USDA Forest Service, US Department of Agriculture
Northern Research Station

Nebraska's Forest Resources, 2008

Research Note NRS-73

This publication provides an overview of forest resource attributes for Nebraska based on an annual inventory conducted by the Forest Inventory and Analysis (FIA) program at the Northern Research Station of the USDA 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 for Nebraska, 2008

	Estimate 2008	Sampling error (%)
Forest Land Estimates		
Area (1,000 acres)	1,330.3	4.8
Number of live trees 1-inch diameter or larger (million trees)	347.2	7.1
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	39,764.0	7.4
Net volume of live trees (million cubic feet)	1,817.1	8.1
Annual net growth of live trees (1,000 cubic feet per year)	46,172.6	24.8
Annual mortality of live trees (1,000 cubic feet per year)	24,975.3	24.1
Annual harvest removals of live trees (1,000 cubic feet per year)	2,018.6	50.4
Annual other removals of live trees (1,000 cubic feet per year)	10,265.2	53.3
Timberland Estimates		
Area (1,000 acres)	1,257.1	5
Number of live trees 1-inch diameter or larger (million trees)	326.6	7.3
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	38,402.7	7.7
Net volume of live trees (million cubic feet)	1,766.1	8.4
Net volume of growing-stock trees (million cubic feet)	1,004.5	11.9
Annual net growth of growing-stock trees (1,000 cubic feet per year)	16,522.8	45.3
Annual mortality of growing-stock trees (1,000 cubic feet per year)	17,109.5	31.3
Annual harvest removals of growing-stock trees (1,000 cubic feet per year)	759.9	69.3
Annual other removals of growing-stock trees (1,000 cubic feet per year)	7,797.0	58.2

Note: Sampling errors in the tables in this report represent 68% confidence intervals for the estimated values.

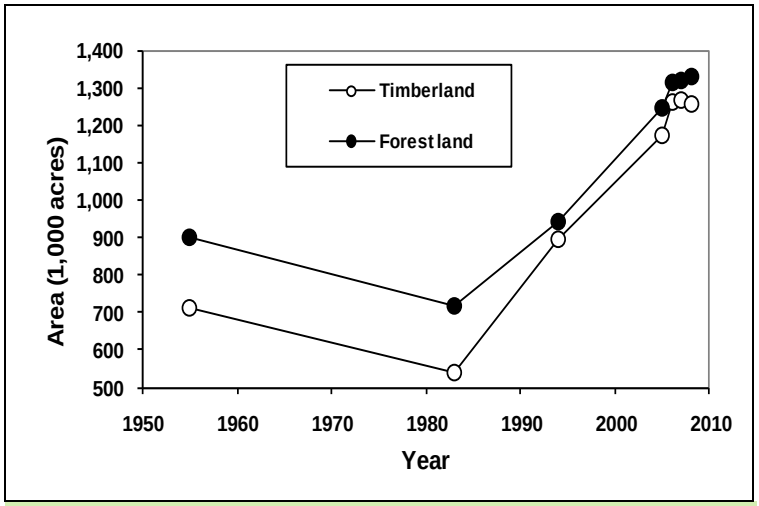


Figure 1.—Area of timberland and forest land by year.

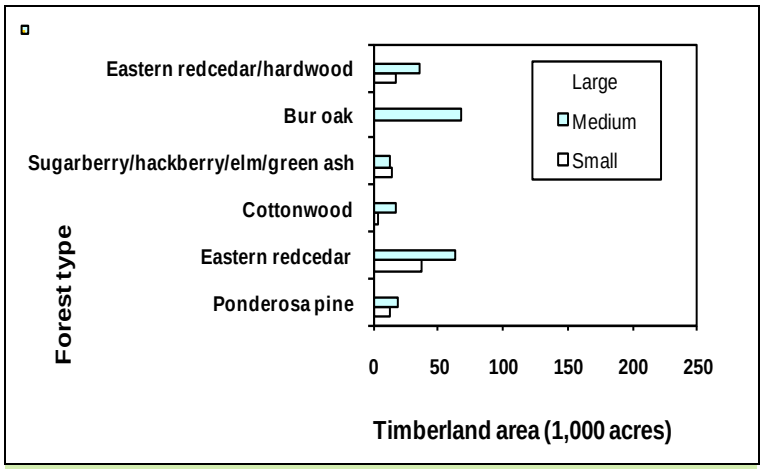


Figure 2.—Area of timberland by top six forest types and stand size class.

