USDA Forest Service, US Department of Agriculture
Northern Research Station

South Dakota's Forest Resources, 2007

Research Note NRS-32

This publication provides an overview of forest resource attributes for South Dakota based on an annual inventory conducted by the Forest Inventory and Analysis program of the U.S. Forest Service, Northern Research Station. These estimates, along with web-posted core tables, will be updated annually. For more information regarding past inventory reports for South Dakota, inventory program information, and sampling/estimation procedures, please refer to the citations at the end of this report. For definitions of terms used in this report, see 'Glossary of Terms' at: http://nrs.fs.fed.us/fia/data-tools/state-reports/SD/.

Table 1. – Annual estimates, uncertainty, and change for South Dakota, 2007

	2007 Estimate	Sampling error (%)	Change since 2006 (%)
Forest Land Estimates			
Area (1,000 acres)	1,790.2	2.9	3.2
Number of live trees 1-inch diameter or larger (million trees)	537.8	6.1	3.0
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	48,570.2	4.1	3.4
Net volume in live trees (1,000,000 ft^3)	2,280.1	4.1	2.8
Annual net growth of live trees (1,000 ft^3/year)	33,172.1	30.1	-8.0
Annual mortality of live trees (1,000 ft^3/year)	29,347.6	20.2	13.1
Annual removals of live trees (1,000 ft^3/year)	23,304.2	42.4	28.1
Timberland Estimates			
Area (1,000 acres)	1,668.0	3.1	4.2
Number of live trees 1-inch diameter or larger (million trees)	506.2	6.3	3.9
Biomass of live trees 1-inch diameter or larger (1,000 tons)	45,384.1	4.3	4.2
Net volume in live trees (1,000,000 ft3)	2,155.5	4.3	3.5
Net volume of growing-stock trees (1,000,000 ft^3)	1,962.3	4.4	1.4
Annual net growth of growing-stock trees (1,000 ft^3/year)	29,603.3	28.0	5.4
Annual mortality of growing-stock trees (1,000 ft^3/year)	22,676.9	20.4	10.6
Annual removals of growing-stock trees (1,000 ft^3/year)	23,187.1	42.4	27.7

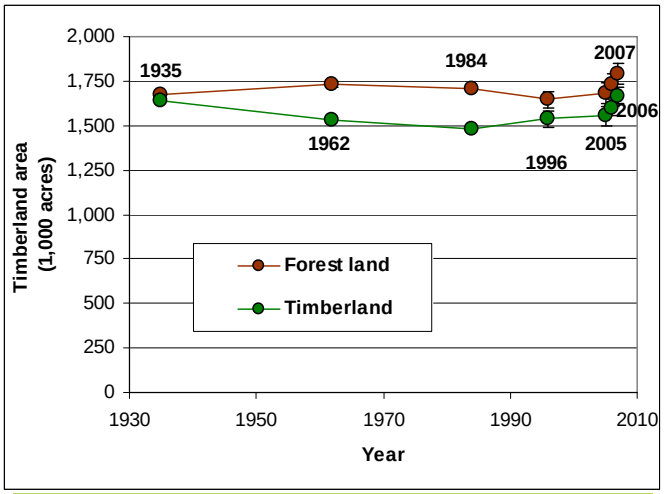


Figure 1. – Area of timberland and forest land by year, South Dakota, 2007.

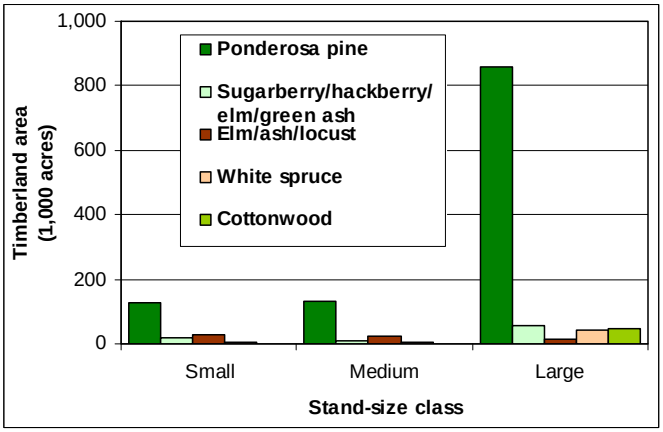


Figure 2. – Area of timberland area of top five forest types by stand-size class, South Dakota, 2007.

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.

