

# Timber Harvest in Wisconsin



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In 2012, Wisconsin produced 2.2 million cords of pulpwood annually, most of which was hard maple, soft maple, aspen, red pine, and red oak. This is a 3% decrease from 2007 pulpwood production.

On public lands, 2.5% of county forest, 1.7% of state forest and only 1.0 % of national forest accessible acres were harvested in 2014. Harvested volume per acre is highest on state lands but value per acre is highest on county lands.

There are approximately 630 million oven-dry tons of biomass in Wisconsin, 58% of which is located in the northern part of the state About  $\frac{2}{3}$  of this is considered merchantable.

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Biomass (oven-dry tons by species group and region of the state)



*“How much pulpwood do we produce?”*  
**Pulpwood production by species and region of the state**

Table 1. Pulpwood production by species (standard cords)

	2007	2012	Percent change
Hard maple	313,709	369,507	18%
Soft maple	310,678	329,326	6%
Aspen	375,838	311,387	-17%
Red pine	160,380	238,594	49%
Red oak	233,617	217,980	-7%
Paper birch	242,602	148,438	-39%
Ash	89,906	127,930	42%
Jack pine	70,425	127,734	81%
White pine	73,567	81,551	11%
Balsam fir	58,361	67,281	15%
Spruce	80,274	42,113	-48%
Hemlock	15,791	27,355	73%
White oak	49,364	18,937	-62%
Yellow birch	27,641	12,841	-54%
Basswood	82,835	11,120	-87%
Tamarack	5,221	6,908	32%
Elm	19,059	3,426	-82%
Beech	2,557	2,678	5%
Northern white-cedar	352	1,612	358%
Black cherry	567	1,504	165%
Hickory	442	1,461	230%
Cottonwood	245	105	-57%
Black walnut	247	70	-71%
<b>Total</b>	<b>2,216,451</b>	<b>2,152,559</b>	<b>-3%</b>

\*Standard cords unpeeled , not including composite

Source: Ronald Piva, USDA Forest Service, Northern Research Station, St. Paul MN

Pulpwood production decreased 3% from 2007 to 2012 (Table 1). Five species groups accounted for 70% of pulpwood: hard maple, soft maple, aspen, red pine and the red oaks.

Among major species, some of the largest gains in pulpwood production were for hard maple, red pine, ash and jack pine and some of the largest losses were in aspen, paper birch, spruce, white oaks and basswood pulpwood (Chart 1).

