

Wisconsin's Forest Resources, 2009

Research Note NRS-92

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, 2009.

	2009 estimate	Sampling error (%)	Change since 2004 (%)
Forest land estimates			
Area (1,000 acres)	16,743	0.5	4.4
Number of live trees 1-inch diameter or larger (million trees)	10,966	1.1	2.4
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	609,323	0.8	5.2
Net volume in live trees (1,000,000 ft ³)	23,477	0.9	6.0
Annual net growth of live trees (1,000 ft ³ /year)	598,922	1.9	NA
Annual mortality of live trees (1,000 ft ³ /year)	284,982	2.4	NA
Annual harvest removals of live trees (1,000 ft ³ /year)	345,179	4.7	NA
Annual other removals of live trees (1,000 ft ³ /year)	6,685	31.8	NA
Timberland estimates			
Area (1,000 acres)	16,485	0.5	4.6
Number of live trees 1-inch diameter or larger (million trees)	10,800	1.1	2.5
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	600,981	0.9	5.4
Net volume in live trees (1,000,000 ft ³)	23,156	1.0	6.2
Net volume in growing-stock trees (1,000,000 ft ³)	21,063	1.0	7.1
Annual net growth of growing-stock trees (1,000 ft ³ /year)	572,284	2.0	-12.4
Annual mortality of growing-stock trees (1,000 ft ³ /year)	211,729	2.6	17.8
Annual harvest removals of growing-stock trees (1,000 ft ³ /year)	297,705	4.8	21.7
Annual other removals of growing-stock trees (1,000 ft ³ /year)	24,225	21.7	-76.2

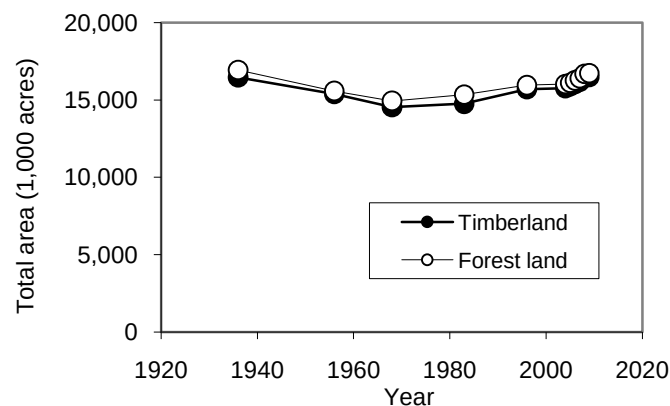


Figure 1.—Area of timberland and forest land in Wisconsin by year.

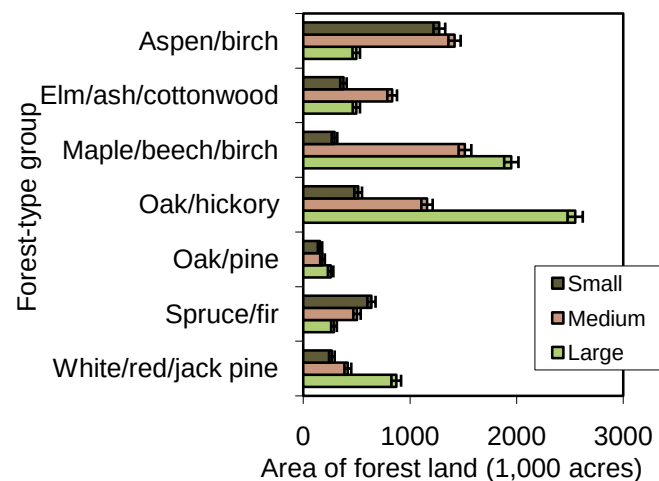


Figure 2.—Area of forest land by top seven forest-type groups and stand-size class, Wisconsin, 2009.

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, 2009.

Rank	Species	Volume of live trees on forest land (million cubic feet)	Sampling error (%)	Change since 2005 (%)	Volume of sawtimber on timberland (million board feet)	Sampling error (%)	Change since 2005 (%)
1	Sugar maple	2,541.0	3.3	2.6	5,795.7	4.5	10.1
2	Red maple	2,454.0	2.6	7.1	4,348.2	4.2	19.0
3	Northern red oak	1,895.6	4.0	4.7	6,967.2	4.6	11.3
4	Quaking aspen	1,788.7	3.1	-0.9	3,344.3	4.7	7.3
5	Red pine	1,535.7	5.4	7.3	6,083.9	6.1	9.5
6	Eastern white pine	1,527.1	5.8	15.2	7,125.3	6.5	16.8
7	American basswood	1,206.5	4.0	6.9	3,540.2	4.8	17.4
8	White oak	836.9	4.7	1.9	2,618.1	5.9	5.1
9	Northern white-cedar	828.4	6.4	8.6	2,199.2	7.6	6.3
10	Bigtooth aspen	693.6	6.1	-2.8	1,940.4	7.6	-2.7
	Other softwood species	2,047.3	2.9	3.7	5,367.9	4.3	0.6
	Other hardwood species	6,122.1	1.8	5.9	12,809.8	2.7	11.2
	All species	23,477.2	0.9	5.2	62,140.2	1.5	10.2

