

# 2018 Wood Processor Report

## Including Import and Export Information

Compiled from 2018 Wood Processor Reports  
pursuant to 12 M.R.S. § 8884  
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Department of Agriculture, Conservation and Forestry

Maine Forest Service

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## What is the purpose of the Wood Processor Report?

Each year, the Maine Forest Service collects information from Maine primary wood processors regarding the volume of wood processed in Maine. Information is also collected for volumes imported into Maine or exported from Maine.

*This report summarizes, for 2018, the volume of wood harvested in Maine, processed by Maine mills, and imported into or exported from Maine.*

Wood flow data is summarized for sawlogs, pulpwood, biomass chips, other miscellaneous products, and imports and exports.

## How was this information collected?

In 2018, the Maine Forest Service received wood processor reports from 118 primary processing mills (sawmills, pulp and paper mills), 43 portable sawmills, 91 firewood dealers, 118 loggers and brokers who may have exported wood, 25 concentration yards, and 8 mills that burn some form of wood for energy. Volume information contained in these individual reports is confidential and by law shall not be made public, except that summary reports may be published using aggregated data which does not reveal the activities of an individual person or firm (12 M.R.S. §8884, sub-§3, "Forest Landowner and Wood Processor Reporting Requirements").

## Interpreting Harvest, Export, Import, and Processed by the Maine Forest Products Industry

### Maine wood processed

wood that is harvested in Maine and used by a Maine primary processing facility.

### Exported from Maine without processing

wood that is harvested in Maine and exported out of state without processing by a Maine mill.

### Imported from out of state

wood that is imported from out of state (not harvested in Maine) and processed by a Maine mill.

### Total processed by Maine Forest Products Industry

total volume of wood processed in Maine, regardless of origin.

## Definitions and Notes

### 1. Biomass Chips:

produced in the woods by chipping any or all of the following: tree limbs and tops, cull trees, and smaller trees not suitable for higher value products. Usually used as energy fuel, biomass chips may also be used for sludge composting, playground padding, and mulch.

### 2. Bole/Stem Pulp Chips:

produced in the woods by chipping the lower portion of the tree. These chips are not free of bark, but are suitable for use in pulp mills.

### 3. Cords (cDs):

a stack of fuel wood, pulpwood, or other material that measures 4 x 4 x 8 feet, or 128 cubic feet.

### 4. Construction and Demolition Waste (C and D Waste):

ground up wooden debris left over from construction and demolition that is burned by wood to energy facilities.

### 5. Firewood: roundwood that is burned for home heating.

### 6. Hog Fuel:

any woody residue produced from mills, such as sawdust, bark or shavings, and used as energy fuel.

### 7. Pellets:

wood fuel generally made from dried wood fiber compressed into uniform diameter for burning.

### 8. Pulpwood:

roundwood that is used for the production of wood pulp. Generally sold as tree length, 16', 8' or 4' lengths.

### 9. Sawlogs:

a log that meets minimum standards of diameter, length, and defect, intended for sawing into boards or lumber. Includes sawlogs, studwood, pallet logs, boltwood, and veneer logs.

### 10. Sawmill residues:

clean, pulp-quality chips made from debarked slabs and edgings at sawmills. Used by pulp and paper mills to produce wood pulp.

### 11. Thousand Board Feet (MBF):

One thousand board feet. One board foot is the amount of wood contained in an unfinished board 1" thick, 12" long, and 12" wide.

