

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

# Iowa's Forest Resources, 2009

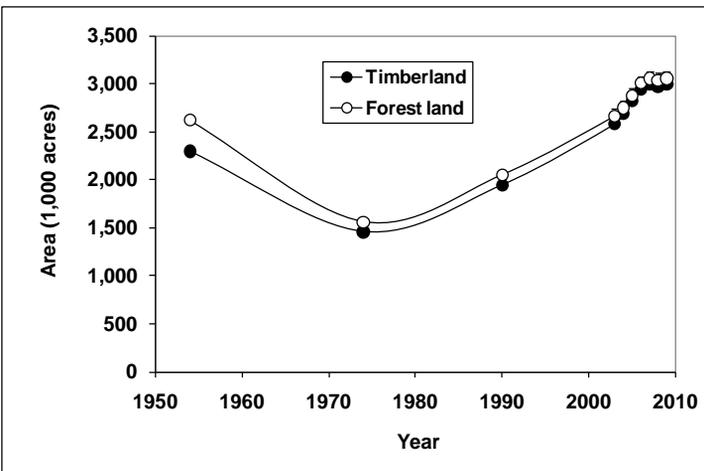
Research Note NRS-102

This publication provides an overview of forest resource attributes for Iowa based on an annual inventory (2005-2009) 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, are updated annually. For more information, please refer to page 4 of this report.

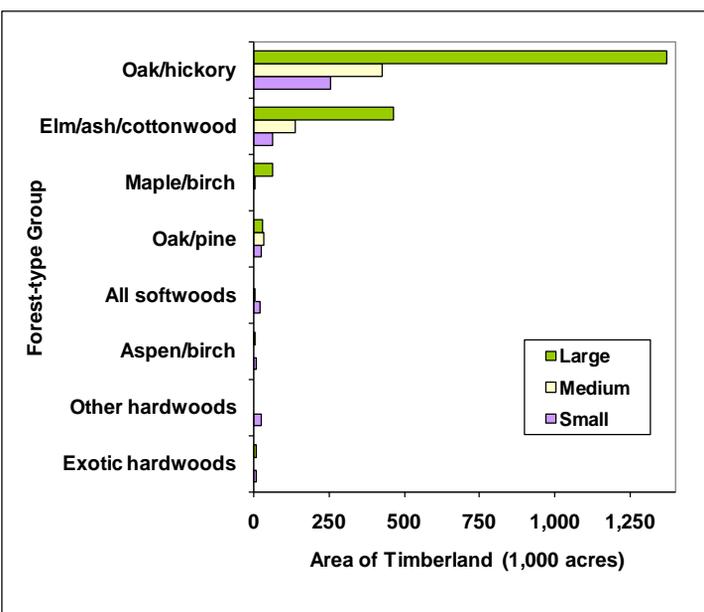
**Table 1.—Annual estimates, sampling errors, and change, Iowa, 2005-2009.**

	Estimate	Sampling error (%)	Change since 2003 (%)
<b>Forest Land Estimates</b>			
Area (1,000 acres)	3,055	2.1	14.6
Number of live trees 1-inch diameter or larger (1,000,000 trees)	1,163	3.8	12.1
Biomass of live trees 1-inch diameter or larger (1,000 tons)	115,956	3.3	13.1
Net volume of live trees (1,000,000 ft <sup>3</sup> )	4,282	4.0	12.1
Annual net growth of live trees (1,000 ft <sup>3</sup> /year)	143,326	7.6	--
Annual mortality of live trees (1,000 ft <sup>3</sup> /year)	62,330	8.0	--
Annual harvest removals of live trees (1,000 ft <sup>3</sup> /year)	33,287	18.8	--
Annual other removals of live trees (1,000 ft <sup>3</sup> /year)	24,252	35.4	--
<b>Timberland Estimates</b>			
Area (1,000 acres)	2,992	2.2	16.0
Number of live trees 1-inch diameter or larger (1,000,000 trees)	1,140	3.9	13.0
Biomass of live trees 1-inch diameter or larger (1,000 tons)	112,385	3.3	12.1
Net volume of live trees (1,000,000 ft <sup>3</sup> )	4,133	3.9	10.5
Net volume of growing-stock trees (1,000,000 ft <sup>3</sup> )	2,987	4.7	3.2
Annual net growth of growing-stock trees (1,000 ft <sup>3</sup> /year)	100,343	7.7	-14.6
Annual mortality of growing-stock trees (1,000 ft <sup>3</sup> /year)	36,380	10.8	48.5
Annual harvest removals of growing-stock trees (1,000 ft <sup>3</sup> /year)	23,364	21.7	14.5
Annual other removals of growing-stock trees (1,000 ft <sup>3</sup> /year)	31,089	42.6	511.7