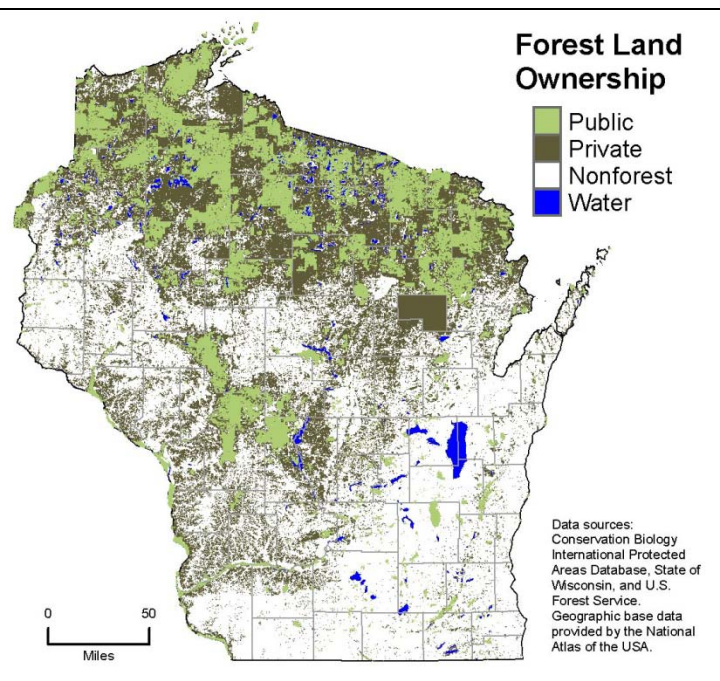


Figure 3.— Distribution of forest land ownership, Wisconsin, 2009.

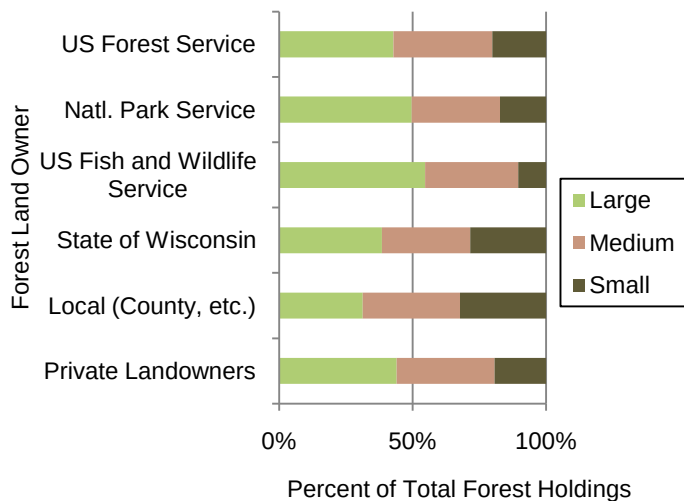


Figure 4.— Distribution of stand-size class across forest land owners, Wisconsin, 2009.

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).