## Report Highlights

- Maine's forest products industry consumed 13 million green ton equivalents in 2018, up from 12.8 million green ton equivalents in 2017. Seventy eight percent of the processing total (10.1 million green ton equivalents) was harvested in Maine, while 22% (2.9 million green ton equivalents) was imported.
- Maine landowners harvested 12.1 million green ton equivalents of wood in 2018, down from 2017 (12.3 million green ton equivalents). Seventeen percent (2.1 million green ton equivalents) of the 2018 harvest was exported, down from 2017 (2.3 million green ton equivalents).
- Maine's pulp and paper producers processed 6.5 million green tons of pulpwood, same as 2017 consumption. Seventy-four percent of the pulpwood originated from Maine's forests; 26% was imported.
- Biomass harvesting volume was 2.2 million tons in 2018, down from 2017 (2.4 million tons). Biomass energy facilities consumed 2.2 million tons in 2018, down 3% from 2017 (2.3 million tons). Eighty-six percent originated from Maine's forests; 14% was imported.
- Maine's sawlog processing in 2018 was 0.93 billion board feet, up from 2017 (0.86 billion board feet).
- Maine's forest products industry imported 2.9 million green tons during 2018, compared to 2.8 million tons in 2017. 2.0 million green tons were exported in 2018, down from 2017 (2.3 million tons).

# SAWLOGS

## 2018 Wood flow in Maine as reported to the Maine Forest Service (in MBF)

County	Spruce and Fir	White and Red Pine	Hemlock	Cedar	Other Softwood	Total Softwood	Beech	White Birch	Yellow Birch	Sugar Maple	Red Maple	Oak	Ash	Aspen	Other Hardwood	Total Hardwood	Total Sawlogs
ANDROSCOGGIN	154	10,180	566	0	0	10,900	156	107	111	216	341	2,033	216	58	5	3,243	14,143
AROOSTOOK	212,198	1,721	40	12,867	6	226,832	812	4,612	4,519	10,398	6,560	29	706	60,927	341	88,904	315,736
CUMBERLAND	57	18,024	1,515	0	0	19,596	258	110	53	192	287	1,355	114	17	4	2,390	21,986
FRANKLIN	11,934	7,918	439	57	29	20,377	231	1,736	393	1,265	549	990	668	227	22	6,081	26,458
HANCOCK	2,434	10,545	403	102	0	13,484	38	349	180	500	93	191	330	641	751	3,073	16,557
KENNEBEC	294	13,882	2,780	5	6	16,967	168	710	128	327	392	1,474	442	188	7	3,836	20,803
KNOX	111	1,484	270	0	0	1,865	11	94	40	50	27	333	31	29	2	617	2,482
LINCOLN	159	7,646	974	0	0	8,779	1	11	13	50	21	519	13	8	0	636	9,415
OXFORD	24,536	30,411	2,303	0	0	57,250	739	1,068	922	1,927	1,323	2,976	590	121	20	9,686	66,936
PENOBSCOT	24,468	14,077	10,951	1,593	4	51,093	108	1,620	1,515	2,350	564	551	1,241	7,690	580	16,219	67,312
PISCATAQUIS	25,174	3,191	661	261	2	29,289	344	1,238	2,206	5,761	1,547	655	1,308	1,793	436	15,288	44,577
SAGADAHOC	101	4,424	109	0	0	4,634	0	9	1	1	6	87	9	3	0	116	4,750
SOMERSET	32,910	13,420	718	291	49	47,388	553	1,981	1,818	2,010	1,257	1,761	989	315	112	10,796	58,184
WALDO	3,658	7,087	567	265	0	11,577	6	234	26	60	19	299	35	23	1	703	12,280
WASHINGTON	13,713	4,443	147	88	4	18,395	20	161	157	351	148	44	237	4,107	614	5,839	24,234
YORK	75	22,281	919	0	0	23,275	215	69	30	69	366	532	66	3	0	1,350	24,625
<b>Maine wood processed:</b>	351,976	170,734	23,362	15,529	100	561,701	3,660	14,109	12,112	25,527	13,500	13,829	6,995	76,150	2,895	168,777	730,478
<b>Exported from Maine without processing:</b>	134,929	34,739	1,207	20,327	81	191,283	177	2,645	7,247	12,959	4,835	4,722	3,507	1,157	22,893	60,142	251,425
<b>Total harvested from Maine forests:</b>	486,905	205,473	24,569	35,856	181	752,984	3,837	16,754	19,359	38,486	18,335	18,551	10,502	77,307	25,788	228,919	981,903
<b>Imported from out of state:</b>	47,238	68,321	423	244	0	116,226	373	9,728	1,119	2,417	4,600	892	34	61,404	5,969	86,536	202,762
<b>Total processed by Maine Forest Products Industry:</b>	399,214	239,055	23,785	15,773	100	677,927	4,033	23,837	13,231	27,944	18,100	14,721	7,029	137,554	8,864	255,313	933,240

