



Nebraska's Forest Resources, 2010

Research Note NRS-119

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 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 for Nebraska, 2010

	Estimate 2010	Sampling error (%)
Forest Land Estimates		
Area (1,000 acres)	1,521	4.3
Number of live trees 1-inch diameter or larger (million trees)	394	6.7
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	44,347	6.4
Net volume of live trees (million cubic feet)	2,021	7.1
Annual net growth of live trees (1,000 cubic feet per year)	57,393	14.8
Annual mortality of live trees (1,000 cubic feet per year)	26,127	15.8
Annual removals of live trees (1,000 cubic feet per year)	19,911	38.9
Timberland Estimates		
Area (1,000 acres)	1,418	4.5
Number of live trees 1-inch diameter or larger (million trees)	366	7.0
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	42,540	6.6
Net volume of live trees (million cubic feet)	1,952	7.4
Net volume of growing-stock trees (million cubic feet)	1,143	10.5
Annual net growth of growing-stock trees (1,000 cubic feet per year)	21,704	24.6
Annual mortality of growing-stock trees (1,000 cubic feet per year)	15,180	22.4
Annual removals of growing-stock trees (1,000 cubic feet per year)	14,193	49.5

Note: Sampling errors in Tables 1 and 2 in this report represent 68% confidence intervals for the estimated values.

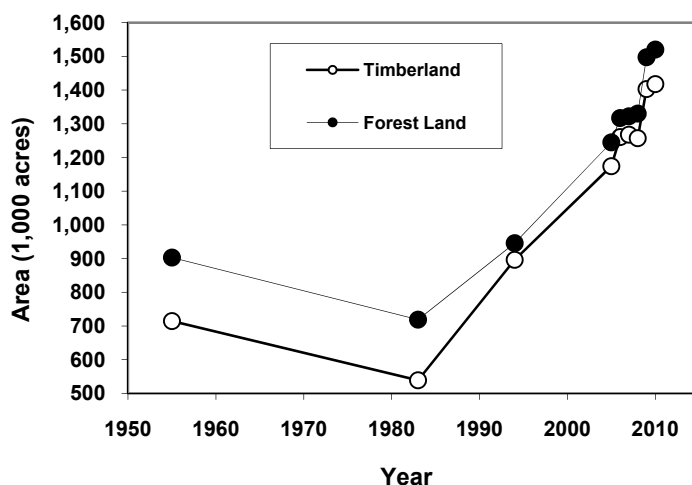


Figure 1.—Area of timberland and forest land by year.

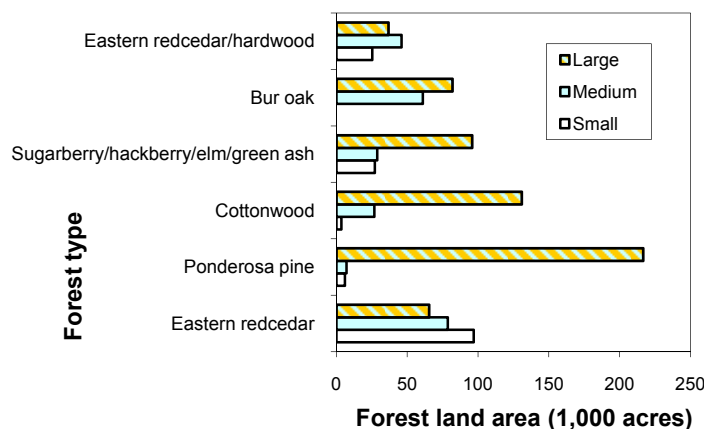


Figure 2.—Area of forest land by top six forest types and stand-size class.

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.

