	18.1
9	American sycamore	293	16.2	5.5	1,064	16.0	0.4
10	Sugar maple	293	10.3	8.7	845	13.0	2.8
n/a	Other softwoods	261	17.0	7.2	908	20.2	2.0
n/a	Other hardwoods	3,886	3.3	12.8	10,083	4.4	6.8
n/a	All Species	8,794	2.4	10.5	26,885	3.0	5.9

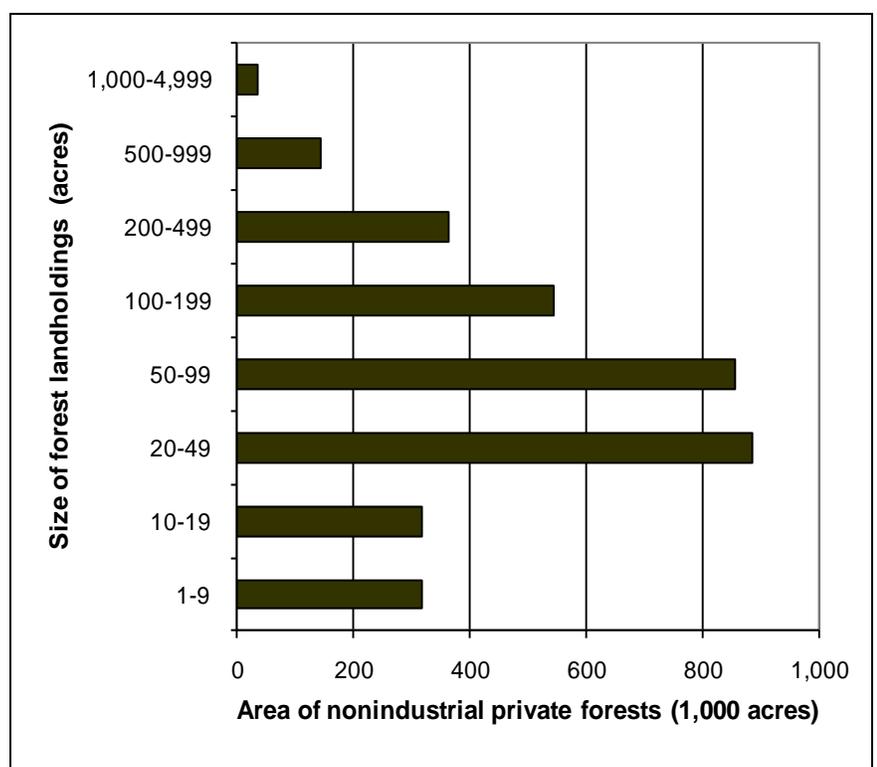
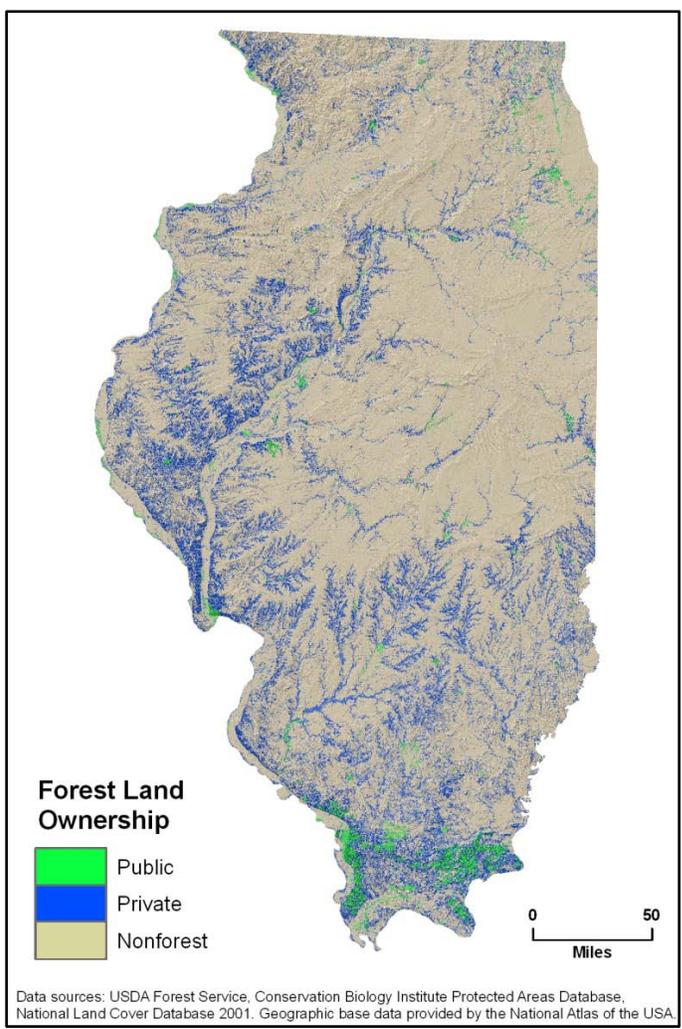


Figure 4.—Distribution of forest land by major owner group (map) and size of nonindustrial private forest landholdings (graph), Illinois, 2006.