NOTE: Large diameter trees are ≥ 11.0 d.b.h. for hardwoods and ≥ 9.0 d.b.h. for softwoods. Medium diameter trees are ≥ 5.0 d.b.h. but not as large as large diameter trees. Small diameter trees are < 5.0 d.b.h.

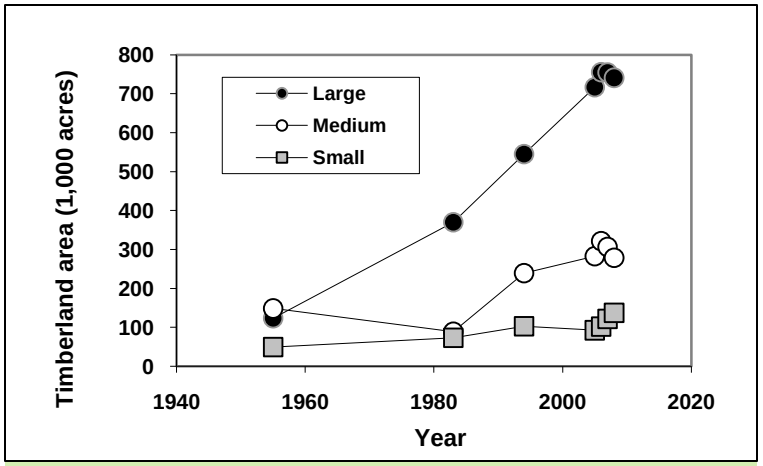
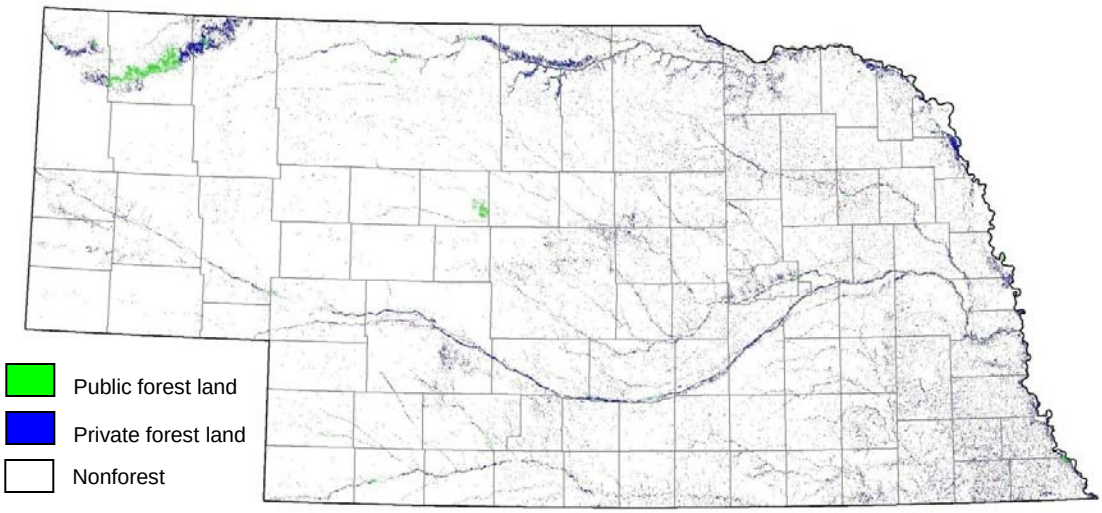


