

Image credit: Terry Spivey, USDA Forest Service, Bugwood.org

North Dakota's Forest Resources, 2009

Research Note NRS-83

This publication provides an overview of forest resource attributes for North Dakota 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. - National estimates, uncertainty, and change

	Estimate 2009	Sampling error (%)	Change since 2004 (%)
Forest Land Estimates			
Area (1,000 acres)	741.1	6.3	1.0
Number of live trees 1-inch diameter or larger (million trees)	333.3	9.7	-3.3
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	17,681.1	8.5	-5.7
Net volume in live trees (1,000,000 ft ³)	679.0	10.1	-6.0
Annual net growth of live trees (1,000 ft ³ /year)	10,397.6	35.5	NA
Annual mortality of live trees (1,000 ft ³ /year)	13,013.0	23.4	NA
Annual harvest removals of live trees (1,000 ft ³ /year)	1,240.5	82.88	NA
Annual other removals of live trees (1,000 ft ³ /year)	2,485.0	71.6	NA
Timberland Estimates			
Area (1,000 acres)	515.2	7.9	-5.8
Number of live trees 1-inch diameter or larger (million trees)	221.1	11.9	-18.6
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	14,326.4	10.4	-9.4
Net volume in live trees (1,000,000 ft ³)	567.3	12.1	-8.3
Net volume of growing-stock trees (1,000,000 ft ³)	326.2	15.9	-9.6
Annual net growth of growing-stock trees (1,000 ft ³ /year)	4,599.5	56.1	NA
Annual mortality of growing-stock trees (1,000 ft ³ /year)	6,467.3	37.1	NA
Annual harvest removals of growing-stock trees (1,000 ft ³ /year)	591.7	96.4	NA
Annual other removals of growing-stock trees (1,000 ft ³ /year)	2,549.1	59.3	NA

NA: Percent change estimates are not available for growth, mortality and removals.

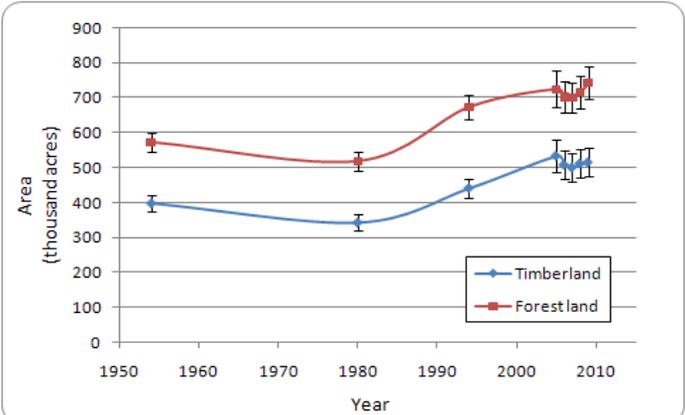


Figure 1. – Area of timberland and forest land by year.

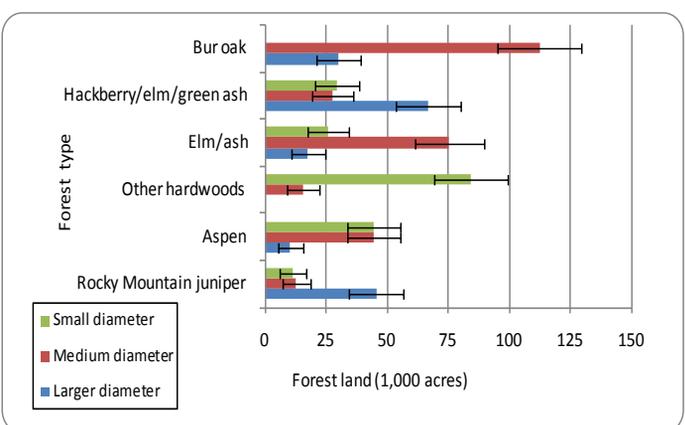


Figure 2. – Area of forest land area by top six forest types and stand size class, 2005-2009.

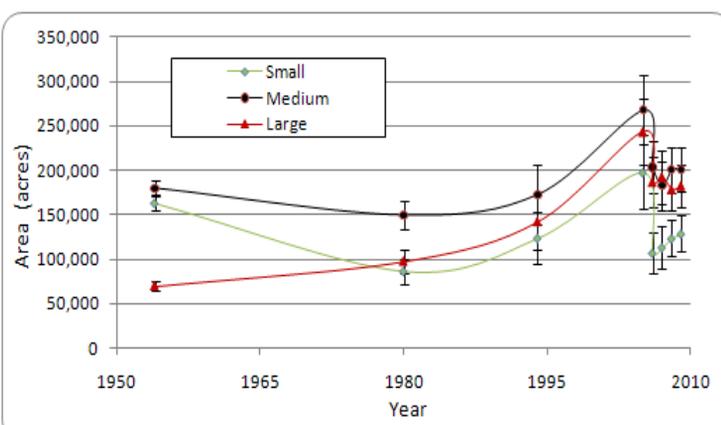


Figure 3. – Area of timberland by stand size class and year.

Note: When available, sampling error bars provided in figures.