Note: Sampling errors and error bars 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.



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



**Figure 2.—Area of timberland by forest-type group and stand-size class, Iowa, 2005-2009.**

Note: Forest type definitions have changed and may not be directly comparable with published estimates from previous years. Composition of forest-type groups varies geographically. Maple/beech/birch is referred to as 'Maple/birch' due to the absence of beech in Iowa, where basswood is actually a more predominant component. 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 smaller than large diameter trees. Small diameter trees are less than 5.0 inches diameter. Additional details are available in USDA Forest Service (2007).

Table 2.—Top 10 tree species by statewide volume estimates, Iowa, 2005-2009.

Rank	Species	Volume of live trees on forest land (1,000,000 ft <sup>3</sup> )	Sampling error (%)	Change since 2003 (%)	Volume of sawtimber trees on timberland (1,000,000 board feet)	Sampling error (%)	Change since 2003 (%)
1	Silver maple	496.6	17.4	20.1	1,063.3	20.3	-2.7
2	Bur oak	452.6	11.3	13.3	1,015.1	14.3	6.8
3	White oak	363.2	12.9	-1.7	1,200.6	14.5	0.1
4	Cottonwood	355.2	26.8	4.9	1,456.8	27.4	-1.4
5	Black walnut	291.0	11.8	30.9	993.8	14.2	32.4
6	Northern red oak	259.1	14.1	-4.6	973.4	15.8	-6.5
7	American elm	217.8	7.8	-5.7	295.5	16.3	-25.6
8	American basswood	198.0	14.6	19.8	625.8	18.0	13.0
9	Hackberry	196.3	12.8	18.3	524.4	15.7	34.3
10	Shagbark hickory	164.9	11.7	1.6	447.7	14.9	11.7
	Other softwood species	49.4	14.9	20.6	61.4	24.0	-39.3
	Other hardwood species	1,237.6	4.6	19.1	2,336.0	7.5	8.8
	<b>All species</b>	<b>4,281.7</b>	<b>4.0</b>	<b>12.1</b>	<b>10,993.9</b>	<b>5.5</b>	<b>4.7</b>

