

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

North Dakota's Forest Resources, 2007

Research Note NRS-31

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. — Annual estimates, uncertainty, and change

	Estimate	Sampling error (%)	Change since 2006 (%)
Forest Land Estimates			
Area (1,000 acres)	700.2	6.2	-0.2
Number of live trees 1 inch diameter or larger (million trees)	322.3	10.3	-3.0
Dry biomass of live trees 1 inch diameter or larger (1,000 tons)	18,416.8	8.4	-4.9
Net volume in live trees (1,000,000 ft ³)	672.3	10.0	-3.7
Annual net growth of live trees (1,000 ft ³ /year)	NA	NA	NA
Annual mortality of live trees (1,000 ft ³ /year)	NA	NA	NA
Annual removals of live trees (1,000 ft ³ /year)	NA	NA	NA
Timberland Estimates			
Area (1,000 acres)	500.2	8.0	-1.6
Number of live trees 1 inch diameter or larger (million trees)	228.8	13.2	-4.7
Dry biomass of live trees 1 inch diameter or larger (1,000 tons)	14,655.1	10.5	-5.6
Net volume in live trees (1,000,000 ft ³)	546.3	12.1	-4.7
Net volume of growing stock trees (1,000,000 ft ³)	335.3	15.0	-9.1
Annual net growth of growing stock trees (1,000 ft ³ /year)	NA	NA	NA
Annual mortality of growing stock trees (1,000 ft ³ /year)	NA	NA	NA
Annual removals of growing stock trees (1,000 ft ³ /year)	NA	NA	NA

NA Estimates have been removed due to significant sampling errors. Estimates are from forested plots that were originally measured in 2001 and 2002 and then remeasured in 2006 and 2007. This small sample size results in high sampling errors that will decrease as subsequent plots are remeasured.

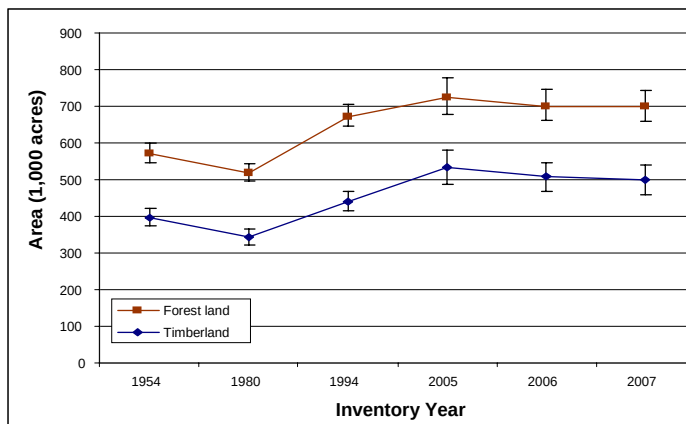


Figure 1. — Area of timberland and forest land by year.

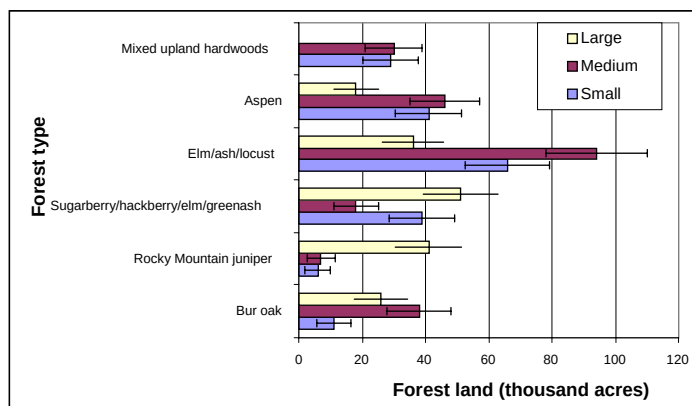


Figure 2. — Area of forest land area by top six forest types and stand size class.