- Notes:**
1. Sawlogs include logs, veneer, boltwood, studwood, palletwood, etc. Green tons converted to MBF @ 5 green tons = 1 MBF.
  2. Other Softwood includes larch, pitch pine, and others.
  3. Sawlog volumes reported here are log volumes as scaled when delivered to the mill.

**PULPWOOD**

**2018 Wood flow in Maine as reported to the Maine Forest Service (in Green Tons), including both solid wood and bole/stem pulp chips (Totals do not add up due to rounding)**

County	Spruce and Fir	White and Red Pine	Hemlock	Cedar	Mixed / Other Softwood	Total Softwood	Aspen	Mixed / Other Hardwood	Total Hardwood	Mixed Wood	Total Pulpwood	SAWMILL RESIDUE <i>Green Tons</i>
ANDROSCOGGIN	*	*	*	0	26,215	32,020	*	42,544	44,416	0	76,436	55,397
AROOSTOOK	5,511	0	0	0	8,092	13,603	2,117	889,945	892,062	0	905,665	3,987
CUMBERLAND	1,460	*	*	0	45,886	69,222	1,018	58,923	59,941	0	129,163	41,321
FRANKLIN	55,317	*	*	0	17,370	87,461	14,736	330,706	345,442	0	432,903	51,337
HANCOCK	14,753	*	*	0	57,938	75,587	5,339	104,841	110,180	0	185,767	5,619
KENNEBEC	5,795	2,461	*	0	51,713	65,010	4,415	95,929	100,344	0	165,354	19,523
KNOX	*	0	*	0	*	9,892	1,080	20,524	21,604	0	31,496	0
LINCOLN	*	*	*	0	19,558	21,924	1,492	26,259	27,751	0	49,675	7,689
OXFORD	30,717	*	*	0	45,772	147,643	17,781	137,024	154,805	0	302,448	105,428
PENOBSCOT	38,066	840	35,900	0	75,473	150,279	23,940	374,326	398,266	0	548,545	48,257
PISCATAQUIS	74,059	1,201	22,606	0	27,174	125,040	12,175	447,174	459,349	0	584,389	29,544
SAGadahoc	216	*	*	0	*	14,392	203	11,995	12,198	0	26,590	0
SOMERSET	139,225	7,188	*	0	41,473	195,741	34,218	534,026	568,244	0	763,985	93,189
WALDO	4,878	916	*	0	12,979	20,884	3,605	57,281	60,886	0	81,770	26,002
WASHINGTON	10,077	0	0	0	101,282	111,359	3,774	219,053	222,827	0	334,186	0
YORK	*	*	*	0	47,391	66,184	*	72,764	74,744	0	140,928	16,950
<b>Maine wood processed:</b>	380,465	49,522	175,074	0	601,180	1,206,241	129,745	3,423,314	3,553,059	0	4,759,300	504,243
<b>Exported from Maine without processing:</b>	193,637	928	6,729	0	10,489	211,783	47,806	372,163	419,969	0	631,752	73,619
<b>Total harvested from Maine forests:</b>	574,102	50,450	181,803	0	611,669	1,418,024	177,551	3,795,477	3,973,028	0	5,391,052	577,862
<b>Imported from out of state:</b>	124,669	27,188	49,792	0	161,161	362,810	150,248	1,188,169	1,338,417	0	1,701,227	191,601
<b>Total processed by Maine Forest Products Industry:</b>	505,134	76,710	224,866	0	762,341	1,569,051	279,993	4,611,483	4,891,476	0	6,460,527	695,844

Sawmill residues are clean, pulp-quality wood chips made from slabs and edgings at sawmills. The volume is reported here as an additional input to the pulp and paper mills and pellet mills. Sawmill residues are a by-product of the sawing process, and are not included as additional harvest volumes from Maine's forests.

