

Wisconsin's Forest Resources, 2011

Research Note NRS-136

This publication provides an overview of forest resource attributes for Wisconsin 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 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 for Wisconsin, 2011.

	2011 estimate	Sampling error (%)	Change since 2006 (%)
Forest land estimates			
Area (1,000 acres)	16,980	0.5	4.3
Number of live trees (million trees)	11,125	1.1	3.0
Dry aboveground biomass of live trees and saplings (1,000 tons)	624,777	0.8	6.6
Net volume in live trees (1,000,000 ft ³)	24,123	0.9	7.3
Annual net growth of live trees (1,000 ft ³ /year)	619,902	2.0	-1.1
Annual mortality of live trees (1,000 ft ³ /year)	296,311	2.3	9.0
Annual harvest removals of live trees (1,000 ft ³ /year)	335,585	4.7	-8.7
Annual other removals of live trees (1,000 ft ³ /year)	7,783	37.1	19.7
Timberland estimates			
Area (1,000 acres)	16,726	0.5	4.2
Number of live trees (million trees)	10,950	1.1	2.6
Dry aboveground biomass of live trees and saplings (1,000 tons)	617,173	0.9	6.6
Net volume in live trees (1,000,000 ft ³)	23,841	1.0	7.3
Net volume in growing-stock trees (1,000,000 ft ³)	21,414	1.0	5.5
Annual net growth of growing-stock trees (1,000 ft ³ /year)	564,017	2.1	-9.2
Annual mortality of growing-stock trees (1,000 ft ³ /year)	232,017	2.5	23.4
Annual harvest removals of growing-stock trees (1,000 ft ³ /year)	295,344	4.8	-5.3
Annual other removals of growing-stock trees (1,000 ft ³ /year)	15,471	22.7	-57.0

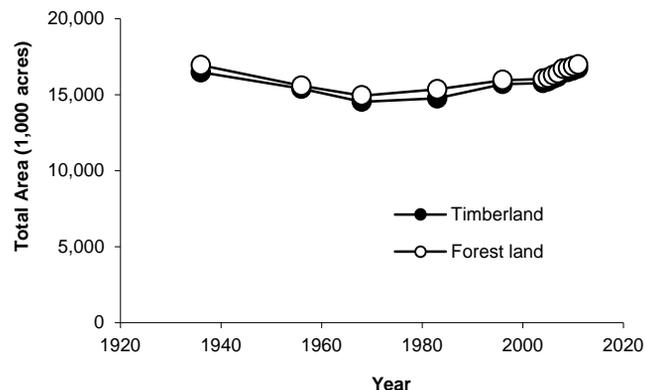


Figure 1.—Area of timberland and forest land in Wisconsin by year.

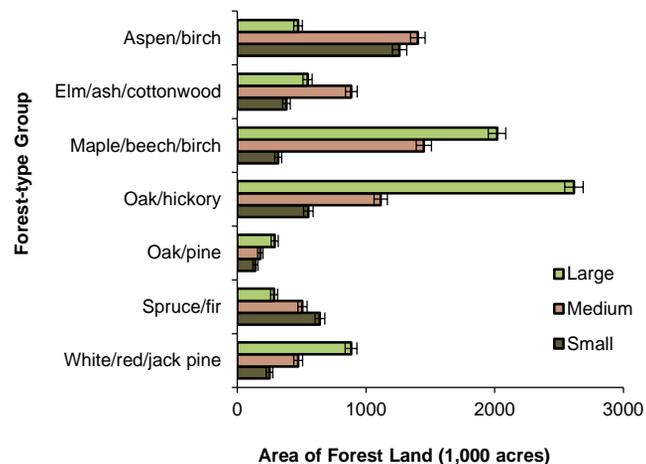


Figure 2.—Area of forest land by top seven forest-type groups and stand-size class, Wisconsin, 2011.

Note: Large diameter trees are at least 11.0 inches diameter for hardwoods and at least 9.0 inches diameter for softwoods. Medium diameter trees are at least 5.0 inches diameter but not as large as large diameter trees. Small diameter trees are less than 5.0 inches diameter. Additional details are available in U.S. Forest Service (2007).