Table 2 - Top 10 species by volume, South Dakota, 2007

Rank	Species	Volume of live trees on forest land (million cubic feet)	Sampling Error (%)	Change since 2006 (%)	Volume of sawtimber trees on timberland (million board feet)	Sampling error (%)	Change since 2006 (%)
1	Ponderosa pine	1,732.4	4.6	1.8	5,905.1	6.1	2.8
2	Bur oak	110.4	22.9	2.2	124.0	34.7	8.6
3	Cottonwood	88.2	37.2	4.0	369.0	40.5	-6.3
4	Green ash	83.0	22.1	5.1	115.1	38.5	9.7
5	White spruce	82.4	23.9	-3.1	287.9	25.3	-2.9
6	American elm	51.7	25.3	9.1	33.4	44.4	30.5
7	Rocky Mountain juniper	41.1	34.4	48.4	34.3	98.4	0.0
8	Boxelder	29.5	34.6	6.9	4.4	100.2	-75.7
9	Quaking aspen	21.4	28.8	-9.7	8.9	54.4	3.5
10	Eastern redcedar	12.6	38.7	24.8	35.6	53.2	10.6
	Other softwood species	0.0	0.0	0.0	0.0	0.0	0.0
	Other hardwood species	27.3	27.0	20.3	24.6	86.1	12.8
	All species	**2,280.1**	**4.1**	**2.8**	**6,942.2**	**5.7**	**2.7**

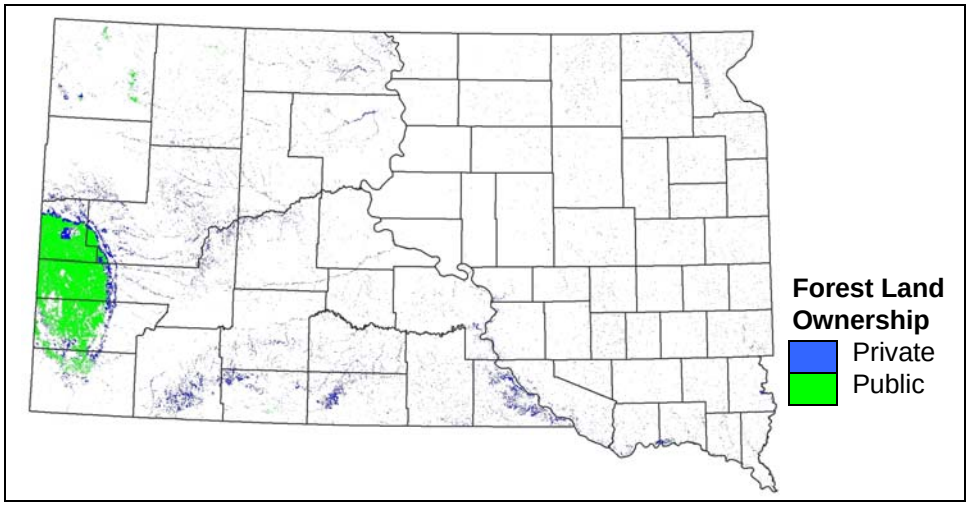


Figure 3. – Distribution of forest land by major owner group, South Dakota, 2007.

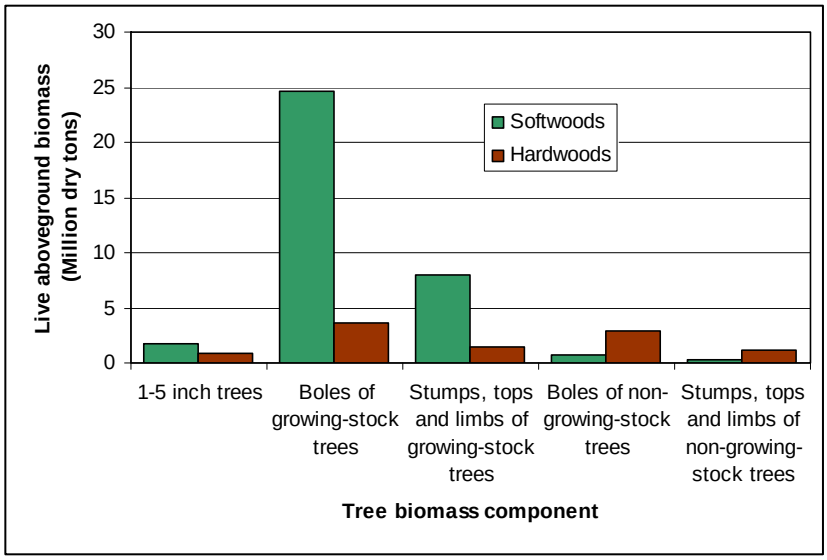


Figure 4. – Live aboveground tree biomass on timberland by softwood/hardwood and tree biomass component, South Dakota, 2007.