**Pulpwood Notes:**

*\* Due to a limited number of reports, data could not be displayed but is included in the totals.*

- Mixed / Other Softwood is comprised of bole chips of which specific species information was not collected.
- Aspen volumes are based upon pure loads.
- Mixed / Other Other Hardwood is comprised of all hardwood species except aspen sold in pure loads.

## Wood Imports and Exports

### 2018 Wood Flow in Maine as reported to the Maine Forest Service (in Green Tons)

County	BIOMASS CHIPS	Further utilization of wood already tallied.	C AND D WASTE	FIREWOOD / PELLET* CORDS
		HOG FUEL		
Androscoggin	83,832	1,282	9,461	6,093
Aroostook	546,959	310,069	65	4,810
Cumberland	171,204	18,522	0	3,333
Franklin	164,259	50,768	1,295	2,613
Hancock	16,493	7,415	0	208
Kennebec	109,695	964	0	2,725
Knox	19,812	62	0	322
Lincoln	41,509	40	0	396
Oxford	101,196	74,531	0	2,841
Penobscot	165,584	12,322	0	20,712
Piscataquis	51,468	18,532	0	17,052
SAGADAHOC	13,782	50	0	375
Somerset	172,952	49,620	107	31,011
Statewide*	0	0	0	8,491
Waldo	63,294	5,140	0	4,004
Washington	24,382	15,143	0	645
York	148,842	9,085	0	2,876
<b>Maine wood processed:</b>	1,895,263	573,545	10,928	108,507
<b>Exported from Maine without processing:</b>	308,882	294,452	0	785
<b>Total harvested from Maine Forests:</b>	2,204,145	867,997	10,928	109,292
<b>Imported from out of state:</b>	301,973	200,708	43,517	5,481
<b>Total processed by Maine Forest Products Industry:</b>	2,197,236	774,253	54,445	113,988

<u>Import Origins</u>	<u>Export Destinations</u>
<b>States:</b>	<b>States:</b>
Connecticut	Indiana
Maryland	Massachusetts
Massachusetts	Michigan
New Hampshire	New Hampshire
New York	New York
Rhode Island	Vermont
Vermont	<b>Provinces:</b>
<b>Provinces:</b>	New Brunswick
New Brunswick	Quebec
Nova Scotia	<b>Countries:</b>
Quebec	China
	Italy
	Thailand

\* This is the eleventh Wood Processor Report to separately report firewood as a new product. Report forms were sent to known firewood dealers. In the past some firewood was uniquely identified and reported to MFS as an export, and MFS grouped these minor volumes into the pulpwood product. This by no means a complete accounting of the volume of processed firewood merchandized, sold, or distributed within Maine, or as an export or import. The only previous estimation of annual firewood consumption is a survey conducted by the State Planning Office in the early 1990's. That survey estimated an annual processing, sale, distribution and consumption of 400,000 cords. MFS will continue to improve its survey methods in order to obtain a consistent and reliable estimate of annual firewood processing.

In addition, this is the eleventh year we have received reports from Maine's pellet mills. We have included reported volumes for pellet production under this section also.

\*Volumes reported with no indication of originating county were identified as Statewide volume.