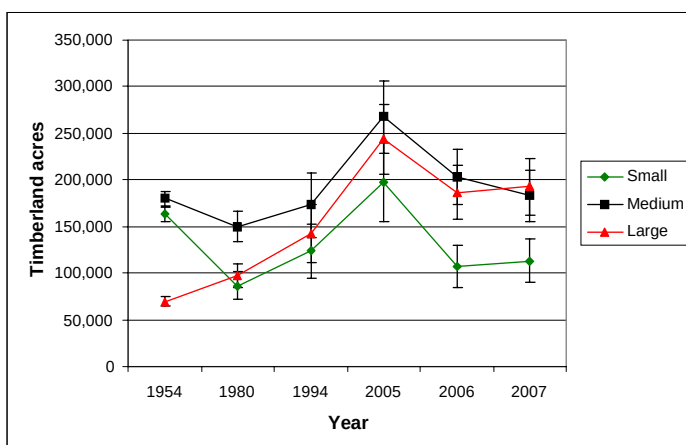


Figure 3. — Area of timberland by stand size class and year.

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

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

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

Rank	Species	Volume of live trees on timberland (million cubic feet)	Sampling error (%)	Change since 2006 (%)	Volume of sawtimber on timberland (million board feet)	Sampling error (%)	Change since 2006 (%)
1	Bur oak	155.4	16.1	-9.5	273.0	34.6	-9.5
2	Cottonwood	145.2	34.6	-2.6	407.7	47.5	-11.1
3	Green ash	119.5	12.3	-4.4	141.9	23.2	-7.6
4	Quaking aspen	72.5	22	-19.8	99.0	37.8	-22.0
5	Rocky Mountain juniper	59.1	28.6	24.2	0.0	0.0	0.0
6	Boxelder	49.4	21	5.6	23.8	73.8	11.7
7	American elm	28.8	34.9	-1.4	47.2	49.9	-0.8
8	American basswood	15.7	51.9	7.5	33.5	67.2	104.3
9	Balsam poplar	7.4	45.7	-12.9	14.2	99.7	0.0
10	Willow spp.	4.3	94.4	19	14.3	93.7	19.2
	Other softwood species	4.3	80.2	437.5	1.4	110.2	-6.7
	Other hardwood species	10.7	43.3	-1.8	3.8	99.2	0.0
	All species	672.3	10	-3.7	1,059.7	22.1	

Ownership of forest land

- Private forest land – 68.7 %
- Public forest land – 31.3 %

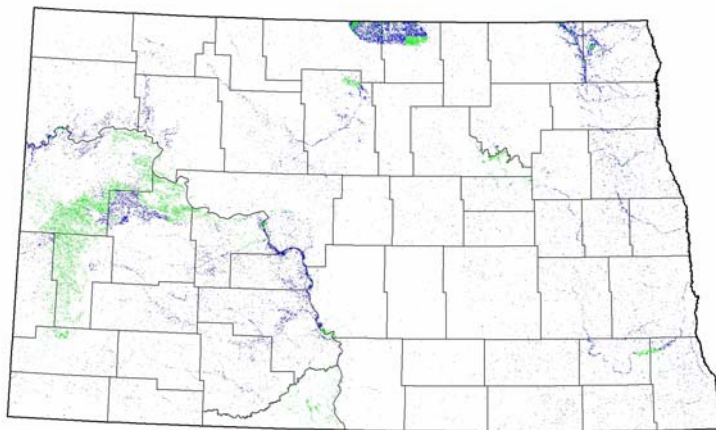


Figure 4. — Area of forest land by major owner group (1.5% of North Dakota is forested).

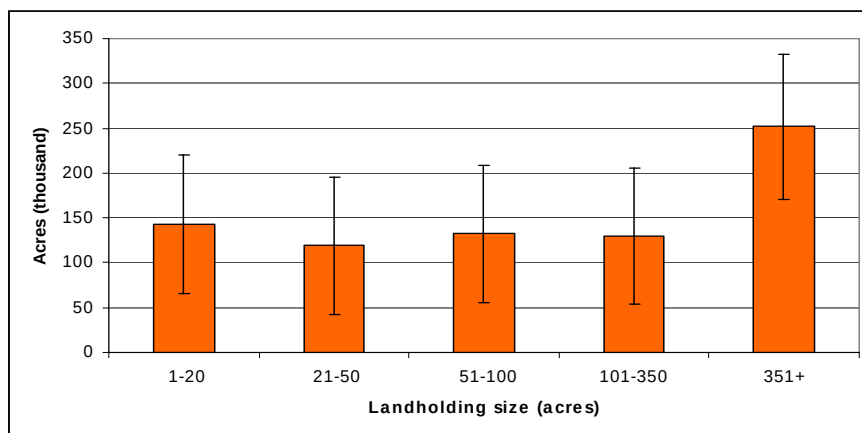


Figure 5. — Area of forest land by major owner group and size of private forest landholding in North and South Dakota.