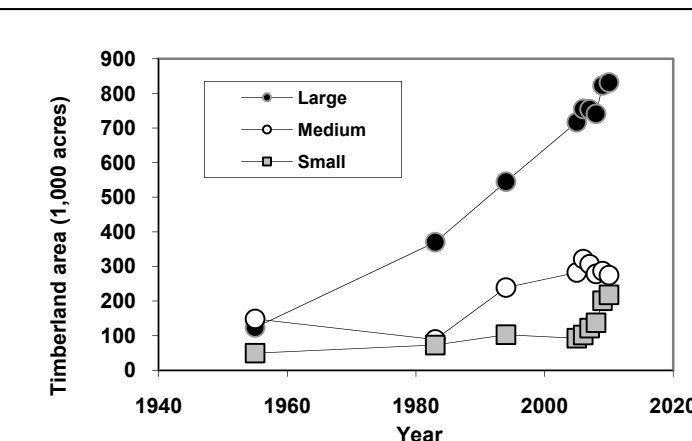
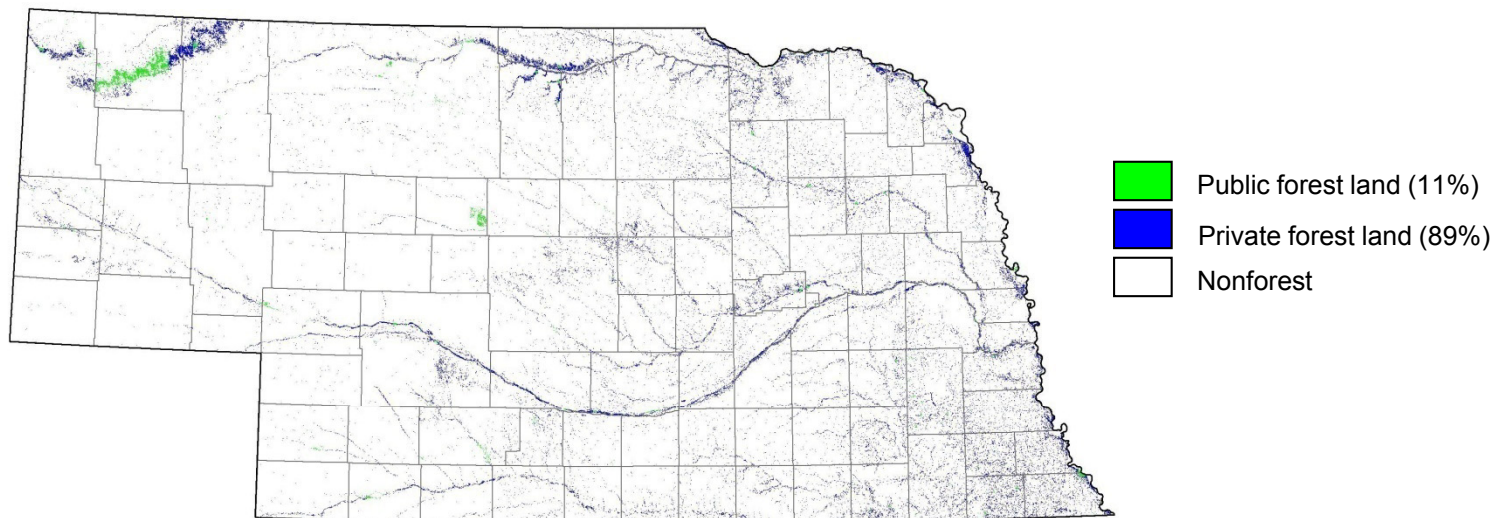


Figure 3.—Area of timberland by stand-size class and year.

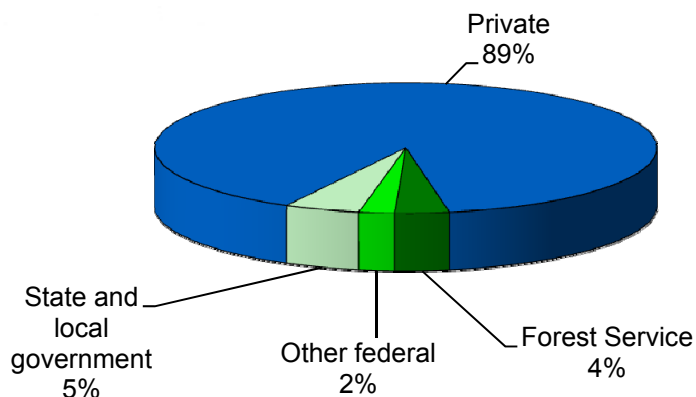
Table 2.—Top 10 tree species by statewide volume estimates, Nebraska, 2010

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	620.0	18.8	2,274.7	22.7
2	Ponderosa pine	318.5	15.7	1,047.4	18.1
3	Bur oak	284.1	14.8	429.1	23.5
4	Eastern redcedar	169.7	12.0	61.0	27.2
5	Green ash	124.8	14.2	173.7	26.7
6	American basswood	74.6	31.3	206.5	36.1
7	Hackberry	73.3	23.2	134.6	44.8
8	Red mulberry	67.8	20.6	20.4	44.3
9	American elm	50.4	14.1	33.2	34.6
10	Siberian elm	38.0	27.0	37.3	41.0
	Other softwoods	19.0	36.9	11.7	112.8
	Other hardwoods	180.5	12.0	276.5	19.3
	All Species	2,020.7	7.1	4,706.0	12.0

