



Forests of Maine, 2017

This publication provides an overview of the forest resources in Maine based upon inventories conducted by the USDA Forest Service, Forest Inventory and Analysis (FIA) program of the Northern Research Station. Information about the national and regional FIA program is available online at www.fia.fs.fed.us.

Since 1999, FIA has implemented an annual inventory in the State and currently measures 20 percent of the sample plots each year. For the 2017 inventory, estimates for current variables, such as area, volume, and biomass, are based on 3,526 plots inventoried from 2013-2017. Change variables, such as net growth, removals, and mortality, are based on 3,495 plots inventoried in 2008-2012 and resampled in 2013-2017. Estimates from earlier annual and periodic inventories are included for comparison.

See Bechtold and Patterson (2005) and O'Connell et al. (2017) for definitions and technical details.

Additional data and reports are available online

(www.nrs.fs.fed.us/fia/data-tools/state-reports/ME). A complete set of inventory tables is available at <https://doi.org/10.2737/FS-RU-160>.

Overview

Maine contains an estimated 17.6 million acres of forest land (Table 1) and covers 89.1 percent of the land area in the State. Most of the forest land, 95.3 percent, is classified as timberland, meaning that it exceeds a minimum level of productivity and is not legislatively reserved from timber harvesting.

On the forest land in Maine, there are an estimated 23.9 billion live trees ≥ 1 in d.b.h. (Table 1). These trees have a total above ground biomass of 713.8 million tons and, looking at trees ≥ 5 in d.b.h., a total net volume of 27.3 billion ft^3 . The ratio of net growth to removals is 1.4:1. Selected statistics are also provided in Table 1 for growing-stock trees, which are a subset of all live trees ≥ 5 in d.b.h. and meet specific merchantability requirements.

Table 1.—Maine forest statistics, 2017 and 2012. Volume estimates are for trees ≥ 5 in diameter at breast height (d.b.h.). Number of trees and biomass estimates are for trees ≥ 1 in d.b.h. Sampling errors and error bars shown in tables and figures in this report represent 68-percent confidence intervals.

	2017 estimate	Sampling error (%)	2012 estimate	Sampling error (%)	Change since 2012 (%)
Forest Land					
Area (thousand acres)	17,590	0.4	17,638	0.4	-0.3
Number of live trees ≥ 1 in d.b.h. (million trees)	23,922	1.5	24,294	1.5	-1.5
Live tree aboveground biomass (thousand oven-dry tons)	713,751	0.9	684,641	1.0	4.3
Net volume of live trees ≥ 5 in d.b.h. (million ft^3)	27,329	1.2	26,030	1.2	5.0
Annual net growth of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	802,412	1.7	726,696	2.2	10.4
Annual mortality of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	263,784	3.4	303,657	3.1	-13.1
Annual harvest removals of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	567,063	5.5	613,368	5.1	-7.5
Annual other removals of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	3,271	47.1	9,469	38.4	-65.5
Timberland					
Area of timberland (thousand acres)	16,764	0.5	17,005	0.5	-1.4
Number of live trees ≥ 1 in d.b.h. (million trees)	22,780	1.5	23,464	1.6	-2.9
Live tree aboveground biomass (thousand oven-dry tons)	675,326	1.0	659,561	1.0	2.4
Net volume of live trees ≥ 5 in d.b.h. (million ft^3)	25,720	1.3	24,999	1.2	2.9
Net volume of growing-stock trees ≥ 5 in d.b.h. (million ft^3)	23,367	1.3	23,376	1.3	-0.0
Annual net growth of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	736,301	1.6	675,627	2.0	9.0
Annual mortality of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	204,960	3.7	229,044	3.4	-10.5
Annual harvest removals of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	495,730	5.5	540,378	5.2	-8.3
Annual other removals of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	6,475	53.1	17,429	41.7	-62.8



Forest Area

Maine’s forest land area has not substantially changed since 2012 (Fig. 1). An estimated 89.1 percent of the forest land is privately owned, 9.6 percent is publicly owned, and the remainder is owned by Native American tribes (Fig. 2).

Currently, 34.7, 36.5, and 28.5 percent of the timberland in Maine is

in large, medium, and small stand sizes, respectively (Fig. 3).

