

MAINE STATE LEGISLATURE

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2021

Silvicultural Activities Report

including Annual Report on Clearcutting and Precommercial Activities

Compiled from 2021 Landowner Reports and other survey instruments.
Data collected under the provisions of 12 MRS §8885

MARCH 20, 2024



Department of Agriculture, Conservation and Forestry

Maine Forest Service

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Report Highlights

Harvesting and Forest Conversion

- 294,616 acres were harvested in total in 2021, a decrease of 6% from 314,843 acres in 2020.
- Of these acres, 265,186 acres were partially harvested (partial and shelterwood totals) in 2021, a 7% decrease from 284,224 acres in 2020.
- The number of harvests reported decreased from 4,295 to 3,506.

Clearcutting:

1. The total area clearcut decreased 15% from 27,433 acres in 2020 to 23,388 acres in 2021. Clearcutting amounted to 8% of total harvested acres.
2. Landowners owning more than 100,000 acres in Maine created 92% of all clearcut acreage (21,489 acres).
3. Average clearcut size in 2021 was 28 acres. Landowners owning more than 100,000 acres had an average clearcut size of 33 acres. Landowners owning less than 100,000 acres had an average clearcut size of 11 acres. 63 clearcuts larger than 75 acres were created in 2021.
4. For 76 % of clearcut acres reported by large landowners, the silvicultural justification was "the removal of poor quality, intolerant, under stocked, short lived or mature overstories where the retention of the residual overstory trees is not justified for further increase in value, as a source of seed, or for protection of the new stand" (16,295 of 21,490 acres).

Forest Conversion:

- Harvesting to convert land from forest to some other land use increased 90% from 3,186 acres in 2020 to 6,042 acres in 2021.
This is slightly higher than the 10-year average of 4,033 acres.

Precommercial Silvicultural Activities

Herbicide Use:

- Herbicide use for site preparation before planting increased 3%, from 3,314 acres in 2020 to 3,402 acres in 2021.
- Herbicide use to release crop trees from competing vegetation decreased 9%, from 16,138 acres in 2020 to 14,682 acres in 2021.

Timber Stand Improvement (TSI):

- Precommercial thinning of young stands with spacing saws increased 26%, from 8,462 acres in 2020 to 10,694 acres in 2021.
Of these acres, 84% of the acreage was done by landowners owning more than 100,000 acres (8,947 acres).

Planting:

- Tree planting increased 3%, from 5,895 acres in 2020 to 6,077 acres in 2021.
Of these reported planting acres, 99% of the reported planting acreage was by landowners owning more than 100,000 acres (6,030 acres).

Forester Involvement

- In 2021, licensed foresters supervised harvesting on 232,020 acres, compared to 228,536 acres in 2020.
Of all harvest acres in 2021, 79% had a licensed forester involved. This represents an increase from 2020 (72% involvement).
Of the harvests on family woodlands (<= 100 acres) in 2021, Licensed Forester involvement occurred on 26% (281 out of 1,092 harvests). This compares to 31% in 2020 (632 out of 2,037 harvests).

2021 Harvesting Activities

Commercial Harvest Information by Landowner Size and Type		Acres						
		Silvicultural Harvests					Forest Conversion	Total Harvest
		Partial Harvest	Shelterwood			Clearcut		
			Initial or Intermediate Entry	Final Entry	Total			
OwnershipType	Ownership Size							
Forest Industry woodlands	1 to 100 acres	386	10	0	10	0	5	401
	101 to 1,000 acres	341	10	10	20	0	60	421
	1,001 to 100,000 acres	4,581	486	3,623	4,109	60	0	8,750
	100,000 + acres	5,706	7,286	6,429	13,715	7,066	0	26,487
	SubTotal	11,014	7,792	10,062	17,854	7,126	65	36,059
Institutional Investor Timberlands	1 to 100 acres	0	0	0	0	0	0	0
	101 to 1,000 acres	7	0	0	0	0	0	7
	1,001 to 100,000 acres	353	798	207	1,005	232	32	1,622
	100,000 + acres	9,485	3,886	7,984	11,870	4,631	0	25,986
	SubTotal	9,845	4,684	8,191	12,875	4,863	32	27,615
Non-Industrial Land	1 to 100 acres	19,191	1,250	2,445	3,695	473	817	24,176
	101 to 1,000 acres	28,973	3,849	4,280	8,129	180	716	37,998
	1,001 to 100,000 acres	19,568	5,437	10,106	15,543	214	1,953	37,278
	100,000 + acres	23,390	22,364	33,816	56,180	9,582	28	89,180
	SubTotal	91,122	32,900	50,647	83,547	10,449	3,514	188,632
Other woodlands (Govt, etc.)	1 to 100 acres	5,711	740	529	1,269	281	573	7,834
	101 to 1,000 acres	7,937	1,742	649	2,391	387	832	11,547
	1,001 to 100,000 acres	8,780	903	1,512	2,415	72	1,006	12,273
	100,000 + acres	7,012	2,352	1,062	3,414	210	20	10,656
	SubTotal	29,440	5,737	3,752	9,489	950	2,431	42,310
2021 Totals:		141,421	51,113	72,652	123,765	23,388	6,042	294,616
Percent of 2021 Harvest:		48%	17%	25%	42%	8%	2%	100%
2020 Totals:		162,445	43,922	77,857	121,779	27,433	3,186	314,843
Percent Change from 2020 to 2021:		-13%	16%	-7%	2%	-15%	90%	-6%

