

South Dakota's Forest Resources, 2011

Research Note NRS-132

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 on page 4 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.

	Estimate 2011	Sampling error (percent)	Change since 2006 (percent)
Forest Land Estimates			
Area (1,000 acres)	1,910.9	2.9	10.2
Number of live trees 1-inch diameter or larger (million trees)	549.9	6.0	5.3
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	45,702.7	4.3	4.5
Net volume in live trees (million ft ³)	2,289.6	4.2	3.8
Annual net growth of live trees (1,000 ft ³ /year)	33,292.2	21.6	-40.4
Annual mortality of live trees (1,000 ft ³ /year)	31,040.0	15.2	27.4
Annual harvest removals of live trees (1,000 ft ³ /year)	34,730.3	21.2	97.8
Annual other removals of live trees (1,000 ft ³ /year)	0.0	0.0	NA
Timberland Estimates			
Area (1,000 acres)	1,788.5	3.0	12
Number of live trees 1-inch diameter or larger (million trees)	520.0	6.1	6.9
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	43,407.8	4.4	7.1
Net volume in live trees (million ft ³)	2,196.1	4.4	6.3
Net volume of growing-stock trees (million ft ³)	1,877.4	4.6	-2.6
Annual net growth of growing-stock trees (1,000 ft ³)	32,952.4	23.0	-35
Annual mortality of growing-stock trees (1,000 ft ³ /year)	22,603.4	17.7	20.6
Annual harvest removals of growing-stock trees (1,000 ft ³ /year)	33,480.5	21.7	92.1
Annual other removals of growing-stock trees (1,000 ft ³ /year)	0.0	0.0	NA

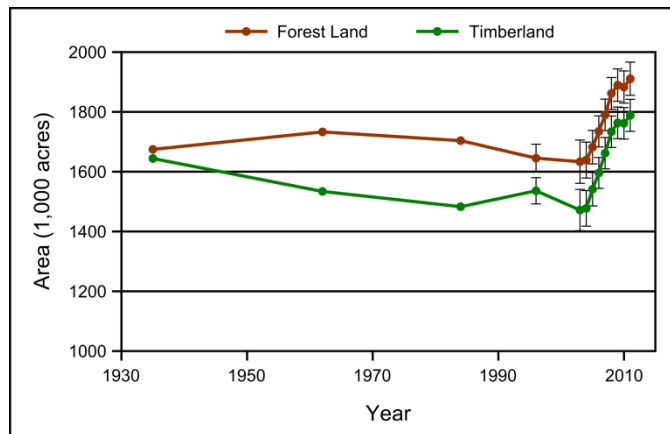


Figure 1. – Area of timberland and forest land by year, South Dakota.

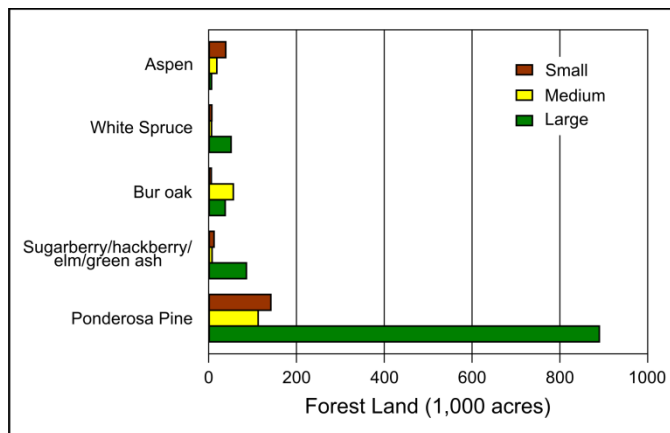


Figure 2. – Area of forest land by top five forest types and stand size class, South Dakota, 2007-2011.

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.

Note: When available, sampling errors/bars provided in figures and tables represent 68 percent confidence intervals.

Table 2. – Top 10 tree species by statewide volume estimates, South Dakota, 2007-2011.

Rank	Species	Volume of live trees on forest land (1,000,000 ft ³)	Sampling error (%)	Change since 2006 (%)	Volume of sawtimber trees on timberland (1,000,000 bdf)	Sampling error (%)	Change since 2006 (%)
1	Ponderosa pine	1,713.0	4.8	0.7	6,005.5	6.3	5.0
2	Bur oak	109.7	22.7	1.6	71.2	32.1	-37.7
3	Cottonwood	104.4	30.1	23.1	339.3	35.0	-13.8
4	Green ash	87.5	18.1	10.8	99.6	29.7	-5.1
5	White spruce	78.6	24.6	-7.5	234.7	27.6	-20.8
6	American elm	52.9	25.4	11.6	75.6	40.7	195.3
7	Boxelder	33.1	33.0	19.9	4.4	100.2	-75.7
8	Rocky Mountain juniper	26.3	27.8	53.8	0.0	0.0	0.0
9	Quaking aspen	18.4	28.7	-22.4	4.4	72.3	-48.8
10	Eastern redcedar	17.5	31.0	73.3	28.9	63.2	-10.2
	Other softwoods	4.6	88.1	0.0	1.3	85.0	0.0
	Other hardwoods	43.6	21.1	92.1	19.5	43.7	-10.6
	All Species	2,289.6	4.2	3.8	6,884.5	5.9	2.2