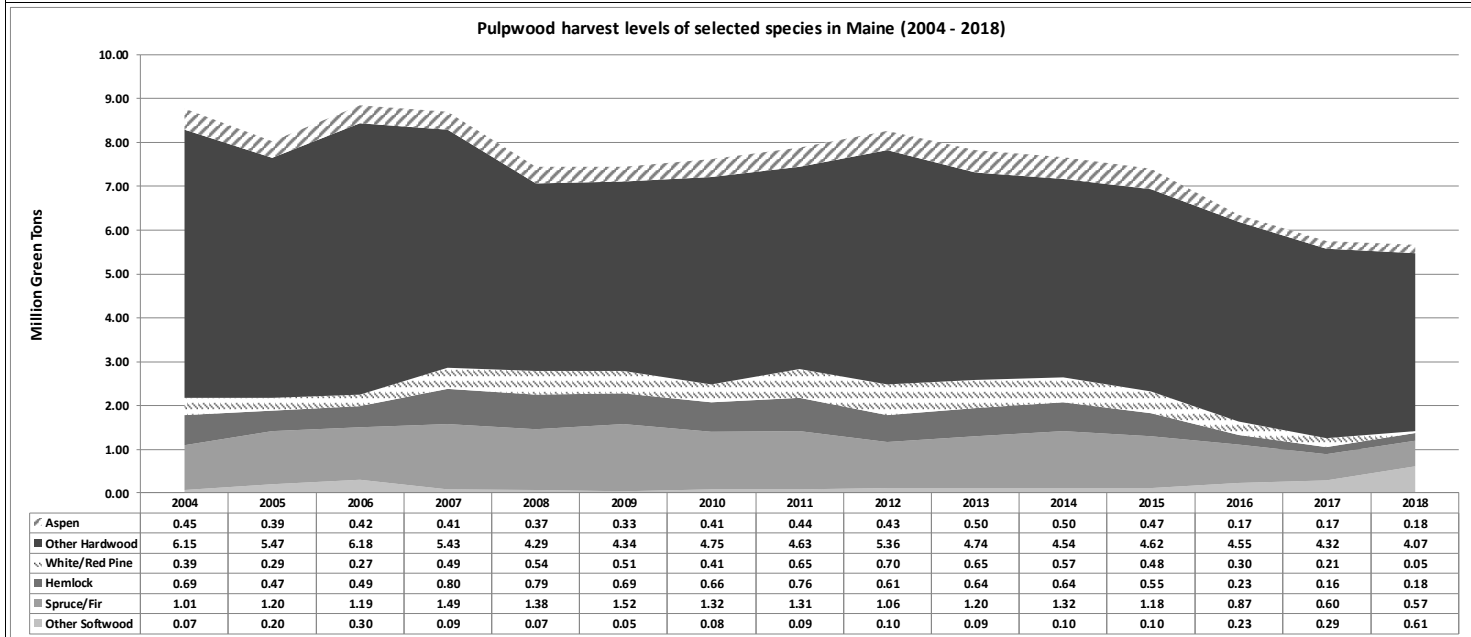
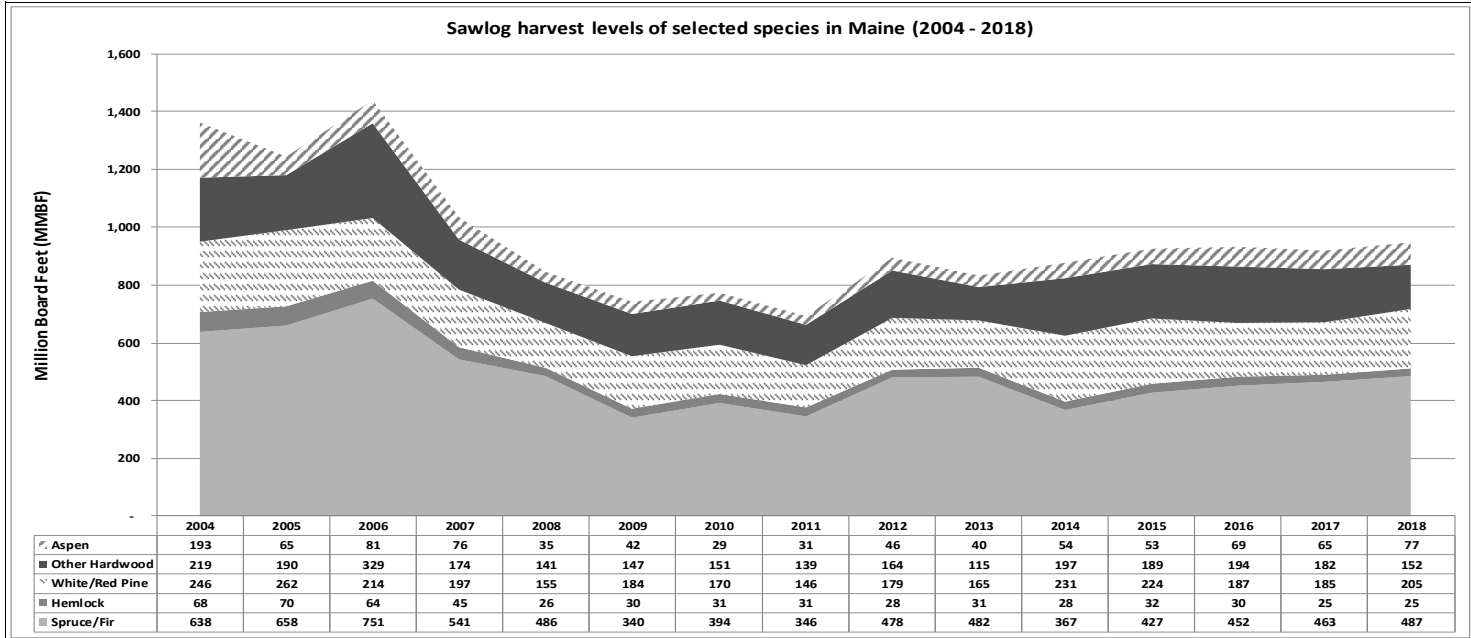
**SUMMARY****2018 Wood flow in Maine as reported to the Maine Forest Service**