2021 Precommercial Activities and Professional Assistance

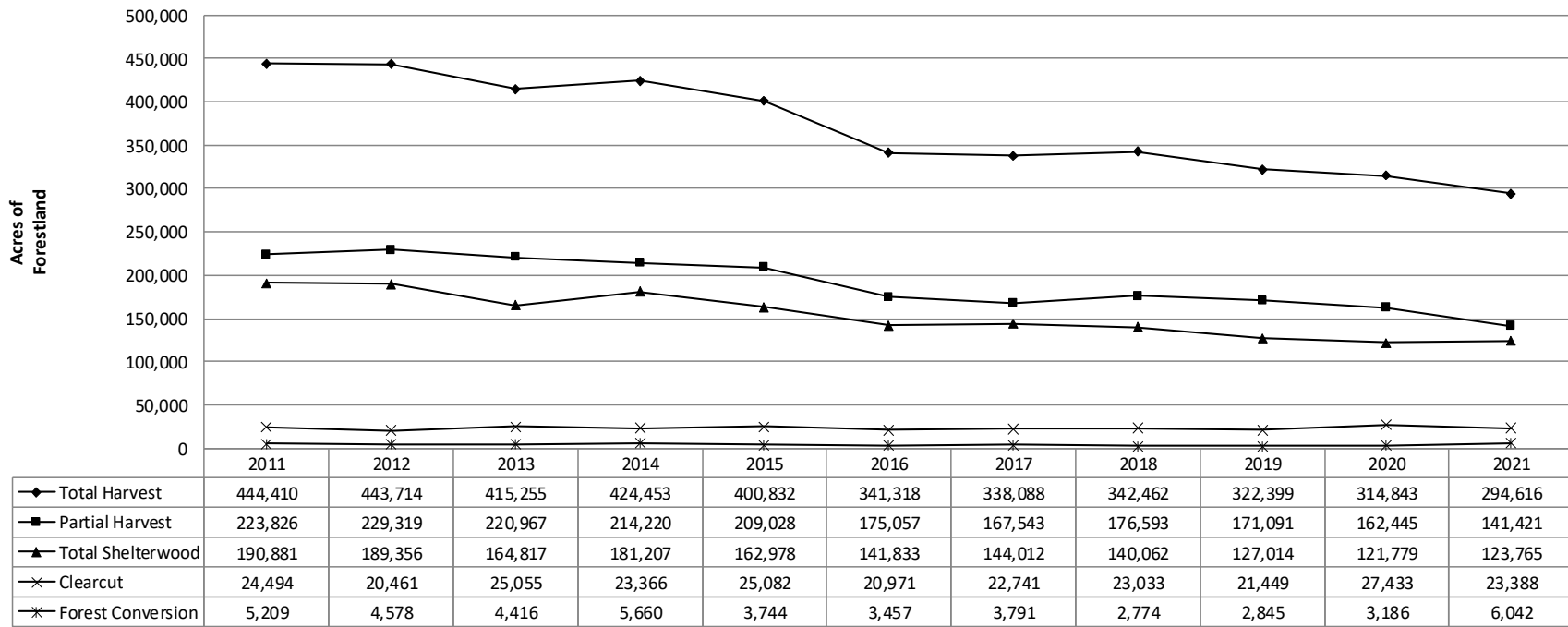
OwnershipTypeOwnership Size		Precommercial Activities by Landowner Size and Type					Number of Reported Harvests	Licensed Forester Involvement	
		Acres						by Landowner Size and Type	
		Herbicide Use		TSI	Tree Planting			Number of Harvests	Total Acres
		Site Prep	Release						
Forest Industry woodlands	1 to 100 acres	0	0	0	0		16	0	0
	101 to 1,000 acres	0	0	4	1		16	2	50
	1,001 to 100,000 acres	0	0	0	0		26	23	7,870
	100,000 + acres	3,392	9,765	6,207	4,269		54	52	26,138
Subtotal		3,392	9,765	6,211	4,270		112	77	34,058
Institutional Investor Timberlands	1 to 100 acres	0	0	0	0		0	0	0
	101 to 1,000 acres	0	0	0	0		2	0	0
	1,001 to 100,000 acres	0	0	181	0		19	13	1,519
	100,000 + acres	0	918	0	0		64	61	25,032
Subtotal		0	918	181	0		85	74	26,551
Non-Industrial Land	1 to 100 acres	2	4	105	27		1,091	281	7,469
	101 to 1,000 acres	8	1	55	17		788	339	19,748
	1,001 to 100,000 acres	0	101	543	0		294	214	29,447
	100,000 + acres	0	3,801	2,740	1,761		295	263	84,535
Subtotal		10	3,907	3,443	1,805		2,468	1,097	141,199
Other woodlands (Govt, etc.)	1 to 100 acres	0	26	176	0		368	155	4,487
	101 to 1,000 acres	0	50	52	2		294	153	7,405
	1,001 to 100,000 acres	0	16	631	0		120	81	8,188
	100,000 + acres	0	0	0	0		59	53	10,132
Subtotal		0	92	859	2		841	442	30,212
2021 Totals:		3,402	14,682	10,694	6,077		3,506	1,690	232,020
2020 Totals:		3,314	16,138	8,462	5,895		4,309	1,921	228,535
Change from 2020 to 2021:		3%	-9%	26%	3%		-19%	-12%	2%