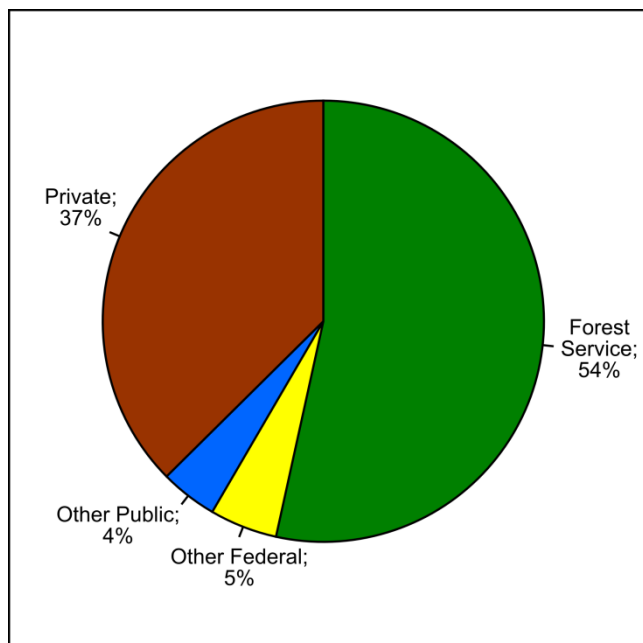


Figure 3. – Percent of forest land by ownership group.

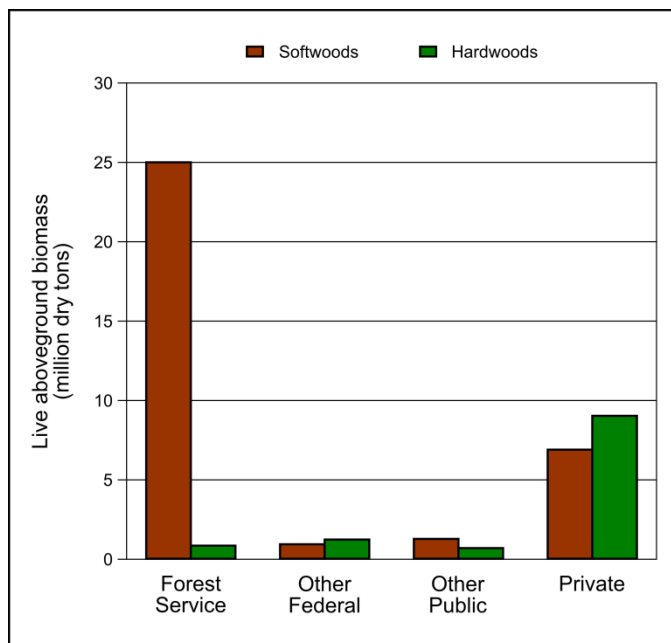


Figure 4. – Live aboveground tree biomass on forest land by ownership group and major species group.



Mountain Pine Beetle

The current mountain pine beetle (MPB) epidemic has been ongoing in the Black Hills since 1996. The U.S. Forest Service conducts annual aerial surveys to assess areas damaged by insects and disease, including the mountain pine beetle. It is estimated that MPB has led to ponderosa pine mortality on 369,000 acres of forest land between 1996 and 2010. The 2011 aerial survey estimated that 67,000 acres had been affected (Fig. 5). Most of the area affected has been in the Black Hills National Forest; however, there are concerns of MPB damage increasing on private land. The ponderosa pine forest type amounts to over 250,000 acres of private forest land in South Dakota (Fig. 6), which contains over 60 million ponderosa pine trees (Fig. 7). Efforts at MPB suppression continue to be carried out by the state of South Dakota and the Black Hills National Forest. For more information on the mountain pine beetle and guidance for landowners in the Black Hills region, see South Dakota's MPB website at <http://beatthebeetles.com>.