The most common forest-type group is maple/beech/birch, representing 41.3 percent of Maine’s forest land area (Fig. 4). The next most common forest-type groups are spruce/fir, aspen/birch, and white/red/jack pine.

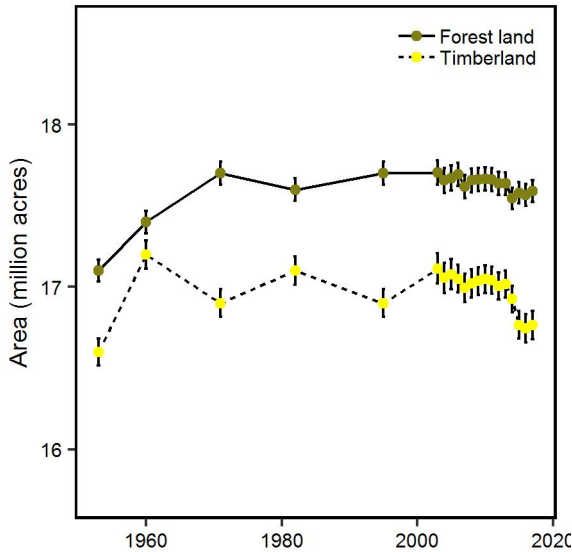


Figure 1.—Area of forest land and timberland, Maine.

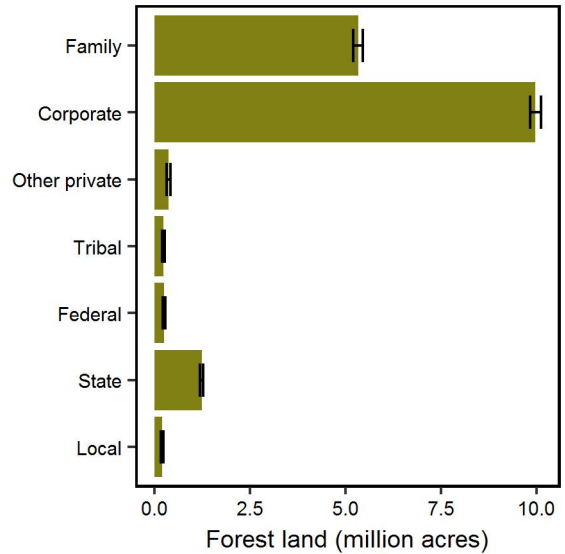


Figure 2.—Area of forest land by ownership group, Maine, 2017.

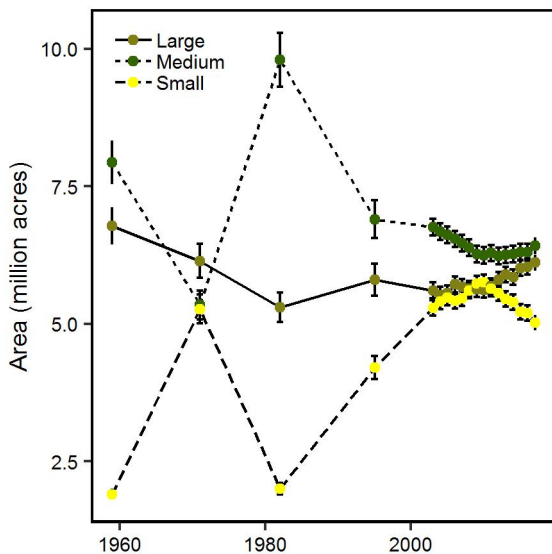


Figure 3.—Area of timberland by stand-size class, Maine.

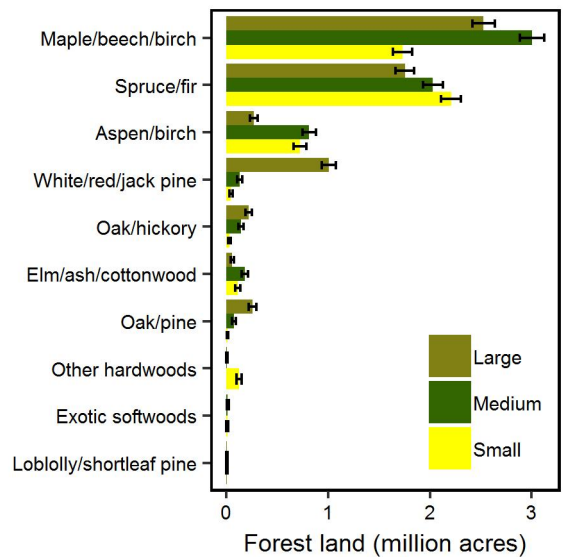


Figure 4.—Area of forest land by forest-type group and stand-size class, Maine, 2017.