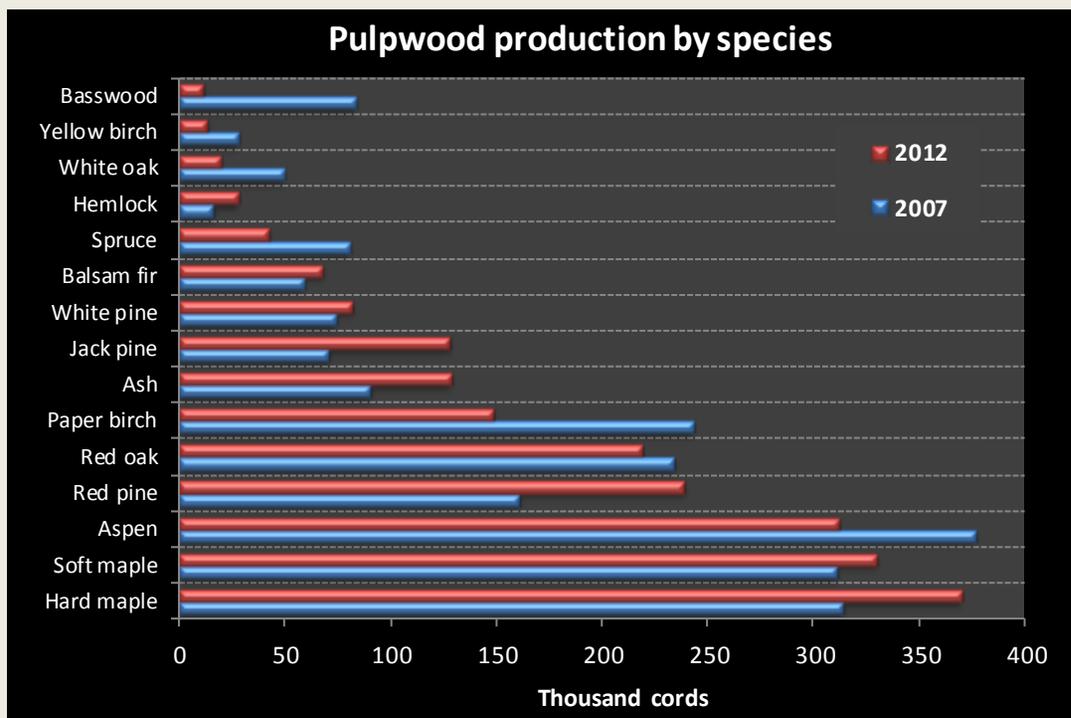


Chart 1. Pulpwood production by species

Source: Ronald Piva, USDA Forest Service, Northern Research Station, St. Paul MN



*“How much fuelwood do we produce?”*

**Fuelwood production by species and region of the state**

Table 2. Residential fuelwood production by region of the state (standard cords)

Species	Central	North west	South east	North east	South west	Total
Red oak	150,046	101,444	85,838	71,692	73,437	482,457
Aspen/balsam poplar	19,826	40,788	7,411	67,859	4,217	140,101
Hard maple	25,685	45,677	5,102	47,665	5,812	129,940
White oak	38,756	10,167	35,050	1,680	14,150	99,803
Soft maple	19,847	27,436	23,753	19,426	8,011	98,472
Paper birch	1,673	23,401	19,701	19,329	5,097	69,202
Elm	11,196	4,664	20,972	13,466	11,733	62,031
Ash	2,782	7,995	31,005	1,594	4,888	48,265
White pine	3,612	1,201	15,327	476	1,644	22,260
Jack pine	8,126	6,177	19	2,235	822	17,379
Yellow birch	1,445	5,703	--	4,441	572	12,162
Red pine	2,696	349	8	923	7,810	11,786
Other hardwoods	136	6	6,811	241	78	7,272
Black walnut	539	--	--	--	5,155	5,694
Hickory	266	1	2,153	1,910	62	4,391
N white-cedar	202	--	4,172	5	--	4,379
Black cherry	13	1	2,337	23	1,844	4,218
Basswood	40	1,205	836	2,098	--	4,179
Beech	--	--	100	472	--	572
Spruce	--	--	--	250	--	250
Cottonwood	--	--	189	--	--	189
<b>Total</b>	<b>286,886</b>	<b>276,212</b>	<b>260,785</b>	<b>255,785</b>	<b>145,332</b>	<b>1,225,000</b>

Source: Ronald Piva, USDA Forest Service, North Research Station, St. Paul MN

White and red oaks account for almost half of fuelwood production with maple and aspen making up another 22% (Chart 2). Northwest and Central Wisconsin produce about half of all fuelwood (Table 2).

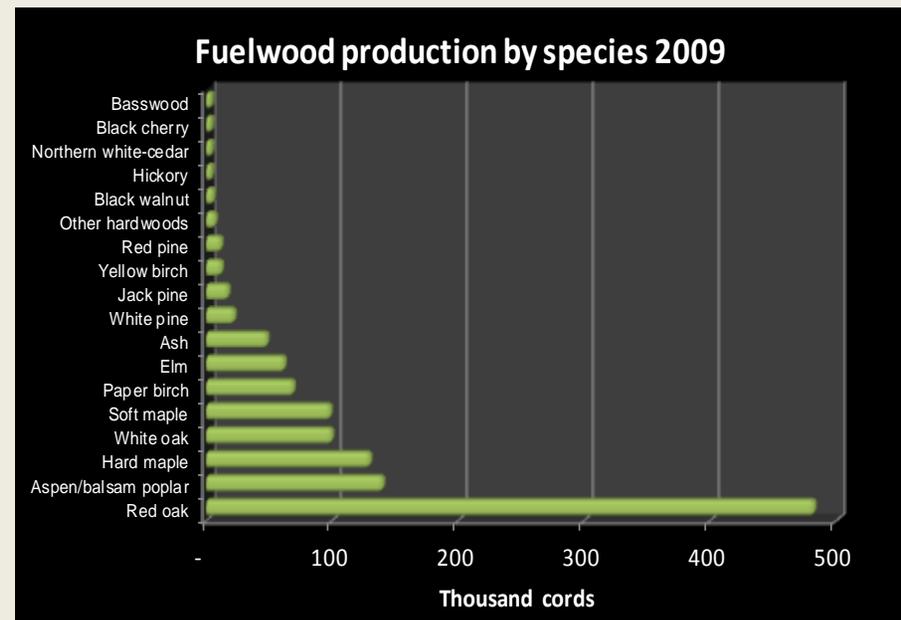


Chart 2. Fuelwood production by species ( thousand cords).