<b>Product</b>	<b>Harvest, Export, Import, Instate Processing</b>	<b>Total Volume in 2018</b>	<b>Total Volume in Green Tons</b>
<b>Sawlogs</b> (in MBF) 1 MBF = 1,000 board feet  <i>Note on conversions:  see conversion table  at the end of report</i>	a. Maine wood processed	730,478	3,171,045
	b. Exported from Maine without processing	251,425	1,104,804
	c. Total harvested from Maine forests (a+b=c)	981,903	4,275,849
	d. Imported from out of state	202,762	881,528
	f. Total processed by Maine Forest Products Industry (a+d=e)	933,240	4,052,573
<b>Pulpwood</b> (in green tons)	a. Maine wood processed	4,759,300	4,759,300
	b. Exported from Maine without processing	631,752	631,752
	c. Total harvested from Maine forests (a+b=c)	5,391,052	5,391,052
	d. Imported from out of state	1,701,227	1,701,227
	f. Total processed by Maine Forest Products Industry (a+d=e)	6,460,527	6,460,527
<b>Biomass Chips</b> (in green tons)	a. Maine wood processed	1,895,263	1,895,263
	b. Exported from Maine without processing	308,882	308,882
	c. Total harvested from Maine forests (a+b=c)	2,204,145	2,204,145
	d. Imported from out of state	301,973	301,973
	f. Total processed by Maine Forest Products Industry (a+d=e)	2,197,236	2,197,236
<b>Firewood / Pellets</b> (in cords)  <i>Note on conversion:  1 cord = 2.5 green tons</i>	a. Maine wood processed	108,507	271,268
	b. Exported from Maine without processing	785	1,963
	c. Total harvested from Maine forests (a+b=c)	109,292	273,230
	d. Imported from out of state	5,481	13,703
	f. Total processed by Maine Forest Products Industry (a+d=e)	113,988	284,970
<b>Totals</b> (in green tons)	a. Maine wood processed		10,096,875
	b. Exported from Maine without processing		2,047,401
	c. Total harvested from Maine forests (a+b=c)		12,144,276
	d. Imported from out of state		2,898,431
	f. Total processed by Maine Forest Products Industry (a+d=e)		12,995,306