Table 2. – Top ten tree species by statewide volume estimates, 2005-2009

Rank	Species	Volume of live trees on forest land (1,000,000 ft ³)	Sampling error (%)	Change since 2005 (%)	Volume of sawtimber trees on timberland (1,000,000 bdf)	Sampling error (%)	Change since 2005 (%)
1	Bur oak	167.7	15.3	2.6	232.9	38.4	-3.0
2	Cottonwood	151.9	33.6	-5.8	478.1	42.5	-4.0
3	Green ash	127.6	12.1	-2.8	154.4	24.6	-3.2
4	Quaking aspen	69.0	22.7	-31.5	99.4	38.5	-31.3
5	Boxelder	50.6	19.9	4.8	32.2	63.0	455.2
6	Rocky Mountain juniper	38.7	28.6	19.8	0.0	0.0	0.0
7	American elm	31.5	37.6	7.5	47.2	54.9	1.1
8	American basswood	18.7	53.1	55.8	33.5	67.9	150.0
9	Balsam poplar	7.3	46.2	-38.7	14.2	99.7	-11.3
10	Siberian elm	4.7	54.7	9.3	5.4	77.2	42.1
	Other softwoods	4.3	80.4	330.0	0.0	0.0	-100.0
	Other hardwoods	7.0	56.8	-30.7	12.5	100.0	0.0
	All Species	679.0	10.1	-3.8	1,104.7	22.1	-1.6

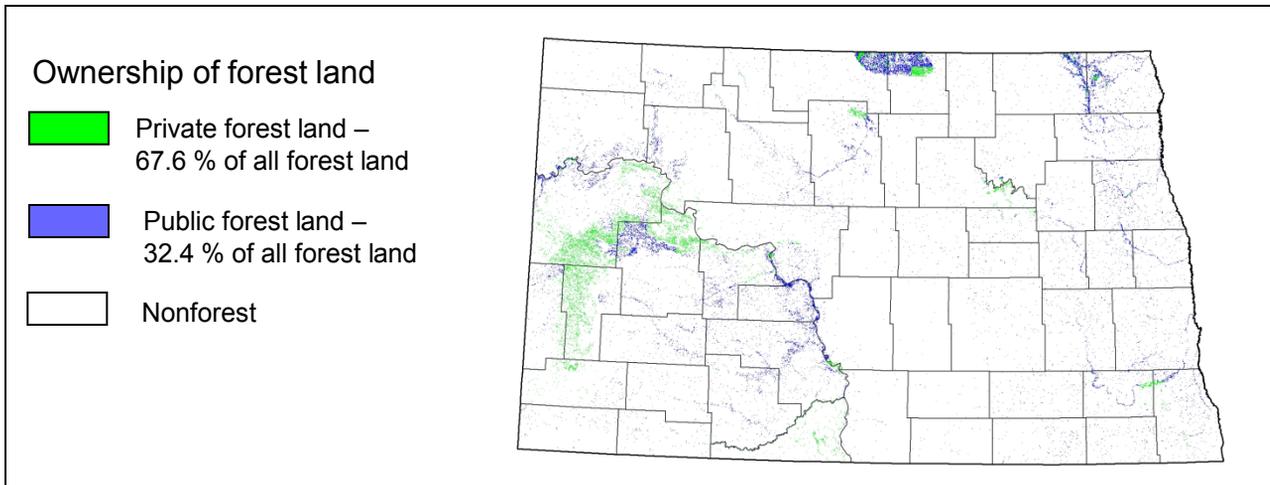


Figure 4. – Area of forest land by major owner group, 2005-2009 (1.6% of North Dakota is forested).

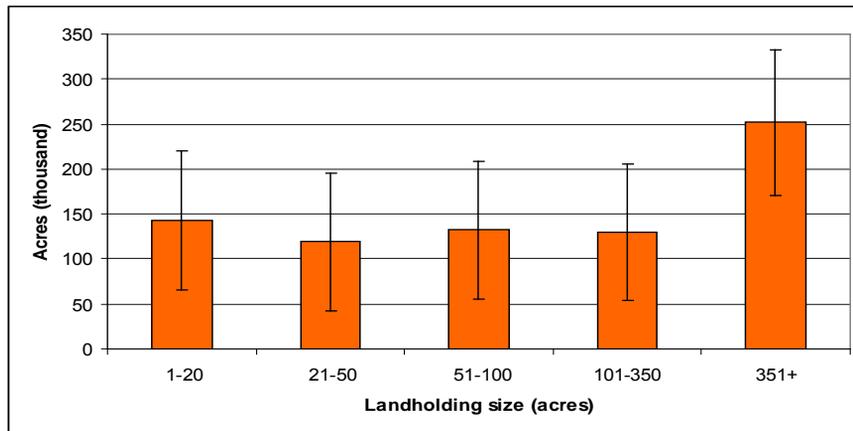


Figure 5. – Area of forest land by major owner group and size of private forest landholding in North and South Dakota, 2006.