Richness and abundance of vascular plant species across Illinois

The diversity and abundance of vascular plant species are important indicators of the health of forest ecosystems. The status and trends in plant species richness provides information on the availability of wildlife habitat, carbon sequestration, fuel loadings, and disturbances, such as the spread of invasive plants and impacts of climate change.

FIA inventories all trees, shrubs, forbs/herbs, vines, grasses, and ferns on Phase 3 (P3) vegetative diversity plots. Measurements were taken on 99 P3 plots in Illinois between 2006 and 2010. A total of 736 different plant species were recorded. Species diversity on individual plots was high, averaging 55 species per plot. Virginia creeper, poison ivy, and green ash were the most commonly observed species (Fig. 5). Eighty-seven percent of recorded species are native to Illinois, 6 percent of species are introduced, and 7 percent of species were unidentified below ecological guild (or growth form). Forbs/herbs make up 32 percent of the vegetative diversity across the State, making them the most common growth form, followed by trees (29 percent) (Fig. 6).

Illinois' forests support a multitude of vascular plant species. While tree species occurred with the greatest frequency, forbs/herbs were the most common growth form on forest land. While the majority of Illinois' plants are native, the presence of introduced species is also a concern.

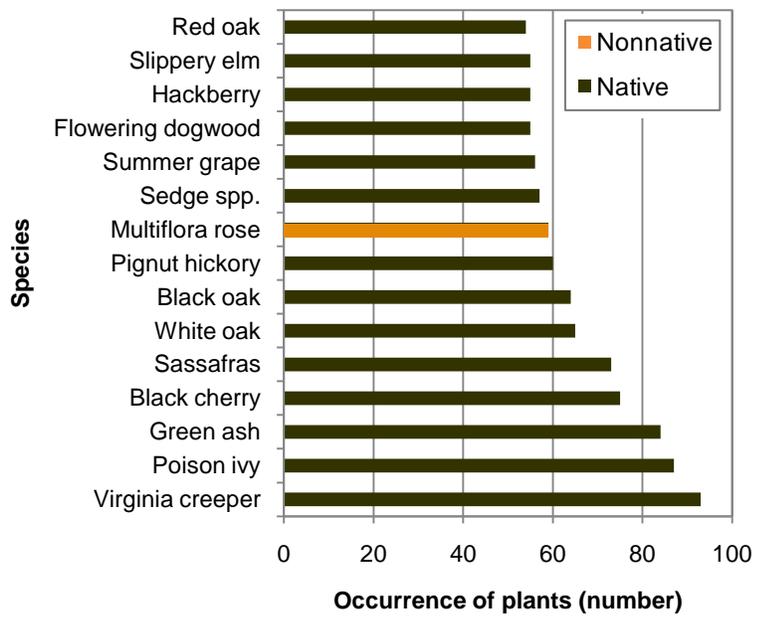


Figure 5.—Most common plant species by occurrence and origin, Illinois, 2010.

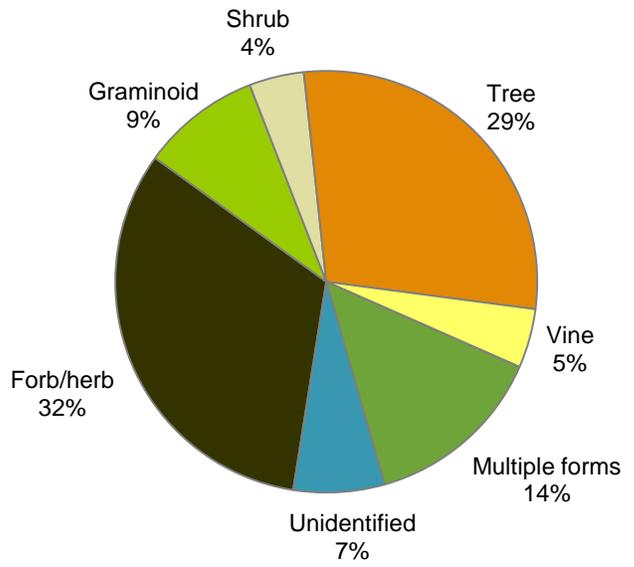


Figure 6.—Distribution of vascular plant species by growth form, Illinois, 2010.



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FIA Program and Illinois Inventory Information

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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 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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