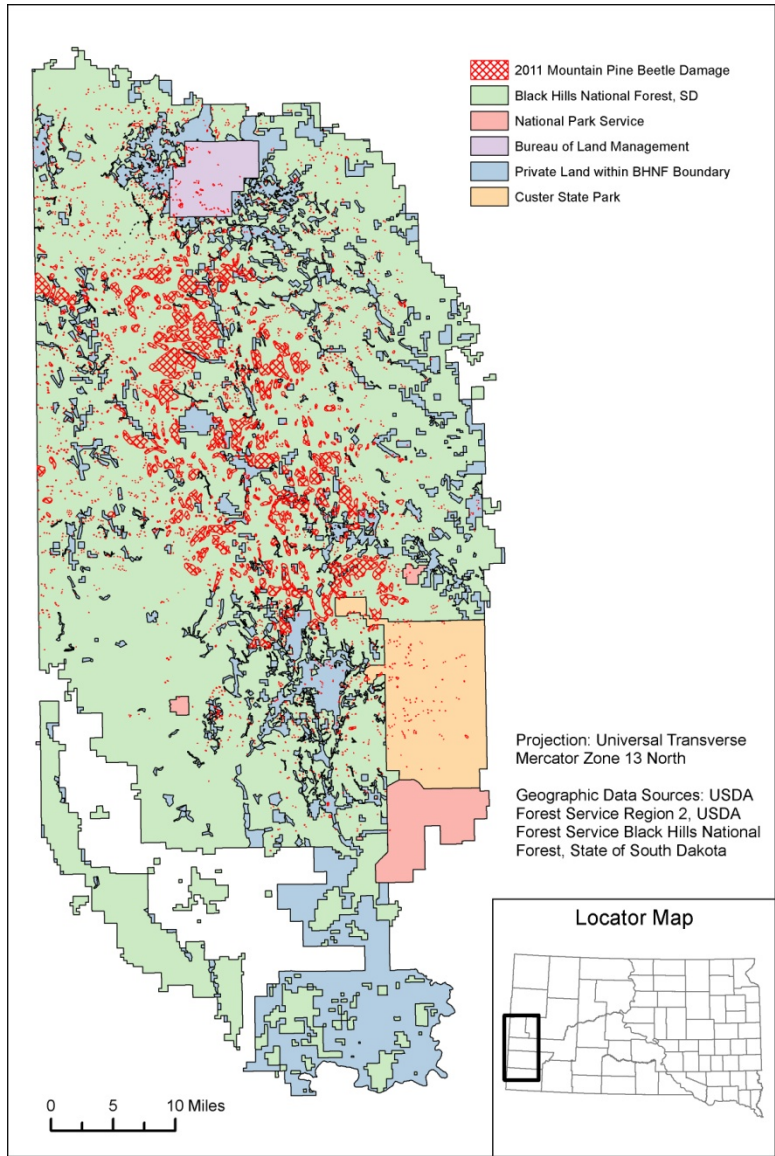


Figure 5. – Areas identified as MPB damage in the Black Hills region.

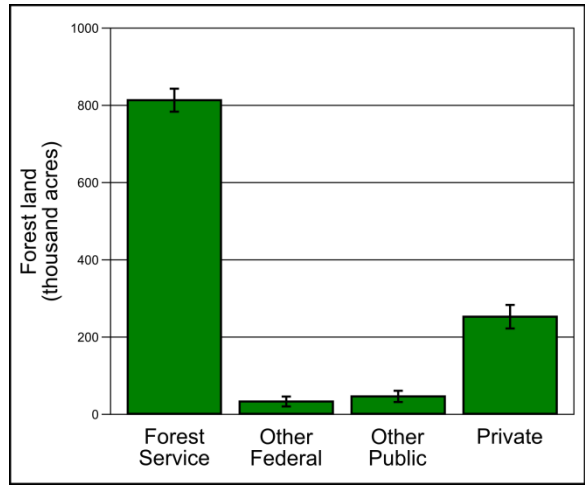


Figure 6. – Area of forest land in the ponderosa pine forest type by ownership group.

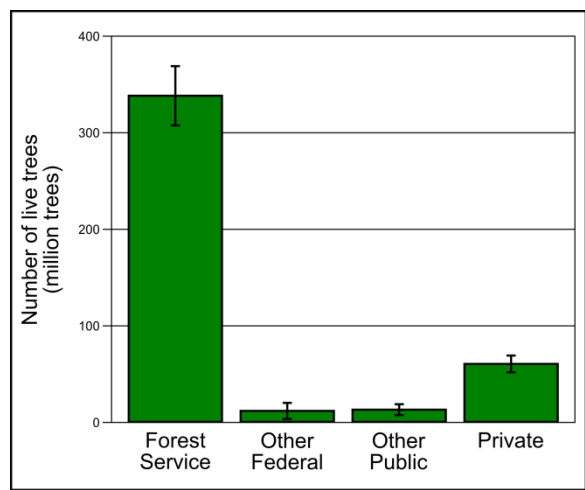


Figure 7. – Number of live ponderosa pine trees (d.b.h. ≥ 1 in.) by ownership group.

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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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