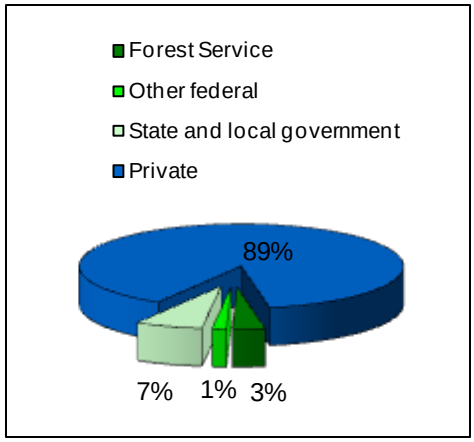
Figure 3.—Area of timberland by stand size class and year.

Table 2.—Top 10 tree species by statewide volume estimates, Nebraska, 2008

Rank	Species	Volume of live trees on forest land (million cubic feet)	Sampling error (%)	Volume of sawtimber trees on timberland (million board feet)	Sampling error (%)
1	Cottonwood	525.4	21.3	1,926.0	25.7
2	Ponderosa pine	290.1	14.0	898.0	17.9
3	Bur oak	260.1	15.3	426.6	24.0
4	Eastern redcedar	132.4	13.5	73.2	24.0
5	Green ash	101.3	17.0	104.5	32.9
6	Hackberry	76.8	27.0	136.5	55.3
7	American basswood	73.5	29.8	167.1	37.6
8	Red mulberry	53.4	25.6	16.0	54.6
9	American elm	52.0	16.4	32.0	38.8
10	Siberian elm	30.5	29.9	22.0	45.8
	Other softwoods	31.7	36.7	35.5	93.3
	Other hardwoods	189.9	13.0	247.1	21.4
	All Species	**1,817.1**	**8.1**	**4,084.6**	**13.6**

Forest Land Ownership





Data sources for map: USDA Forest Service, Conservation Biology Institute Protected Areas Database, National Land Cover Database 2001. Geographic base data from the National Atlas of the USA.