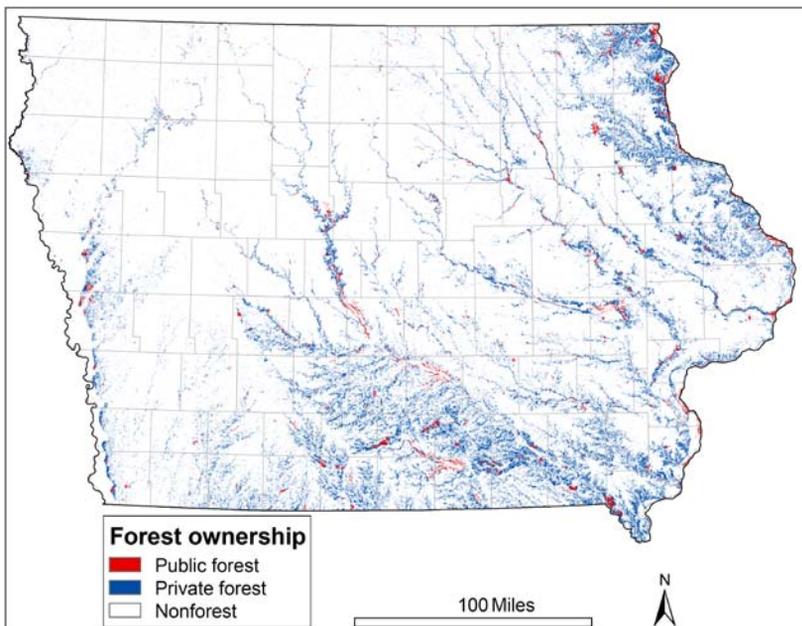


Figure 3.—Distribution of forest land by public (0.469 million acres) and private (2.586 million acres) owner groups, Iowa, 2006.

Projection: UTM Zone 15N, NAD83.

Data sources: forest/nonforest - U.S. Forest Service, 2001 Forest Type Groups map; ownership - Conservation Biology Institute, Protected Areas Database, 4.5; basemap - ESRI Data & Maps.

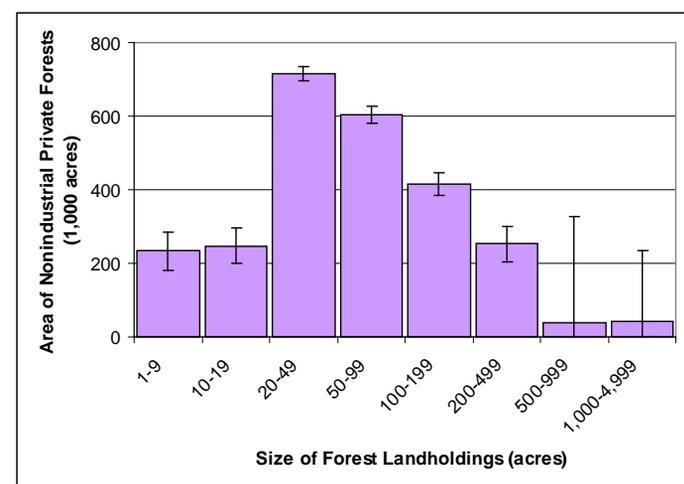


Figure 4.—Area ( $\pm$  1 s.e.) of nonindustrial private forest land by size of forest landholding, Iowa, 2006. Data were derived from Butler (2008).

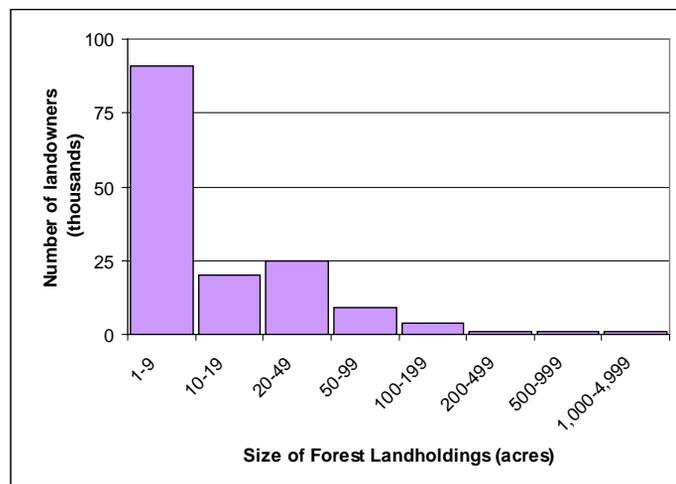
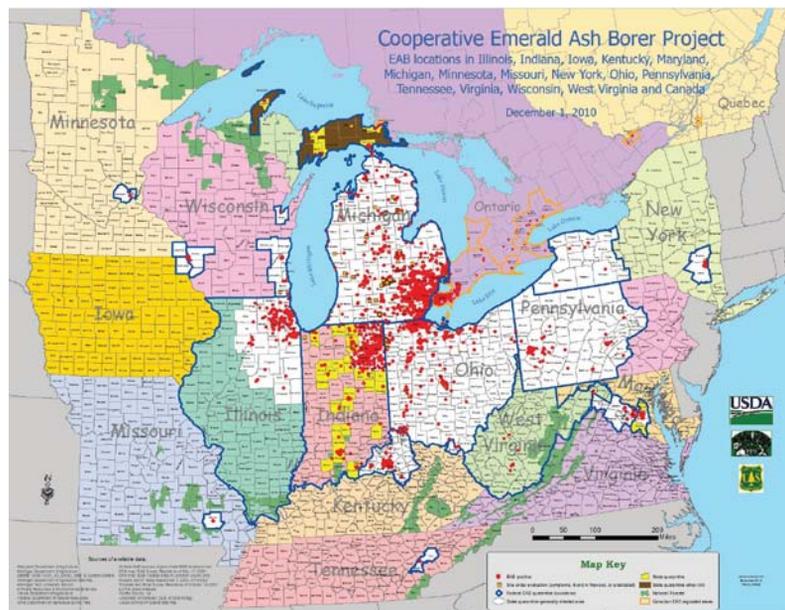


