

# Jack pine

(*Pinus banksiana*)



Since 1983 both the volume and rate of growth of jack pine have decreased significantly. The number of seedlings and saplings, however, has increased by 60% in the last ten years.

Jack pine has a much higher ratio of mortality to growth than other species in the state. For instance, jack pine accounts for about 15% of all volume and growth of trees in Wisconsin, but 3% of total mortality.

Jack pine is an important timber species, accounting for 4.5% of roundwood product. Jack pine roundwood is mainly used for pulpwood with prices above average for all softwood species in the state.

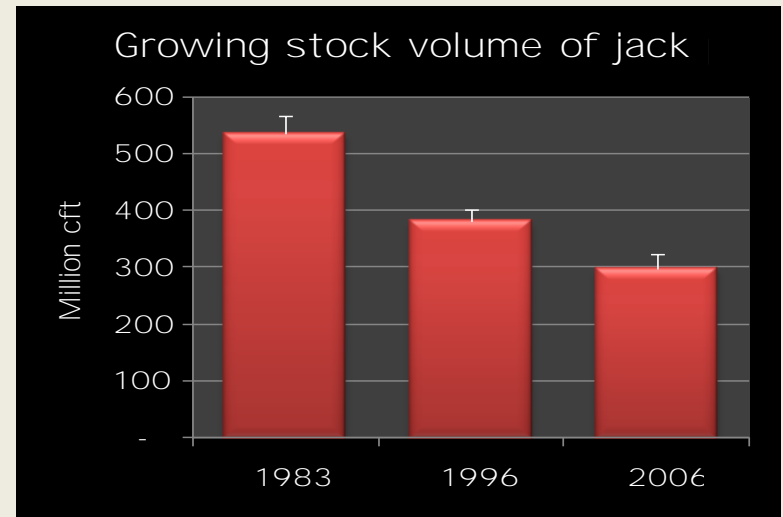
- < [How has the jack pine resource changed?](#)  
Growing stock volume and diameter class distribution: 1983, 1996, and 2000
- < [Where does jack pine grow in Wisconsin?](#)  
Growing stock volume by region with map
- < [How fast is jack pine growing?](#)  
Average annual net growth by region and year 1983, 1996, and 2000
- < [How healthy is jack pine in Wisconsin?](#)  
Average annual mortality: 1983, 1996, and 2000
- < [How much jack pine do we harvest?](#)  
Roundwood production by product 1997, 2002, and 2007
- < [How much jack pine is selling for?](#)  
Prices for cordwood and sawtimber: 2000 to present

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**Growing stock volume and diameter class distribution by year**

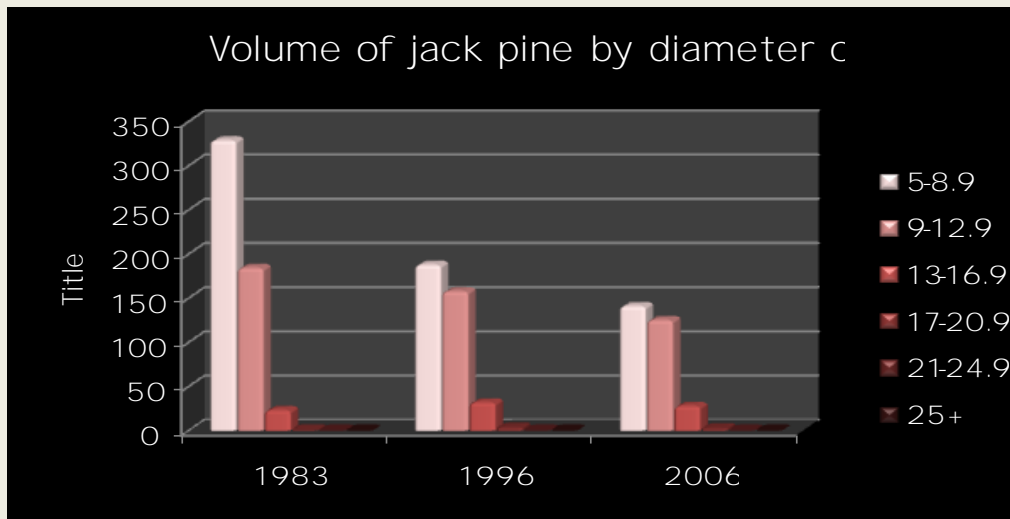
The growing stock volume of jack pine in Wisconsin in 2006 was about 298 million cubic feet, or 1.5% of total volume. This represents a decrease of 45% since 1983 and 22% since 1996.