Forest Land Ownership



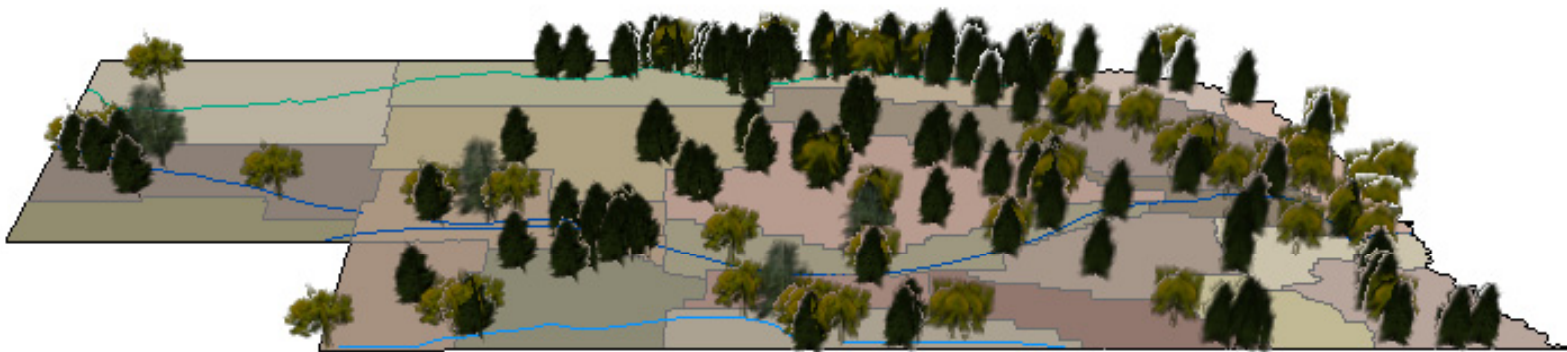
Data sources for map: USDA Forest Service, Conservation Biology Institute Protected Areas Database, National Land Cover Database 2001. Geographic base data from the National Atlas of the USA.


Figure 4.—Distribution of forest land by major owner group, Nebraska, 2010.

Invasive and aggressive native trees: Eastern redcedar and Russian olive

Russian olive (*Elaeagnus angustifolia*), an invasive species, and Eastern redcedar (*Juniperus virginiana*), a native species, have been used as conservation trees with success in Nebraska due to their hardy nature. However, these species can spread aggressively and pose a threat to riparian forests and the cottonwood resource. Figure 5 shows the current distribution of cottonwood, eastern redcedar, and Russian olive trees on FIA plots in Nebraska. There are particularly high concentrations of eastern redcedar along the Niobrara River in north central Nebraska and the Platte River. Russian olive has been found along the Republican and North Platte Rivers. According to the current inventory data, eastern redcedar is most prevalent in the following Natural Resource Districts: Twin Platte, Middle Niobrara, Lower Loup, and the Lower Niobrara.

Since the 2005 inventory, the number and volume of eastern redcedar trees have increased substantially while cottonwood has seen little increase. Figure 2 illustrates how the cottonwood forest type has very little area in the small stand-size class (less than 4,000 acres) whereas the eastern redcedar forest type occupies nearly 100,000 acres of forest land in the same size class. In addition, eastern redcedar also has about three times the area of the cottonwood forest type in the medium stand-size class.



Note: depicted plot locations are approximate.

Niobrara River

Platte River

Republican River

Natural Resource District



Russian olive



Eastern redcedar



Cottonwood

Figure 5.—Forest inventory and analysis plots with eastern redcedar, cottonwood, or Russian olive present, Nebraska, 2010.

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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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Additional Nebraska Inventory Information

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Meneguzzo, D.M.; Butler, B.J.; Crocker, S.J.; Haugen, D.E.; Moser, W.K.; Perry, C.H.; Wilson, B.T.; Woodall, C.W. 2008. Nebraska's forests, 2005. Resour. Bull. NRS-27. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 94 p.

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://fiatools.fs.fed.us>

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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 2010. 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/>.

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