Oak Wilt Spreading in Northern Wisconsin

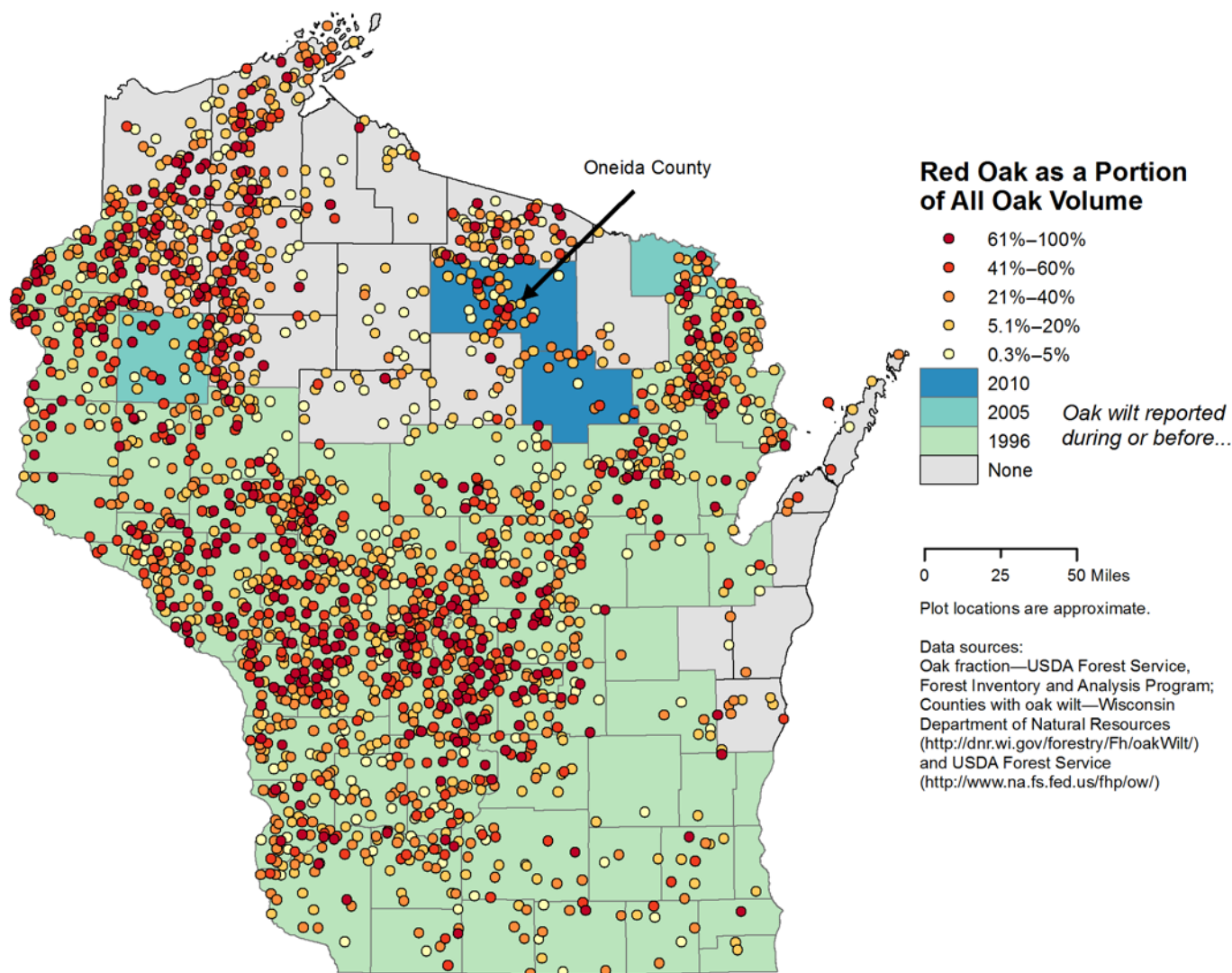


Figure 5.— Locations of plots with trees in the red oak species group and counties where oak wilt (*Ceratocystis fagacearum*) is present in Wisconsin. The presence of oak wilt in a county was reported on or before the years indicated.

Oak wilt continues its march north in Wisconsin. A news report in July, 2010, confirmed the identification of oak wilt in Oneida County. Oak wilt was widespread in southern and southeastern Wisconsin in 1996; data published in 2005 and 2010 document its continued northward progress.

Many oaks are susceptible to oak wilt, but the disease is particularly lethal for oaks in the red oak group. The red oaks include black, northern red, northern pin, and others with pointed leaf edges. The map above (Fig. 5) highlights the relative amount of red oak trees on FIA plots across the state of Wisconsin.

The Wisconsin Department of Natural Resources has information about the management of oak wilt available on their website (<http://dnr.wi.gov/forestry/fh/oakWilt/>). The following text is adapted from the Wisconsin DNR:

In urban settings, avoid pruning, cutting, or wounding oak from April through July. Infections can occur after July, but mid-summer through early fall infections are not common. To take a very cautious approach, do not prune or otherwise wound oaks from April to October. Also, stop pruning oak once daytime temperatures begin to reach the 50 °F mark, even if it's still the middle of March.

Oak management on forest land is described in additional guidelines available through the website provided above.

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FIA Program Information

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.

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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**. Available at <http://www.fia.fs.fed.us/library/field-guides-methods-proc/> (verified 20 Sep 2010).

Additional Wisconsin Inventory Information

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Kotar, J.; Kovach, J.A.; Brand, G.J. 1999. **Analysis of the 1996 Wisconsin forest statistics by habitat type**. Gen. Tech. Rep. NC-207. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 165 p.

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Spencer, J.S.; Smith, W.B.; Hahn, J.T.; Raile, G.K. 1988. **Wisconsin's fourth forest inventory, 1983**. Resour. Bull. NC-107. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 158 p.

Stone, R.N.; Thorne, H.W. 1961. **Wisconsin's forest resources**. Stn. Pap. 90. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Lake States Forest Experiment Station. 52 p.

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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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