Volume in growing stock trees is decreasing in all size classes, disproportionately in pole sized trees.

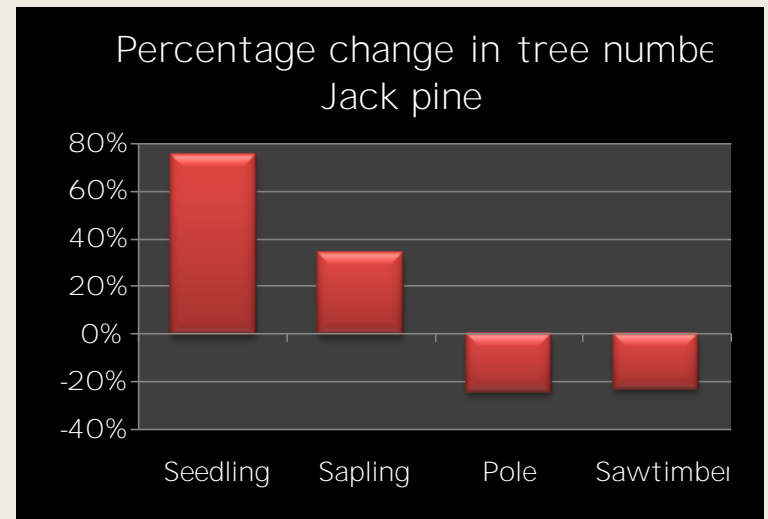
Although volume has decreased, the number of seedlings and saplings has increased since 1996, over 70% for seedlings and over 20% for saplings. This suggests that jack pine may retain a significant role in future forests.



Source: USDA Forest Inventory Analysis data 1983, 1996, and 2006



Growing stock volume (trees over 5 inches dbh) in million cubic feet in 1983, 1996, and 2006  
 Source: USDA Forest Inventory Analysis data 1983, 1996, and 2006