## Wood Harvesting Trends (2004-2018)

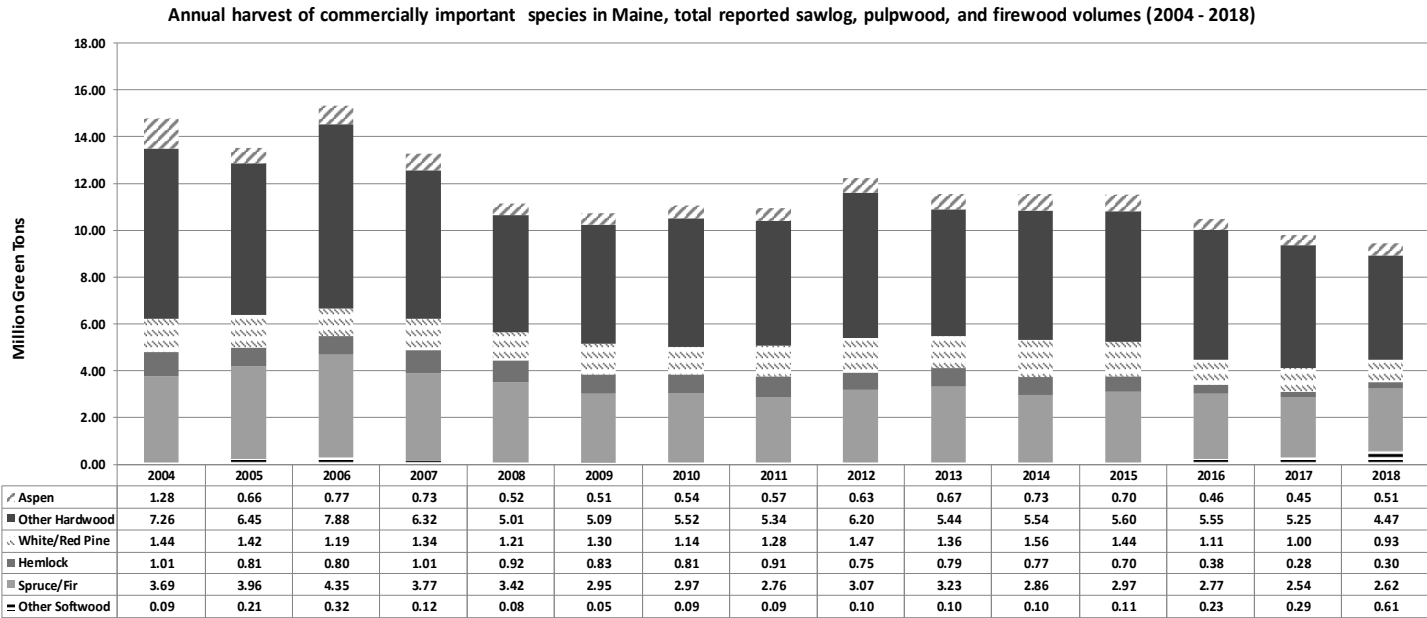
The Maine Forest Service has been collecting data on volume of wood harvested since the late 1940's. The following three charts illustrate wood harvesting trends over the past 15 years.

The two graphs to the right show the harvest volumes for selected species for sawlogs and pulpwood. These volumes include exported volumes.