Source: Ronald Piva, USDA Forest Service, Northern Research Station, St. Paul MN



*“How much wood do we produce on state and county lands?”*  
**Timber sales on state and county lands in Wisconsin**

State and county forestlands generated about \$46.8 million worth of timber revenue in 2014 (Table 3). Although county lands accounted for 75% of total sales and cords sold, sales on state forests are larger (92 acres per sale compared to 68 on county lands) and generate higher revenues per sale. County forests, however, generate more revenue per acre.

Of the 2.4 million acres of county forests, 49,593 were harvested in 2014 (a decrease of 2.8% from 2013). The value of this timber, however, was up 12.5% over 2013. Of the approximately one million acres of state land, 16,530 were harvested in 2014 (a decrease of 2.3% from 2013). Stumpage value increased over 4% from the previous year.

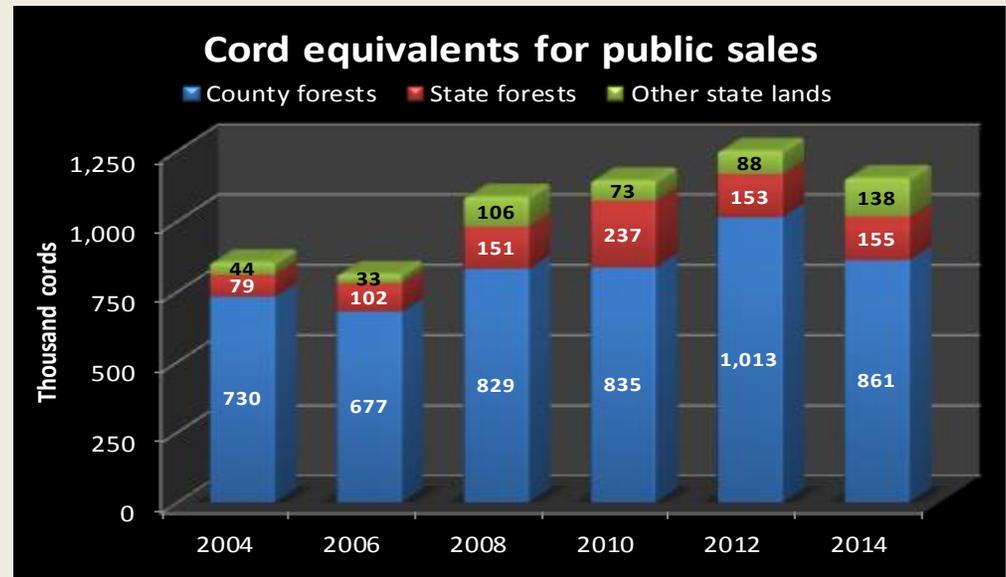


Chart 3. Cord equivalent sales on public lands.  
 Source: Joe Schwantes, County forest specialist, Dept of Natural Resources, Madison WI

Table 3. 2014 completed sales on public lands ("B" notices)

	# Sales completed	# Acres harvested	Acres per sale	# MBF sold	# Cords sold	All products: # Cord Equiv	Stumpage value	Value per sale	Value per acre
<b>State Forests</b>	103	9,460	92	1,470	151,214	154,503	\$6,246,162	\$60,642	\$660
<b>Other State Lands</b>	131	7,070	54	2,942	131,150	137,676	\$4,836,208	\$36,918	\$684
<b>County Forests</b>	727	49,563	68	20,998	814,137	860,884	\$35,680,651	\$49,079	\$720
<b>Total</b>	<b>961</b>	<b>66093</b>	<b>69</b>	<b>25,409</b>	<b>1,096,500</b>	<b>1,153,063</b>	<b>\$ 46,763,020</b>	<b>\$48,661</b>	<b>\$708</b>

Source: Joe Schwantes, County forest specialist, Dept of Natural Resources, Madison WI