Stand-size classes: Small-dominated by trees <5.0 in d.b.h.; Medium-dominated by trees 5.0 to 8.9 in d.b.h. for softwoods and 5.0 to 10.9 inches d.b.h. for hardwoods; Large-dominated by trees \geq 9.0 in for softwoods and 11.0 in d.b.h. for hardwoods.

Forest Composition

Maine’s forests contain a wide variety of tree species with over 55 species sampled in 2017. This composition looks different depending on whether the number or volume of trees are examined.

In terms of volume, red spruce is the most common tree in Maine followed by red maple and eastern white pine (Table 2). Collectively, the 10 most voluminous tree species account for 83.2 percent of the total volume of live trees on forest land in Maine. Of these species, balsam fir, northern red oak, and eastern white pine showed the most substantial increases in volume since 2012.

In terms of number of trees, balsam fir is the most numerous species in Maine with 36.0 percent of the tree stems in the State (Fig. 5). Other common species include red maple, red spruce, American beech, and paper birch. The ten most common species, in terms of numbers of stems, account for 84.9 percent of the trees in the State.

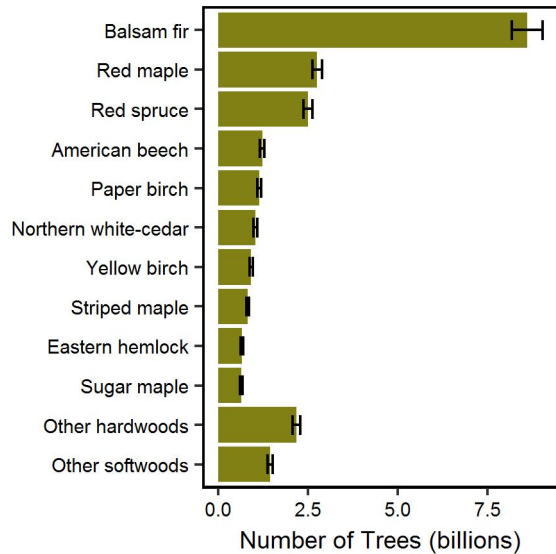


Figure 5.—Number of trees ≥ 1 in d.b.h. by species, Maine, 2017.

Table 2.—Net volume and percent change in net volume on forest land; sawtimber volume and percent change on timberland, Maine, 2017 (top 10 species by net volume).

Rank	Species	Volume of live trees on forest land (million ft ³)	Sampling error (%)	Change since 2012 (%)	Volume of sawtimber trees on timberland (million board ft)	Sampling error (%)	Change since 2012 (%)
1	Red spruce	3,429.2	3.9	11.4	8,105.9	4.9	5.0
2	Red maple	3,274.1	2.8	0.8	4,640.9	5.1	-5.4
3	Eastern white pine	3,190.3	5.0	11.4	11,106.6	5.6	6.8
4	Balsam fir	2,892.1	2.8	21.3	2,939.0	4.9	10.9
5	Northern white-cedar	2,193.4	5.1	-2.0	4,458.8	6.2	-8.0
6	Eastern hemlock	2,054.8	5.3	2.3	5,662.8	6.3	-1.4
7	Sugar maple	1,891.1	5.8	-6.4	4,685.6	7.6	-15.0
8	Yellow birch	1,685.2	3.9	3.6	3,181.9	6.6	-10.3
9	Paper birch	1,114.0	4.4	-2.5	982.9	8.4	-15.3
10	Northern red oak	1,019.0	6.6	13.2	2,928.8	8.3	19.9
	Other softwood	1,545.9	6.1	4.8	3,482.3	8.3	7.2
	Other hardwood	3,040.0	3.4	-0.1	4,981.0	5.8	-4.4
	All species	27,329.1	1.3	5.0	57,156.5	1.9	-0.4

Literature Cited

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