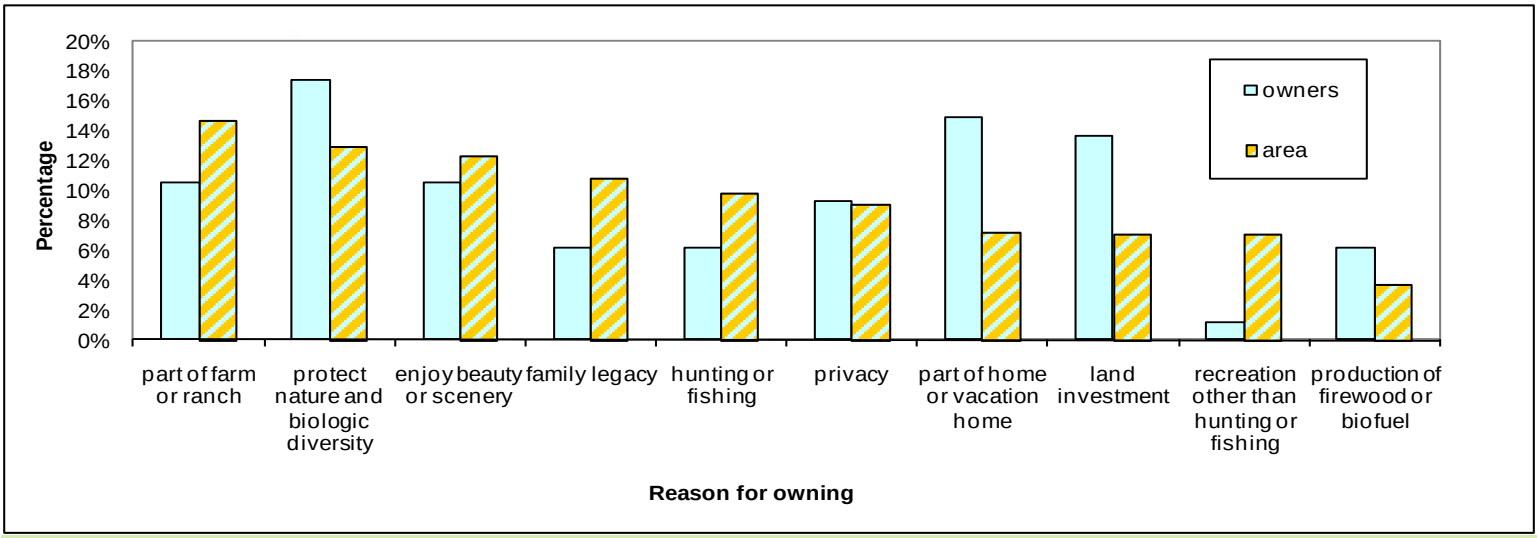


Figure 4.—Distribution of forest land by major owner group (map) and reason for owning private forest land (bar graph).

Special Issue: Thousand Cankers Disease of Black Walnut

Thousand cankers disease (TCD) is an insect-disease complex comprised of the walnut twig beetle (*Pityophthorus juglandis*) and an associated fungus (*Geosmithia* sp.) that leads to canker development and eventual death of black walnut trees. The symptoms begin as yellowing and thinning of the upper crown (Fig. 5) and increasingly larger branches are killed as the disease progresses. In later stages, a large portion or the entire crown may wilt. Mortality often occurs within 3 years of the initial symptoms being observed.

Figure 5.—Symptoms of Thousand Cankers Disease. Photo by Curtis Utley, CSUE, Bugwood.org.

Black walnut is highly susceptible to this disease, which has been found in California, Colorado, Arizona, New Mexico, Idaho, Utah, Washington, and Oregon. While black walnut is found primarily in the eastern part of Nebraska (Fig. 6), it is also present in communities and in riparian forests in the west. This is worrisome as TCD has been confirmed in eastern Colorado and entry into Nebraska could be a gateway into the native range of black walnut. The disease could move eastward along the river forest systems or from town to town. Currently, there are no effective controls so early detection, removal, and destruction of infected trees is the most important means of managing this disease.