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

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

Rank	Species	Volume of live trees on forest land	Sampling error	Change since 2006	Volume of sawtimber on timberland	Sampling error	Change since 2006
		(million cubic feet)	(%)	(%)	(million board feet)	(%)	(%)
1	Sugar maple	2,615.0	3.3	6.4	6,084.1	4.4	12.8
2	Red maple	2,502.5	2.6	8.7	4,478.4	4.1	19.0
3	Northern red oak	1,927.5	4.0	5.6	7,168.7	4.6	11.5
4	Quaking aspen	1,787.3	3.1	-0.2	3,242.4	4.7	3.4
5	Eastern white pine	1,666.3	5.6	22.9	7,778.0	6.2	23.9
6	Red pine	1,633.6	5.2	11.0	6,513.2	6.0	13.7
7	American basswood	1,245.3	4.0	9.5	3,762.9	4.7	20.3
8	White oak	840.3	4.7	1.1	2,571.9	5.9	0.9
9	Northern white-cedar	839.9	6.4	9.3	2,162.2	7.6	1.8
10	Bigtooth aspen	681.2	6.0	-5.4	1,877.3	7.5	-7.9
	Other softwood species	2,102.2	2.9	5.4	5,354.0	4.4	-0.6
	Other hardwood species	6,282.2	1.8	7.7	13,298.9	2.7	12.3
	All species	24,123.3	0.9	7.3	64,292.1	1.5	11.3

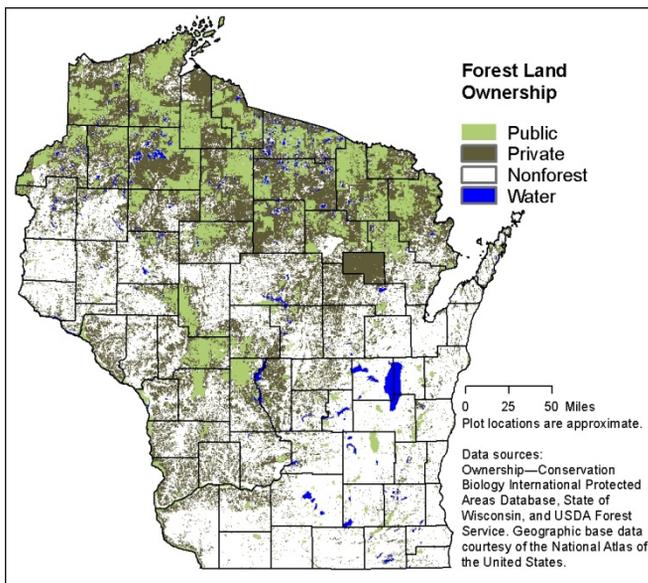


Figure 3.— Distribution of forest land ownership, Wisconsin, 2011.

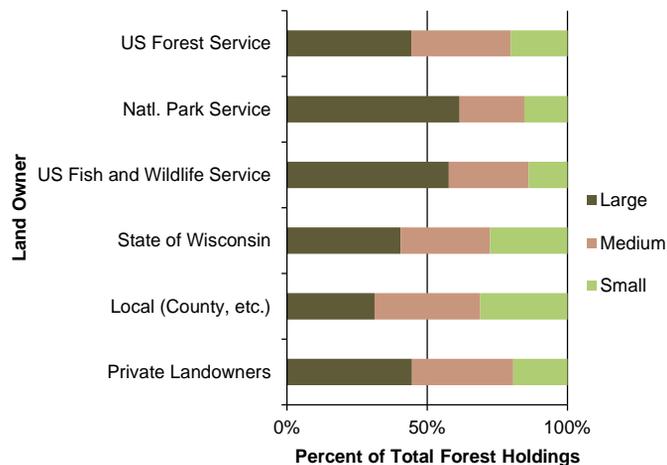


Figure 4.— Distribution of stand-size class across forest land owners, Wisconsin, 2011.

Note: Large diameter trees are at least 11.0 inches diameter for hardwoods and at least 9.0 inches diameter for softwoods. Medium diameter trees are at least 5.0 inches diameter but not as large as large diameter trees. Small diameter trees are less than 5.0 inches diameter. Additional details are available in U.S. Forest Service (2007).

Wisconsin's black walnut (*Juglans nigra*) and the risk posed by Thousand Cankers disease

Black walnut (*Juglans nigra*) is the most valuable forest tree species in Wisconsin. Located primarily in the southwestern part of the state (Fig. 5), walnut is used for furniture of all kinds, paneling, and gun stocks, and veneer wood. The state exports \$4 million in veneer logs and lumber annually (WI FHPP 2012).

Thousand canker disease (TCD) is a relatively new disease that threatens primarily black walnut. Recognized as a new disease in 2008, TCD is spread by the walnut twig beetle (*Pityophthorus juglandis*). While originally confined to the western United States, TCD is now found in Tennessee, Virginia, and Pennsylvania – an area that includes the natural range of black walnut.

Initial symptoms include yellowing and flagging of leaves in the upper canopy; progressive dieback kills larger limbs and eventually the entire tree over a 2-3 year period (WI FHPP 2012). Exit holes may be visible.

Surveys for TCD were conducted during the summer leaf-on period in 2011, with additional surveys planned for 2012. There is no evidence of TCD in Wisconsin (WI FHPP 2012). FIA data suggest walnut mortality levels are stable (Fig. 6); elevated mortality levels in 2004 are an artifact of moving from a periodic to an annual inventory.