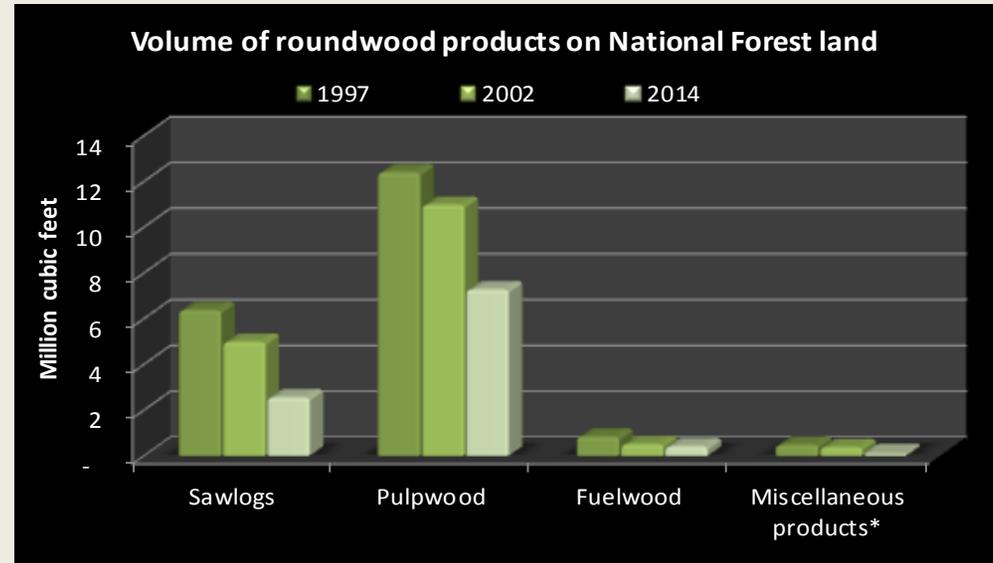
*“How much wood do we produce on national forest lands?”*

**Volume of roundwood by product on federal lands**

Only 8,277 acres were harvested on the Chequamegon and Nicolet national forests in 2014 compared to over 66,000 acres on state and county lands (Table 4). Total stumpage value in 2014 was about \$5.7 million on federal lands, compared to a total of \$57.8 million on state and county lands.

A comparison between the federal, state, and county shows that not only are the national forests harvesting only 1.0% of their accessible acreage annually (compared to an average 2.0% for state and county), but the average volume and sale value per harvested acre are also lower on federal lands.

Harvest on the national forests by product in 2013 was: sawlogs – 2,554 mcf, pulpwood – 7,273 mcf, fuelwood – 415 mcf and miscellaneous products (biomass) – 105 mcf (Chart 4).



\*Miscellaneous products include green and dry biomass.  
 Chart 4. Roundwood production on national forest lands. Source: <sup>1</sup>Kristi Keach, Timber Resource Specialist, USDA Forest Service, Chequamegon-Nicolet National Forests (FY14 data)

Table 4. A comparison of harvest levels on federal, state, and county lands (2014).

Landowner	Total acres forested	Total acres harvested	Percent of forested acres that are harvested	Volume harvested (cord equiv)	Volume per harvested acre (cord equiv/acre)	Total sale value	Sale value per harvested acre
<b>Forest service<sup>1</sup></b>	1,319,000 total (864,000 legally accessible)	8,277	0.6% of total acres (1.0% of accessible)	124,386 (59,826 MBF)	15.0	\$5,674,619	\$686
<b>State<sup>2</sup></b>	979,081	16,530	1.7%	292,179	17.7	\$11,082,369	\$708
<b>County<sup>2</sup></b>	1,989,975	49,563	2.5%	860,884	13.0	\$46,763,020	\$720

<sup>1</sup>Sandra Avedisian, Timber Resource Specialist, USDA Forest Service, Chequamegon-Nicolet National Forests (FY14 data)

<sup>2</sup>Source: Joe Schwantes, County forest specialist, Dept of Natural Resources, Madison WI (2014 CY data)



*“What kind of forest products do we harvest?”*

**Wisconsin’s roundwood production by species group and product**

Total roundwood production was approx. 383 million cft in 2009-2012, of which 82 million is fuelwood and 300 million is industrial roundwood (Table 5). Pulpwood accounts for 44% of roundwood (Chart 5). Sawlogs and veneer make up an additional 21% of production. Both have fallen about 23% since 2004. Fuelwood production has more than doubled.

Table 5. Total roundwood production (thousand cft) by species group and product (2009-2012).