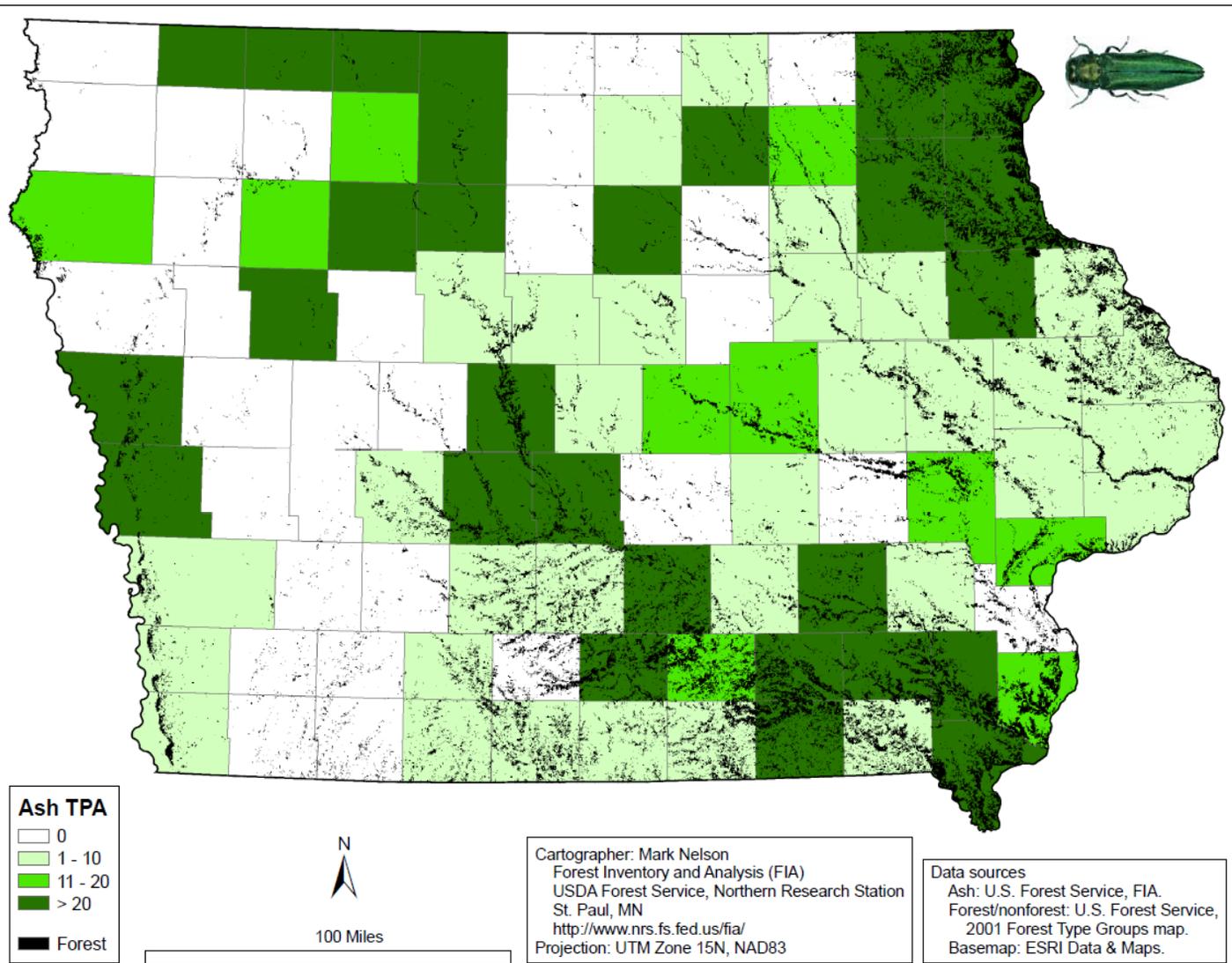
Figure 5.—Number of nonindustrial private forest landowners by size of forest landholding, Iowa, 2006. Data were derived from Butler (2008).