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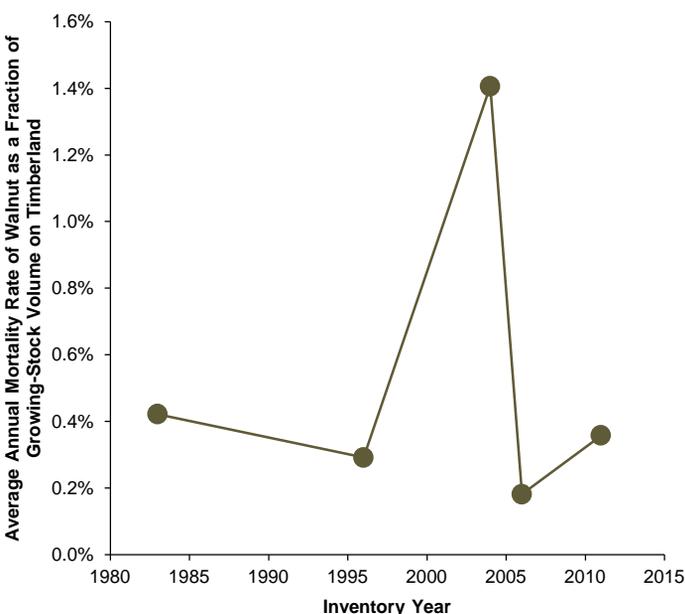


Figure 6.—Average annual black walnut mortality, Wisconsin, 1983–2011.

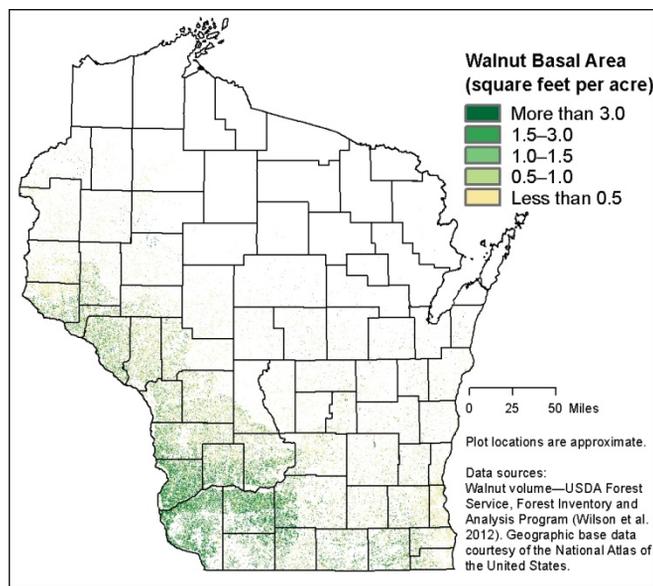


Figure 5.—Spatial distribution of black walnut basal area on forest land in Wisconsin. They also grow in urban forests and plantations.

TCD represents a significant threat to a growing walnut resource in Wisconsin. Both the total volume and relative abundance of black walnut has increased over the past 30 years (Fig. 7). On August 1, 2011, the state of Wisconsin established quarantine guidelines to protect its walnut trees.

Do your part by learning more about TCD and how to prevent its spread. More details are available online at:

<http://dnr.wi.gov/topic/ForestHealth/ThousandCankers.html>

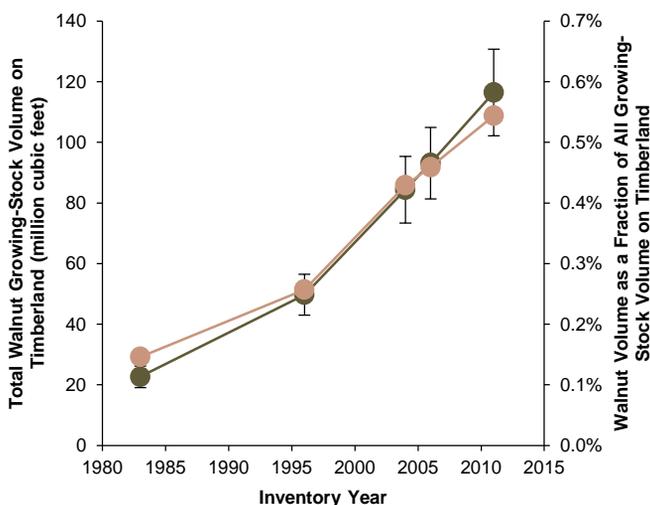


Figure 7.—Total walnut volume (dark green) and walnut volume as a fraction of total volume (tan), Wisconsin, 1983–2011.

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FIA Program Information

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Estimates, tabular data, and maps from this report may be generated at <http://fiatools.fs.fed.us>

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Information published in this report and in related tables is based on data collected between 2005 and 2009, stored in the Forest Inventory and Analysis Database (FIADB), and processed using National Information Management System (NIMS) version 4.0, November 2009. 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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