North Dakota Issue Update – Riparian Forest Health

Bottomland riparian forests, consisting of American elm and green ash in eastern North Dakota and cottonwood forests along western rivers, represent a large portion of North Dakota's native forests. Eastern bottomland forests have been severely impacted by Dutch elm disease, which killed numerous American elms, the state tree (Fig. 6). Due to the effects of Dutch Elm disease, the species composition of eastern bottomland hardwoods forests has shifted toward one composed of green ash and boxelder. The decline of cottonwood forests (Fig. 7) along the Missouri River is largely attributed to the absence of regeneration and senescence of mature overstory trees. Encroachment of nonnative species (e.g., Russian olive, buckthorn and brome grass) has created additional management problems and negative ecological impacts.

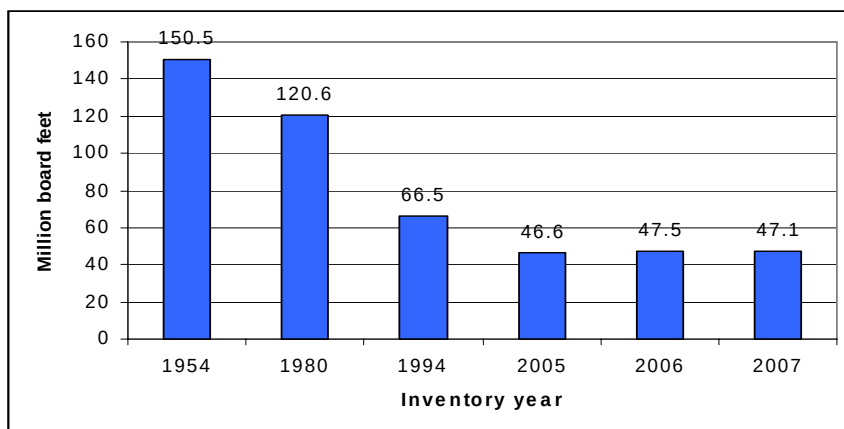


Figure 6. — Changes in American elm sawtimber volume by inventory year 1954-2007.

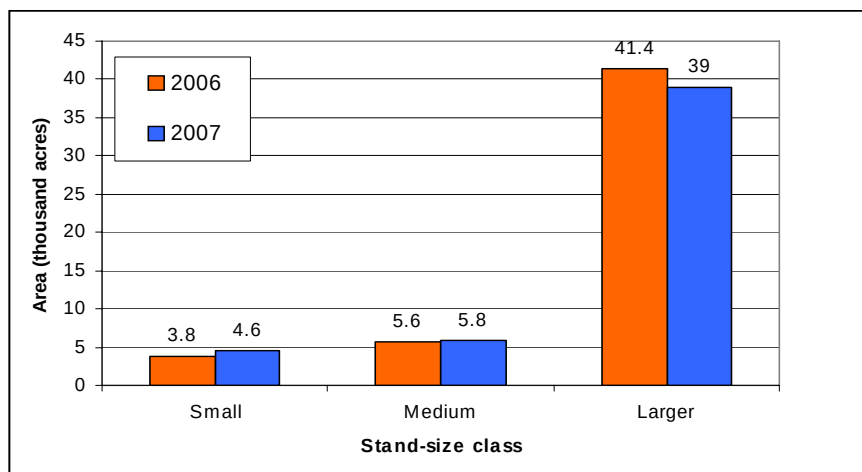


Figure 7. — Area of the cottonwood forest type on timberland by stand-size class, 2006 and 2007.

Citation for this Publication

Haugen, D.E.; Kangas, M. 2008. **North Dakota's forest resources, 2007**. Res. Note. NRS-31. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

FIA Program Information

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Additional North Dakota Inventory Information

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Estimates, Tabular Data, and Maps from Report may be generated at: <http://www.fia.fs.fed.us/tools-data/>

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