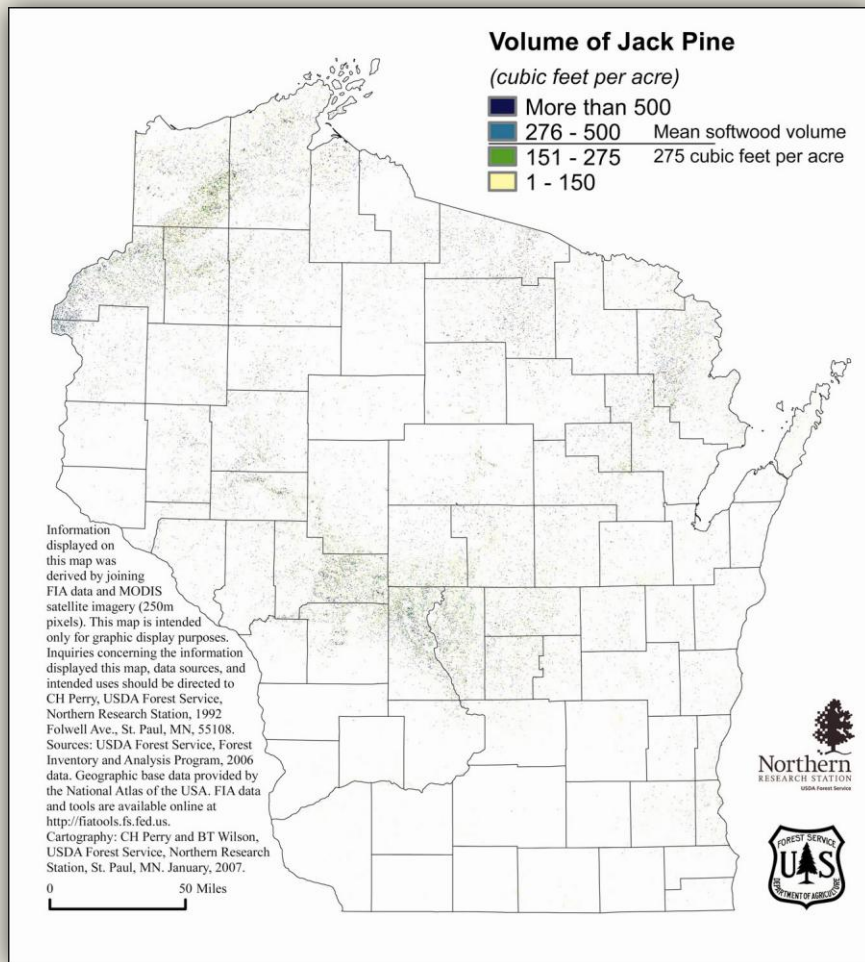


Percentage change in the number of live trees by class between 1996 and 2006  
 Source: USDA Forest Inventory Analysis data 1983, 1996, and 2006

# Jack pine growth in Wisconsin

## Growing stock volume by region with map

About ¾ of jack pine volume is found in the sandy north west and central Wisconsin with lesser amount northeast.



Growing stock volume (million cft) by species and region of the state.

Species	Central	North east	North west	South east	South west	Total
Jack pine	120	65	106	1	5	298
Percent of total	40%	22%	36%	0%	2%	100%

Source USDA Forest Service, Forest Inventory and Analysis 2006 data

*Jack pine*

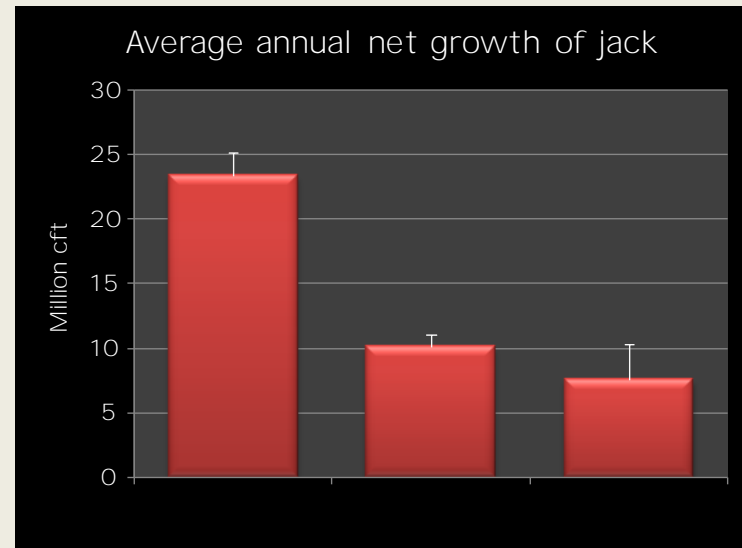
### Average annual net growth by region and year

Average annual net growth of jack pine have decrease by 68% since 1983 to 6 million cft/year currently. This represents about 1% of total volume growth in Wisconsin. Growth rates have remained statistically unchanged since 1996.

Average annual net growth (million/year) of growing stock and ratio of growth to volume by region of the state.

Region	Net growth	Percent of Total	Ratio of growth to volume
Central	3.3	43%	2.7%
Northeast	0.3	4%	0.5%
Northwest	4.1	54%	3.8%
Southeast	0.0	0%	0.0%
Southwest	-0.1	-1%	-1.8%
<b>Statewide</b>	<b>7.6</b>	<b>100%</b>	<b>2.5%</b>