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Great Plains Tree and Forest Invasives Initiative

A Multi-State Cooperative Effort for Education, Mitigation, and Utilization

Emerald ash borer (EAB) *Agrilus planipennis* Fairmaire is a highly invasive, exotic insect that attacks and kills all species of North American ash trees. Since its introduction from Asia in the early 1990s, EAB has killed more than 50 million ash trees in Michigan, Illinois, Indiana, Ohio, Pennsylvania, Maryland, Missouri, Virginia, West Virginia, Wisconsin and Ontario, Canada. In 2009, EAB was also discovered in Minnesota, New York, and Kentucky. Across the United States, hundreds of millions more ash trees are at risk.

A grant by the U.S. Forest Service enables state forestry agencies in Kansas, Nebraska, North Dakota and South Dakota to engage in a regional initiative to prepare for the arrival of invasive pests, such as EAB, that threaten tree resources in the northern plains. Through the Great Plains Tree and Forest Invasives Initiative (GPI), state forestry agencies are working together to enhance public awareness and promote alternatives to ash tree plantings. Additionally, the coordinated assessment of the region's tree resources helps address the potential impacts of EAB on forest resources. One of the goals of the GPI is to assess the ash resource on nonforest land in the Plains States.

Between 2008 and 2009, there were 300 urban and 150 rural GPI plots that were measured in North Dakota. The measurement plots from the GPI study found that ash (34 million trees) are the most abundant tree species in rural and nonforest areas (Fig. 6). These areas include windbreaks, shelterbelts, other agricultural land and farmsteads with trees, and riparian wooded strips. There are another 400 hundred thousand ash trees in the urban areas of North Dakota. Ash is the most abundant forest land tree species, with an estimated 79 million ash trees (1-inch diameter or greater).

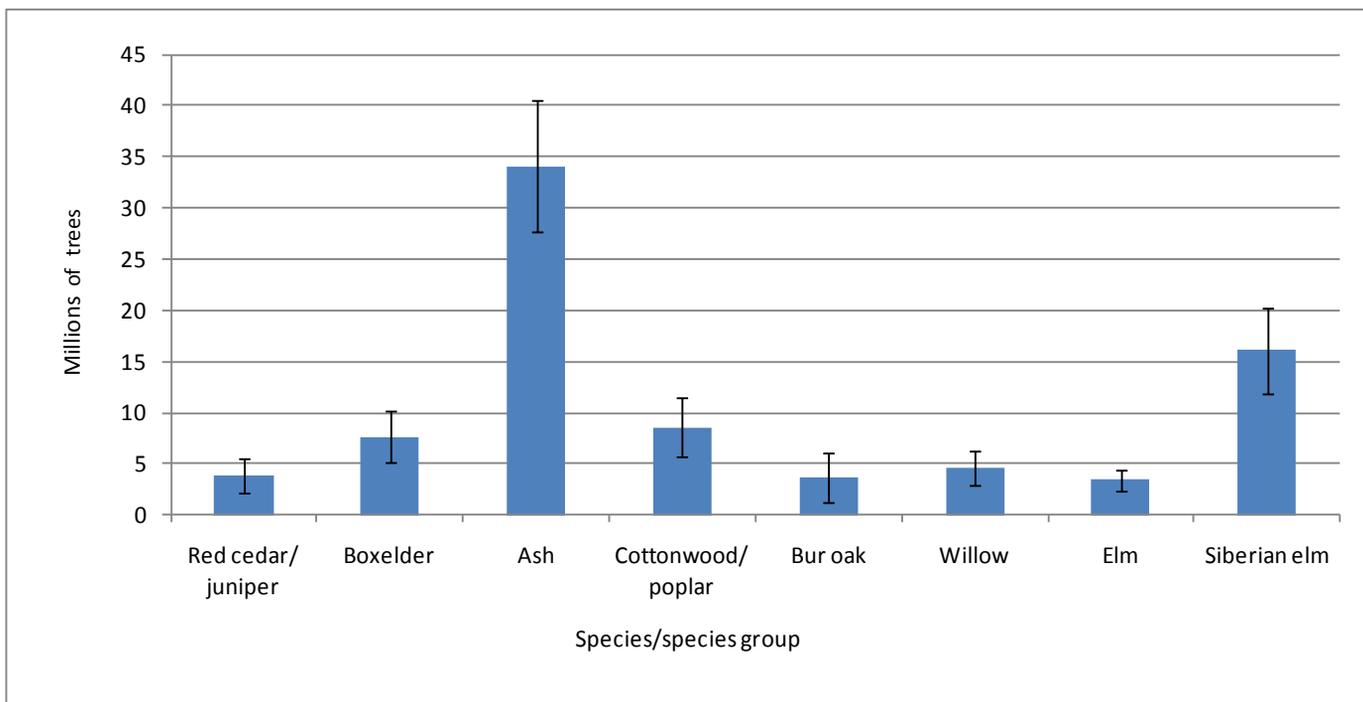


Figure 6. – Selected tree species in rural, nonforest areas, North Dakota 2008-09.

Citation for this Publication

Haugen, D.E. 2010. **North Dakota's forest resources, 2009**. Res. Note NRS-83. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

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 North Dakota Inventory Information

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Estimates, tabular data, and maps from report may be generated at: fiatools.fs.fed.us

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