294,616
314,843
Statewide Total Harvest
acres from previous
page

Definitions:

Ownership Type	Forest Industry Land: Woodlands owned by a forest products industry; usually most of the wood harvested is used by that industry.
	Investor Timberlands: Woodlands owned by organizations, including Timberland Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs) that hold timberland assets as fiduciaries for the benefit of others.
	Non-Industrial Land: Woodlands privately owned but NOT by a forest industry. These include private individuals and other non-forest product industries.
	Other woodlands: Woodlands owned by other entities not listed above -- including local, state, federal, or tribal governments.
Types of Harvests	Partial Harvest: Harvest where trees are removed individually or in small (<5 acre) patches.
	Shelterwood: Harvest of mature trees from a forest site in two or more stages. The first stage removes only a portion of the trees to allow establishment of regeneration before the remaining trees are removed in subsequent harvest.
	Clearcut: Harvest on a site larger than 5 acres that results in a residual basal area of acceptable growing stock trees >4.5" DBH of less than 30 square feet per acre, unless after harvesting the site has a well-distributed stand of acceptable growing stock 3 feet tall for softwood and 5 feet for hardwoods (Overstory Removal). Refer to the latest copy of the Maine Forest Service Rules Chapter 20 for additional information. It can be found on the Maine Forest Service website at https://www.maine.gov/dacf/mfs/rules_and_regulations.html

Harvesting Trends in Maine 2011-2021



2021 Annual Report on Clearcutting and Precommercial Activities

Compiled from the 2021 Landowner Reports and other survey instruments. Data collected under the provisions of the Forest Resources Assessment Program, 12 MRS § 8878-A
(Some totals may not add up due to rounding)

County	Large Landowners (own >100,000 acres)										All Other Landowners				Total
	TSI	Planted	Clearcuts								TSI	Planted	Clearcut		Clearcut
			Purpose				> 75 acres in size								
			Total	Avg. Size	1	2	3	4	Total	Avg. Size					
	Acres	Acres								#	Acres	Acres			
ANDROSCOGGIN	0	0	0	0	0	0	0	0	0	0	0	0	20	7	20
AROOSTOOK	6,695	4,833	7,308	25	6,376	0	836	97	22	2,599	307	26	250	11	7,558
CUMBERLAND	0	0	0	0	0	0	0	0	0	0	4	3	34	4	34
FRANKLIN	0	0	2,226	39	1,759	0	467	0	11	1,490	27	5	330	22	2,556
HANCOCK	0	0	152	76	152	0	0	0	0	0	11	3	53	11	205
KENNEBEC	0	0	0	0	0	0	0	0	0	0	7	0	115	8	115
KNOX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LINCOLN	0	0	0	0	0	0	0	0	0	0	2	0	31	16	31
OXFORD	601	93	2,266	76	2,247	0	19	0	12	1,827	52	1	202	9	2,468
PENOBSCOT	621	0	1,142	24	1,116	0	26	0	2	369	50	0	240	18	1,382
PISCATAQUIS	320	534	2,923	46	1,151	0	212	1,560	7	934	73	2	142	9	3,065
SAGADAHOC	0	0	0	0	0	0	0	0	0	0	3	0	19	19	19
SOMERSET	709	571	5,133	32	3,173	0	83	1,877	8	1,214	778	0	310	11	5,443
WALDO	0	0	0	0	0	0	0	0	0	0	77	2	5	2	5
WASHINGTON	0	0	340	26	321	0	19	0	1	217	352	0	82	12	422
YORK	0	0	0	0	0	0	0	0	0	0	4	5	66	9	66
State Total:	8,946	6,031	21,490	33	16,295	0	1,662	3,534	63	8,650	1,747	47	1,899	11	23,389

Purposes for creating clearcut:

1. Removal of poor quality, intolerant, under stocked, short lived or mature overstories where the retention of the residual overstory trees is not justified for further increase in value, as a source of seed, or for protection of the new stand.
2. Ecologically appropriate improvement or creation of wildlife habitat.
3. Removal of stands that, if partially harvested according to accepted silvicultural practice, are at high risk for windthrow due to factors such as soils, rooting depth, crown ratio or stem quality.
4. Harvesting of an existing plantation or other forest stand established by or previously treated with precommercial silvicultural activities.

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