Source: USDA Forest Inventory Analysis 2006



Source: USDA Forest Inventory & Analysis data: 1983, 1996, 2006

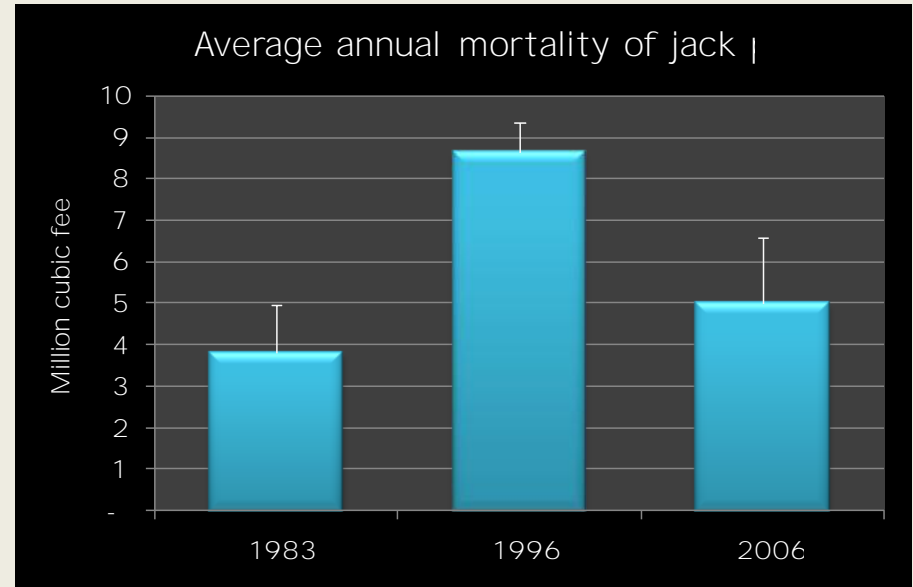
Northwest Wisconsin has the highest percentage of growth in jack pine (54%), and the highest ratio of growth volume in the state. The southwest region has a negative growth rate, indicating that mortality exceeds growth.

The statewide ratio for jack pine is 2.5%, lower than the average of 3.0% for all species.

Average annual mortality: 1983, 1996, and 2006

Average annual mortality of jack pine about 5 million cft per year, more than doubled between 1983 and 1996 and fell since 1996

The ratio of mortality to gross growth is 40% for jack pine, much higher than the statewide average of 24%. Whereas jack pine accounts for 1% of total growing stock volume in the state, this species makes up 3% of total mortality.



Source: USDA Forest Inventory & Analysis 1983, 1996, 2006

Mortality, gross growth (excluding mortality) and the ratio of mortality to gross growth

Species	Average annual mortality (cft)	Average annual gross growth (cft)	Mortality / growth
Jack Pine	5,020,457	12,692,521	40%

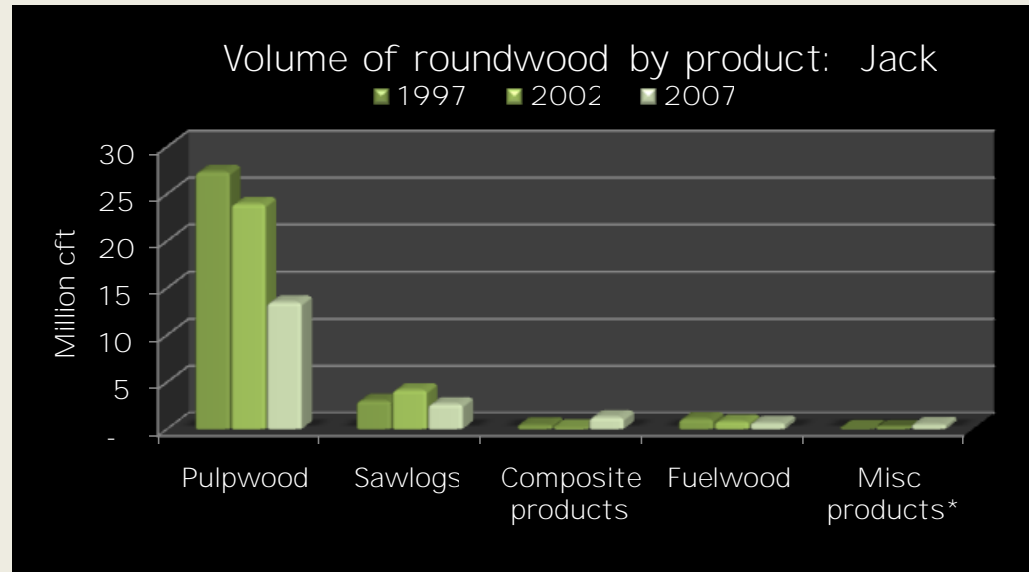
Source: USDA Forest Inventory & Analysis 2006



