



Forests of Rhode Island, 2017

This publication provides an overview of the forest resources in Rhode Island 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 2003, FIA has implemented an annual inventory in the State and currently measures 14 percent of the sample plots each year. For the 2017 inventory, estimates for current variables, such as area, volume, and biomass, are based on 222 plots inventoried from 2011-2017. Change variables, such as net growth, removals, and mortality, are based on 209 plots inventoried in 2008-2012 and resampled in 2011-2017. 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/RI). A complete set of inventory tables is available at <https://doi.org/10.2737/FS-RU-162>.

Overview

Rhode Island contains an estimated 0.4 million acres of forest land (Table 1) and covers 55.6 percent of the land area in the State. Most of the forest land, 96.2 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 Rhode Island, there are an estimated 0.2 billion live trees ≥ 1 in d.b.h. (Table 1). These trees have a total above ground biomass of 26.1 million tons and, looking at trees ≥ 5 in d.b.h., a total net volume of 0.9 billion ft^3 . The ratio of net growth to removals is 5.0:1. 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.—Rhode Island 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)	368	3.6	364	4.0	1.3
Number of live trees ≥ 1 in d.b.h. (million trees)	162	7.9	173	8.1	-6.2
Live tree aboveground biomass (thousand oven-dry tons)	26,063	4.7	24,680	5.1	5.6
Net volume of live trees ≥ 5 in d.b.h. (million ft^3)	921	5.2	865	5.5	6.4
Annual net growth of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	14,811	21.5	21,401	15.1	-30.8
Annual mortality of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	6,419	24.1	4,406	15.8	45.7
Annual harvest removals of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	2,508	42.2	525	62.8	377.4
Annual other removals of live trees ≥ 5 in d.b.h. (thousand ft^3/yr)	431	68.5	2,100	75.2	-79.5
Timberland					
Area of timberland (thousand acres)	354	3.9	352	4.3	0.8
Number of live trees ≥ 1 in d.b.h. (million trees)	158	8.3	170	8.3	-6.7
Live tree aboveground biomass (thousand oven-dry tons)	25,265	5.1	23,989	5.3	5.3
Net volume of live trees ≥ 5 in d.b.h. (million ft^3)	896	5.5	843	5.7	6.2
Net volume of growing-stock trees ≥ 5 in d.b.h. (million ft^3)	777	6.5	764	6.3	1.7
Annual net growth of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	14,063	17.3	19,209	13.4	-26.8
Annual mortality of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	4,066	28.7	2,879	18.0	41.2
Annual harvest removals of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	2,177	42.6	468	62.6	365.7
Annual other removals of growing-stock trees ≥ 5 in d.b.h. (thousand ft^3/yr)	370	71.7	2,036	61.7	-81.8



Forest Area

Rhode Island’s forest land area has not substantially changed since 2012 (Fig. 1). An estimated 68.0 percent of the forest land is privately owned, 30.9 percent is publicly owned, and the remainder is owned by Native American tribes (Fig. 2).

Currently, 76.7, 20.8, and 1.6 percent of the timberland in Rhode

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

The most common forest-type group is oak/hickory, representing 61.0 percent of Rhode Island’s forest land area (Fig. 4). The next most common forest-type groups are white/red/jack pine, maple/beech/birch, and oak/gum/cypress.

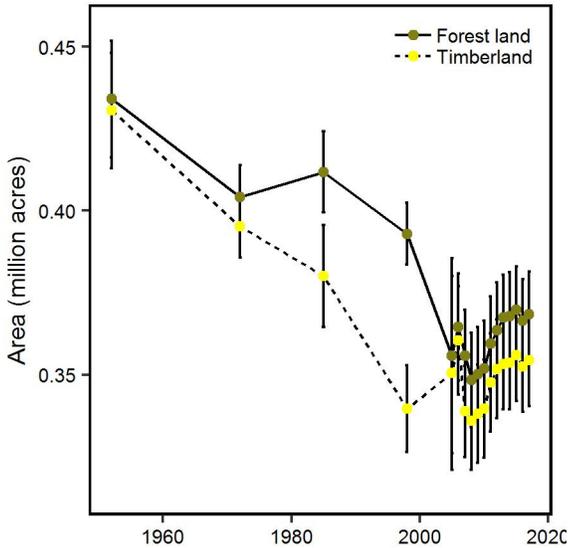


Figure 1.—Area of forest land and timberland, Rhode Island.

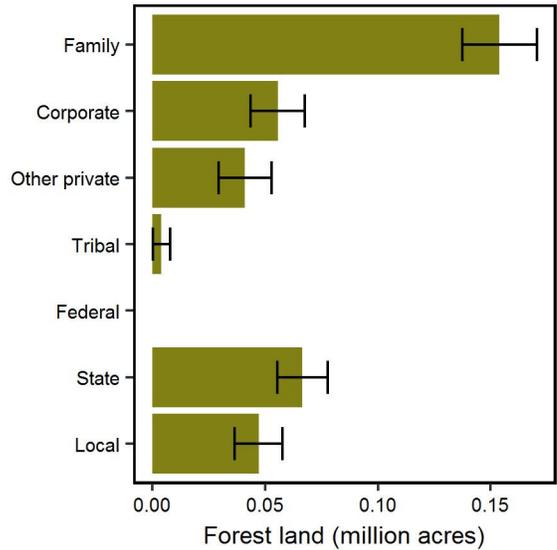


Figure 2.—Area of forest land by ownership group, Rhode Island, 2017.