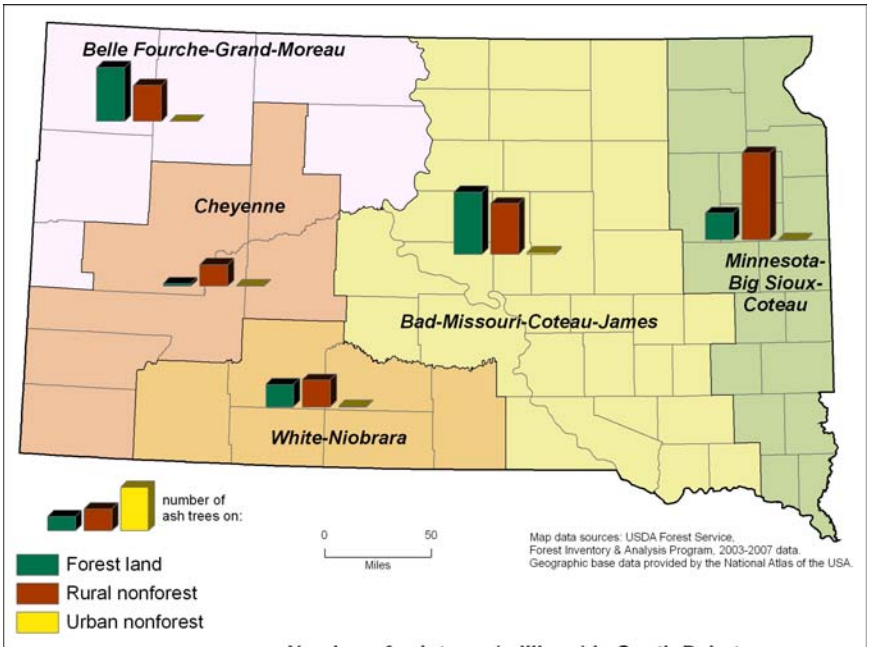
Great Plains Tree and Forest Invasives Initiative

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

Emerald ash borer (EAB) 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, Virginia, West Virginia and Ontario, Canada. In 2008, EAB was also discovered in Missouri and Wisconsin. Across the United States, hundreds of millions more ash trees are at risk.

A $500,000 seed grant by the U.S. Forest Service is allowing 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. The Great Plains Tree and Forest Invasives Initiative (Great Plains Initiative) gives state forestry agencies the opportunity to work together to create public awareness, promote alternatives to ash tree plantings, and prepare for EAB's arrival by assessing the region's tree resources and determining and addressing the potential impacts of EAB to those resources. One of the goals of the Great Plains Initiative is to assess the ash resource in the Plains States.

In 2008, there were 198 urban and 100 rural plots that were measured in South Dakota. Ash is the fifth most abundant forest land tree species, with an estimated 21 million ash trees (1-inch diameter or greater). But the measurement plots from the Great Plains Initiative are finding that the greatest percent of the ash resource (28 million trees) is in rural, nonforest areas (Fig. 5). These areas include windbreaks, shelterbelts, other agricultural land and farmsteads with trees, and riparian wooded strips. There are another 1 million ash trees in the urban areas of South Dakota. Ash is the most common street tree in the State with over 36 percent of the total street tree population (Ball et al. 2007).



Number of ash trees (millions) in South Dakota on:

River Basin	Forest land	Rural nonforest land	Urban nonforest land
Belle Fourche-Grand-Moreau	6.73	4.49	--
Cheyenne	0.32	2.70	0.07
White-Niobrara	2.83	3.37	0.12
Bad-Missouri-Coteau-James	7.77	6.35	0.21
Minnesota-Big Sioux-Coteau	3.33	10.87	0.74

Figure 5. – Number of ash trees 1 inch and greater by river basin area and land use, South Dakota.
Note: The number of forest land trees are estimated from Forest Inventory and Analysis' inventory of forest land (2003-2007). The number of rural and urban trees are estimated from the Great Plains Initiative's inventory of non forest land (2008).

Citation for this Publication

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FIA Program Information

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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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