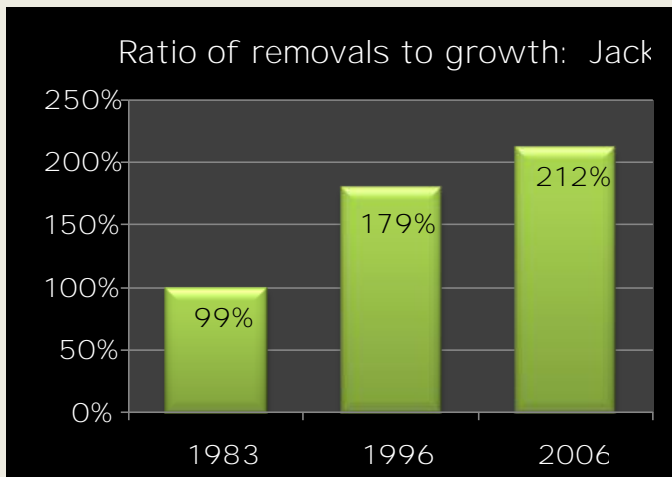
Jack pine  
**Roundwood production by product and year**

Jack pine produces 18.5 million cft or about 4% of Wisconsin's [roundwood](#)

Pulpwood production accounts for 73% of total Jack pine roundwood volume but has decreased by over 50% in the last 10 years. Jack pine pulp makes up 6% of the statewide pulpwood market, down from 14% just 10 years ago.



\*Miscellaneous products include posts and pilings and veneer.  
 Source: Timber Products Output Mapmaker, [http://ncrs2.fs.fed.us/4801/fiadb/rpa\\_tpo/wc\\_rpa\\_tpo.ASP](http://ncrs2.fs.fed.us/4801/fiadb/rpa_tpo/wc_rpa_tpo.ASP)



Source: USDA Forest Inventory & Analysis data: 1983, 1996, 2006

The ratio of removals to growth has more than doubled since 1983 and now stands at 212%, much higher than the average of 100% for all species and the highest for any species in the state.

This means that we are harvesting twice as much wood as is replaced by growth (minus mortality). This is due to both very high removals and very high mortality.

Prices for cordwood & sawtimber: 2000 to present

Due to the variability of timber prices from year to year, and region to region, two methods of reporting prices are presented here: Timber Mart North (chart on right) a weighted average stumpage price from Wisconsin Administrative Code Chapter NR 46 (table below).

Prices for jack pine pulpwood as reported in the Timber Mart North have steadily decreased since 2000. Sawlog prices have varied considerably but are currently at a time low of \$1 per MBF.

Average weighted prices for logs reported in Wisconsin administrative code, have varied considerably over time but are currently much lower than the statewide average for softwoods.

Source: Timber Mart North, George Banzhaf & Company, 8301 N. Allen Lane, Milwaukee, WI 53217

Average weighted stumpage prices (adjusted for inflation to 2007 dollars per MBF) by year for Wisconsin.

Product	2000	2001	2002	2003	2004	2005	2006	2007	Average for all softwoods 2000-2007
Bolts (per cord)		\$66	\$87					\$30	\$34
Cordwood (per cord)	\$51	\$59	\$56	\$55	\$53	\$58	\$45	\$32	\$28
Logs (per MBF)	\$43	\$117	\$51	\$60	\$69	\$145		\$12	\$111

Source: Wisconsin Administrative Code Chapter NR46, 2000 to 2007