Species	Pulp wood	Comp panels	Saw logs	Veneer logs	Other indus	Total	Resid fuelwd <sup>a</sup>	Total
Aspen	24,600	34,775	8,186	101	256	67,918	9,807	77,725
Hard maple	29,191	246	13,494	1,209	48	44,188	9,096	53,284
N red oak	12,644		8,386	825	84	21,939	22,654	44,593
Soft maple	26,017	205	3,949	39	40	30,249	6,893	37,142
Red pine	18,849	175	15,792	0	1,308	36,124	825	36,949
Paper birch	11,727	177	1,380	432	51	13,767	4,844	18,611
Basswood	878	4,854	3,015	97	7,124	15,969	293	16,262
Jack pine	10,091	87	4,362	1	94	14,635	1,217	15,852
Ash	10,106	-	2,234	59	66	12,465	3,379	15,844
Other red oaks	4,577	-	2,750	270.6		7,597	7,430	15,027
White oak	1,496	-	3,411	259	165	5,331	6,986	12,317
White pine	6,443	465	2,921	17	888	10,733	1,558	12,291
Balsam fir	5,315	239	242	-	1	5,797	0	5,797
Elm	271	-	242	4	1	518	4,342	4,860
Spruce	3,327	47	977	-	18	4,369	18	4,387
Yellow birch	1,014	10	1,133	44	0	2,202	851	3,053
Hemlock	2,161	1	269	-	0	2,431	0	2,431
Black walnut	-	-	600	144	0	744	399	1,143
Black cherry	119	-	638	90	0	847	295	1,142
Hickory	115	-	402	74	0	591	307	898
N white-cedar	127	5	-	-	-	133	142	275
Minor species	984	12	1,038	199	211	2,445	562	3,007
<b>Total</b>	<b>170,052</b>	<b>41,299</b>	<b>75,421</b>	<b>3,865</b>	<b>10,355</b>	<b>300,992</b>	<b>81,898</b>	<b>382,890</b>

<sup>a</sup> Residential fuelwood is from the U.S. Energy Information Administration . Note: The pulpwood and composite panel are from 2012. the saw logs, veneer logs, and other industrial products are from 2009.

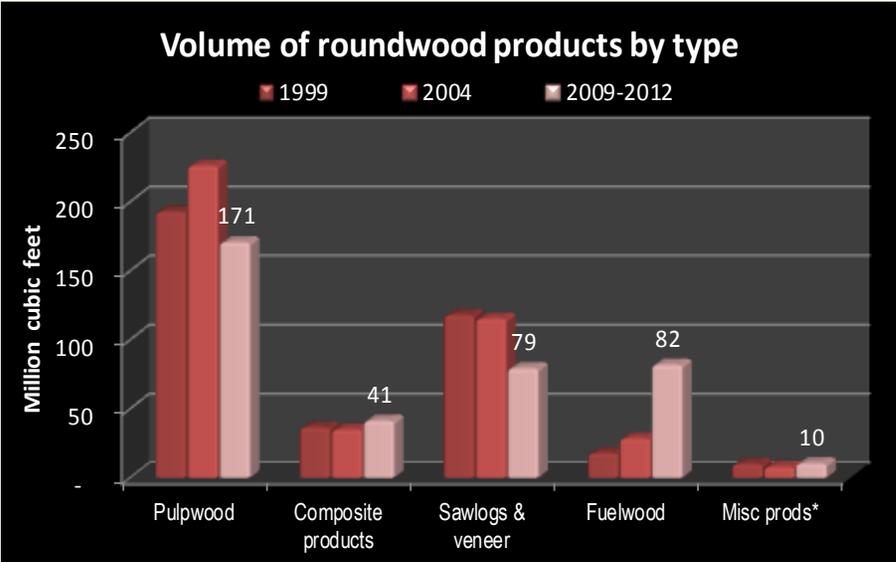


Chart 5. Volume of roundwood products. Numbers for pulpwood and composite products are from 2012. Numbers for sawlogs and fuelwood are from 2009.

\*Miscellaneous products include posts, poles and pilings.

Source: Ronald Piva, USDA Forest Service, Northern Research Station, St. Paul MN



*“How much woody biomass do we have and where?”*

**Biomass volume by unit and species group**

Table 6. All live tree and sapling aboveground biomass on forestland (million oven-dry short tons) by species group and region of the state .