# Issue Update: Emerald Ash Borer

Emerald ash borer (EAB) is an exotic bark-boring beetle that was discovered in southeastern Michigan in 2002. Since that time, EAB has killed millions of ash trees across the upper Midwest (Fig. 6). EAB was first detected in northeastern Iowa in 2010 and represents a major threat to the state's ash resource. All species of ash greater than 1 inch in diameter, regardless of tree vigor, are at risk. Iowa's forest land contains an estimated 54 million ash trees, more than 80 percent of which are on private forest land. These ash trees account for 145 million cubic feet of live-tree volume. Ash tree density on forest land varies (Fig. 7), and ash trees are also widely planted and can be found in urban areas throughout the state.



**Figure 6.—Distribution of emerald ash borer (EAB)**  
 (<http://www.emeraldashborer.info/>) Red – EAB positive



**Figure 7.—Ash trees per acre (TPA) on forest land in Iowa, 2005-2009.** (Photograph UGA5016065: Pennsylvania Department of Conservation and Natural Resources - Forestry Archive, Bugwood.org)

## Citation for this Publication

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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.

Butler, B.J. 2008. Family forest owners of the United States, 2006. Gen. Tech. Rep. NRS-27. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 72 p.

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 Oct. 30, 2008).

## Additional Iowa Inventory Information

Nelson, M.D.; Brewer, M.; Flickinger, A.; Feeley, T. 2010. Iowa's forest resources, 2008. Res. Note NRS-43. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

Nelson, M.D.; Brewer, M. 2009. Iowa's forest resources, 2007. Res. Note NRS-33. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

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Leatherberry, E.C.; Brand, G.J.; Pennington, S. 2005. Iowa's forest resources in 2003. Resour. Bull. NC-240. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 31 p.

Leatherberry, E.C.; Pennington, S.; Flickinger, A.; Perry, C.H.; Jepson, E.; Woodall, C.W. 2006. Iowa's forests, 1999-2003 Part A. Resour. Bull. NC-266A. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 84 p.

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Spencer, J.S., Jr; Jakes, P.J. 1980. Iowa forest resources, 1974. Resour. Bull. NC-52. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 90 p.

Thornton, P.L.; Morgan, J.T. 1959. The forest resources of Iowa. For. Surv. Release 22. Columbus, OH: U.S. Department of Agriculture, Forest Service, Central States Forest Experiment Station. 46 p.

## Metadata

Information published in this report and in related tables is based on Forest Inventory and Analysis Database (FIADB), processed using National Information Management System (NIMS) version 4.01, 8 December 2010. Due to periodic changes to NIMS and FIADB, trend analyses should be made using FIA's online estimation tools, not by comparing published reports or tables. Estimates of change are not currently available for growth, removals, and mortality on forest land.

FIA estimates, tabular data, and maps may be generated at <http://fiatools.fs.fed.us>

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