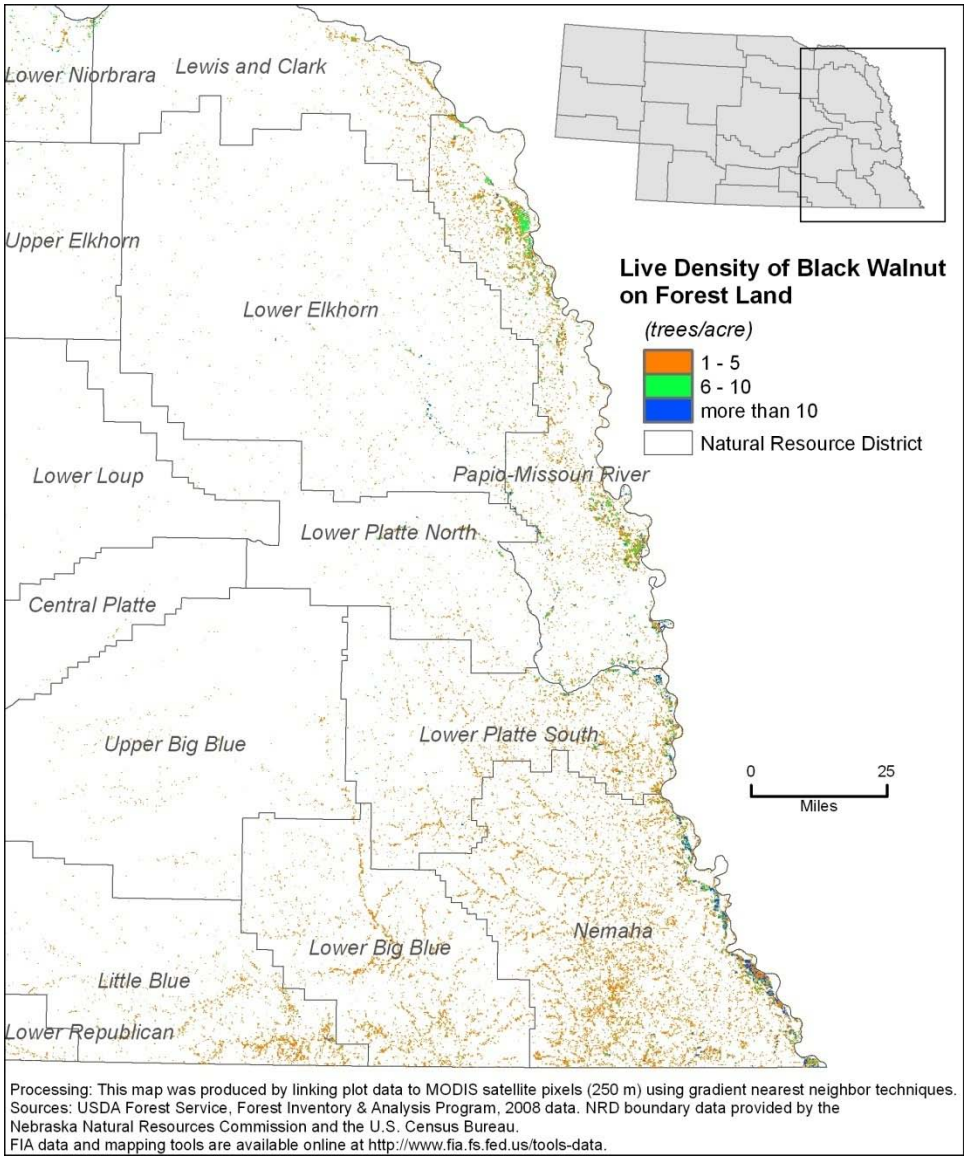


Figure 6.—Distribution of black walnut trees per acre on forest land.

Black walnut is an important wildlife and commercial species in Nebraska. There are an estimated 1.5 million black walnut trees on Nebraska's forest land that contain over 22 million cubic feet of net live-tree volume. In 2006, black walnut was third in terms of saw log production and fifth in industrial roundwood production (third for hardwoods) (Piva and Adams 2008). Introduction of this disease would be detrimental to Nebraska's forest ecosystem and timber industry.

Citation for this Publication

Meneguzzo, D.M. 2010. Nebraska's forest resources, 2008. Res. Note NRS-73. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

FIA Program Information

Bechtold, W.A.; Patterson, P.L. 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 24 Nov 2009).

Additional Nebraska Inventory Information

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Piva, R.J.; Adams, D.M. 2008. Nebraska timber industry—an assessment of timber product output and use, 2006. Resour. Bull. NRS-28. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 54 p.

Raile, G.K. 1986. Nebraska's second forest inventory. Resour. Bull. NC-96. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 87 p.

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Definitions

Forest land - Land at least 10 percent stocked by forest trees of any size, or land formerly having such tree cover and not currently developed for a nonforest use. The minimum area for classification as forest land is 1 acre. Roadside, stream-side, and shelterbelt strips of timber must be at least 120 feet wide to qualify as forest land. Unimproved roads and trails, streams and other bodies of water, or natural clearings in forested areas are classified as forest, if less than 120 feet in width or 1 acre in size. Grazed woodlands, reverting fields, and pastures that are not actively maintained are included if the above qualifications are satisfied. Forest land includes three subcategories: timberland, reserved forest land, and other forest land.

Timberland - Forest land that is producing or is capable of producing wood at a rate of 20 cubic feet/acre/year and is not withdrawn from timber utilization by statute or administrative regulation.

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Estimates, tabular data, and maps from this report may be generated at: http://www.fia.fs.fed.us/tools-data/
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Information published in this report and in related tables is based on the Forest Inventory and Analysis Database (FIADB) 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://www.fia.fs.fed.us/tools-data/.