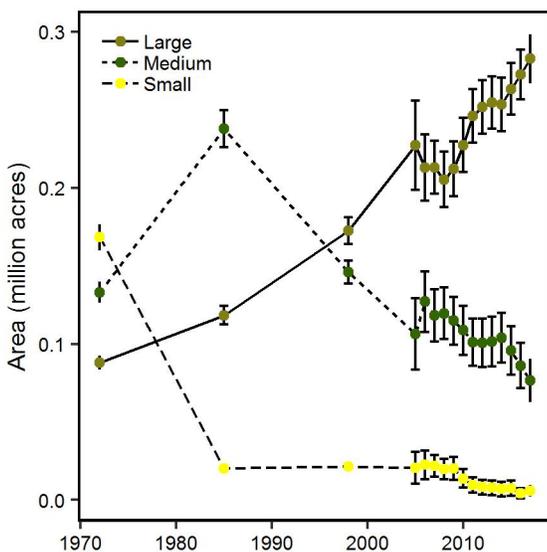


Figure 3.—Area of timberland by stand-size class, Rhode Island.

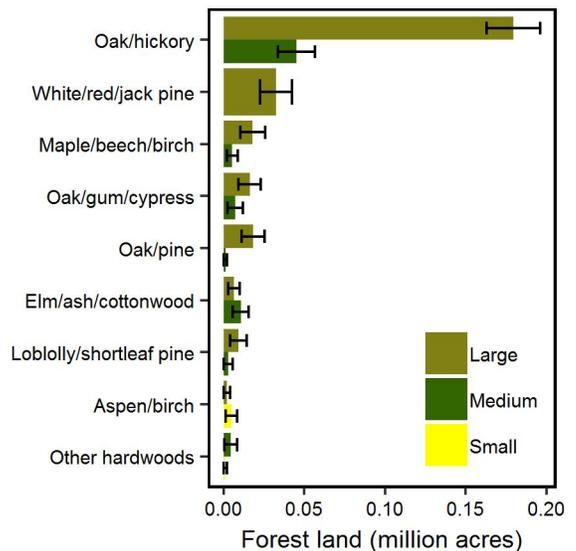


Figure 4.—Area of forest land by forest-type group and stand-size class, Rhode Island, 2017. Stand-size classes: Small-dominated by trees <5.0 in d.b.h.; Medium-dominated by trees 5.0 to 8.9 in d.b.h. for softwoods and 5.0 to 10.9 inches d.b.h. for hardwoods; Large-dominated by trees ≥9.0 in for softwoods and 11.0 in d.b.h. for hardwoods.

Forest Composition

Rhode Island’s forests contain a wide variety of tree species with over 46 species sampled in 2017. This composition looks different depending on whether the number or volume of trees are examined.

In terms of volume, red maple is the most common tree in Rhode Island followed by eastern white pine and northern red oak (Table 2). Collectively, the 10 most voluminous tree species account for 91.1 percent of the total volume of live trees on forest land in Rhode Island. Of these species, eastern hemlock, eastern white pine, and white oak showed the most substantial increases in volume since 2012.

In terms of number of trees, red maple is the most numerous species in Rhode Island with 27.0 percent of the tree stems in the State (Fig. 5). Other common species include eastern white pine, sweet birch, scarlet oak, and yellow birch. The ten most common species, in terms of numbers of stems, account for 84.0 percent of the trees in the State.

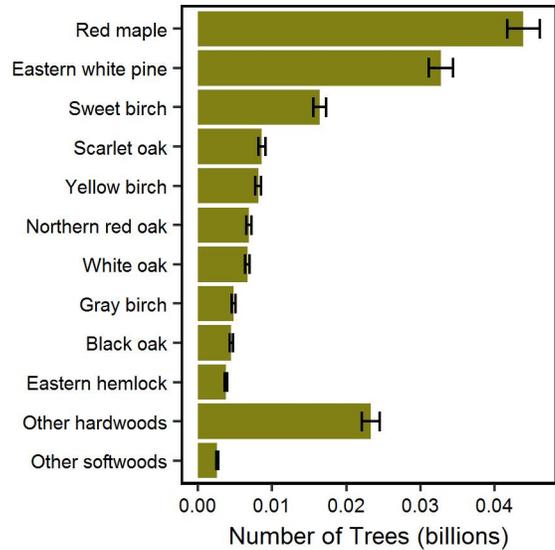


Figure 5.—Number of trees ≥ 1 in d.b.h. by species, Rhode Island, 2017.

Table 2.—Net volume and percent change in net volume on forest land; sawtimber volume and percent change on timberland, Rhode Island, 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 maple	203.6	10.9	5.1	314.2	19.1	-16.4
2	Eastern white pine	178.4	20.7	21.5	809.9	22.1	24.2
3	Northern red oak	137.1	18.4	10.7	525.6	22.1	5.7
4	Scarlet oak	88.8	17.0	1.6	226.4	19.7	1.8
5	Black oak	83.3	18.6	-4.1	292.8	21.6	-1.2
6	White oak	78.1	14.6	12.9	267.3	19.8	20.6
7	Pitch pine	20.3	54.4	-1.9	74.5	59.9	-0.9
8	Sweet birch	18.3	27.9	-20.1	13.4	46.0	-53.0
9	Eastern hemlock	15.6	60.0	32.2	40.7	81.9	37.5
10	Blackgum	15.0	35.5	-15.3	39.0	52.6	-29.1
	Other softwood	1.7	63.1	30.8	1.0	168.5	42.9
	Other hardwood	80.6	17.4	-2.9	155.3	23.5	-3.7
	All species	920.8	6.5	6.4	2,760.1	9.1	5.5

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How to Cite This Publication

Butler, Brett J. 2018. **Forests of Rhode Island, 2017**. Resource Update FS-162. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 3 p. <https://doi.org/10.2737/FS-RU-162>.
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