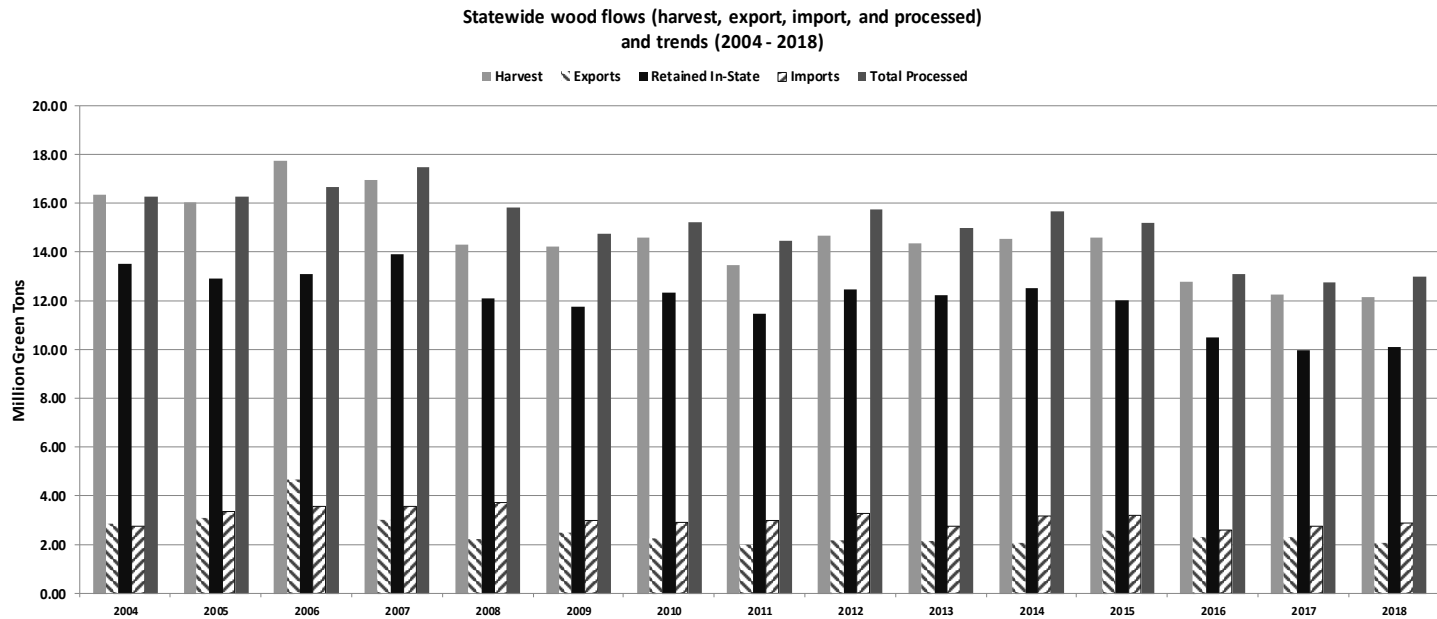
## Wood Harvesting Trends (2004-2018)

The graph to the right shows the volumes for commercially important species.



## Statewide Wood Flows (2004-2018)

The graph to the right shows the volumes of forest products being exported from Maine, imported into Maine, and processed within Maine.





**Conversion Table  
MBF/Weight Equivalents  
for various Maine Commercial Tree Species**

These conversions are used by the Maine Forest Service.

Users of this report may wish to confirm the conversion rate(s) used by individual mills and/or contractors who purchase wood.

<u>Species</u>	<u>MBF</u>	<u>Tons</u>
Spruce Fir	1	4.2
White Pine	1	4.3
Red Pine	1	4.3
Hemlock	1	4.8
Cedar	1	3.4
Tamarack (Larch)	1	4.8
Beech	1	4.5
White Birch	1	4.5
Yellow Birch	1	5.4
Sugar Maple	1	5.4
Red Maple	1	4.5
White Oak	1	5.4
Red Oak	1	5.4
Ash	1	4.5
Aspen/Poplar	1	4.3
Softwood	1	4.6
Hardwood	1	5.4
Mixed Wood	1	4.6

***For purposes of comparing volumes, a rough conversion of 1 MBF = 2 cords is commonly used.***

These conversions factors are handy for making estimates and for forest inventory purposes, but are advisory only. The weight of a particular volume of wood varies greatly by species, time of year and other factors.

It is illegal in Maine to convert from one system of measurement to another for the basis of payment (e.g. convert a mill payment for pulpwood in dollars per ton to a landowner payment in dollars per cord).



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