Species group	Northeast	Northwest	Central	Southwest	Southeast	Total
Ash	10.0	15.5	6.3	4.5	9.2	45.5
Aspen	17.7	25.9	7.4	4.1	2.1	57.1
Balsam Fir	5.6	5.2	0.4	0.0	0.1	11.3
Basswood	6.3	7.0	2.3	3.6	2.2	21.4
Beech	0.6	0.0	0.0	0.0	0.5	1.2
Black cherry	1.8	1.6	1.9	3.4	2.8	11.5
Black walnut	0.0	0.0	0.1	2.1	1.3	3.5
Cottonwood	0.2	0.0	0.1	0.7	0.6	1.6
Elm	1.2	1.7	1.8	5.7	2.4	12.8
Hard maple	35.5	31.7	5.6	6.6	3.9	83.4
Hemlock	5.7	2.8	0.7	0.0	0.4	9.6
Hickory	0.2	0.2	1.7	7.1	2.2	11.4
Jack pine	1.2	1.9	2.3	0.1	0.0	5.4
Other red oaks	3.9	5.3	16.8	6.1	2.2	34.2
N red oak	11.3	18.7	11.7	14.9	3.7	60.2
Nwhite-cedar	6.7	3.3	0.7	0.0	2.5	13.2
Paper Birch	4.9	6.0	2.1	2.3	1.0	16.4
Red pine	11.0	8.9	9.2	1.5	0.8	31.3
Soft maple	19.4	28.6	20.7	5.4	4.2	78.3
Spruce	4.9	4.4	0.6	0.3	0.3	10.5
Tamarack	3.5	3.8	1.1	0.0	0.2	8.6
White oaks	0.7	6.5	11.5	14.6	7.3	40.6
White pine	9.9	6.3	9.8	2.2	1.8	30.0
Yellow birch	3.7	5.2	1.0	0.1	0.5	10.6
Minor species	1.7	2.8	3.3	7.1	5.0	20.0
<b>Total</b>	<b>167.8</b>	<b>193.2</b>	<b>119.1</b>	<b>92.3</b>	<b>57.3</b>	<b>629.6</b>

There were 630 million oven-dry tons (ODT) of biomass on timberland in Wisconsin in 2014 (424 of which was classified as merchantable). This is an increase of 94 million ODT or 17%, since 1996. As with volume, most biomass is located in northern Wisconsin (58%) with lesser amounts in southern (24%) and central (19%) parts of the state (Chart 6).

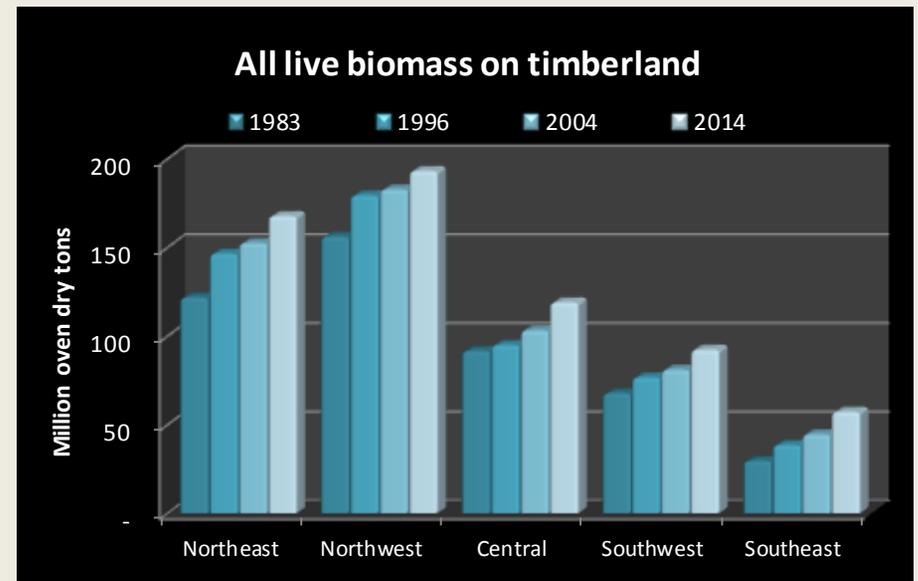


Chart 6. All live biomass on timberland (million oven-dry tons). Source: USDA Forest Inventory and Analysis data.

For a table of **Biomass by County for 2012** go to:

<http://dnr.wi.gov/topic/ForestBusinesses/documents/tables/BiomassByCounty.pdf>