USDA Forest Service, US Department of Agriculture
Northern Research Station

Rhode Island's Forest Resources, 2010

Research Note NRS-113

This publication provides an overview of forest resource attributes for Rhode Island based on an annual inventory conducted by the Forest Inventory and Analysis (FIA) program at the Northern Research Station of the U.S. Forest Service. These estimates, along with web-posted core tables, will be updated annually. For more information please refer to page 4 of this report.

Table 1. – Annual estimates, uncertainty, and change

	Estimate 2010	Sampling error (%)	Change since 2005 (%)
Forest Land Estimates			
Area (1,000 acres)	352	4.1	-1.1
Number of live trees 1-inch diameter or larger (million trees)	178	8.2	-3.2
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	23,304	5.2	4.6
Net volume in live trees (1,000,000 ft^3)	820	5.8	6.7
Annual net growth of live trees (1,000 ft^3/year)	20,131	13.3	NA
Annual mortality of live trees (1,000 ft^3/year)	4,272	19.4	NA
Annual harvest removals of live trees (1,000 ft^3/year)	750	68.6	NA
Annual other removals of live trees (1,000 ft^3/year)	2,961	79.5	NA
Timberland Estimates			
Area (1,000 acres)	347	4.2	-1.1
Number of live trees 1-inch diameter or larger (million trees)	176	8.3	-3.4
Dry biomass of live trees 1-inch diameter or larger (1,000 tons)	23,053	5.3	4.7
Net volume in live trees (1,000,000 ft^3)	811	5.9	7.0
Net volume of growing-stock trees (1,000,000 ft^3)	741	6.4	2.6
Annual net growth of growing-stock trees (1,000 ft^3/year)	18,002	12.4	NA
Annual mortality of growing-stock trees (1,000 ft^3/year)	3,078	22.5	NA
Annual harvest removals of growing-stock trees (1,000 ft^3/year)	668	68.3	NA
Annual other removals of growing-stock trees (1,000 ft^3/year)	1,990	75.9	NA

Note: When available, sampling errors/bars provided in figures and tables represent 68 percent confidence intervals.

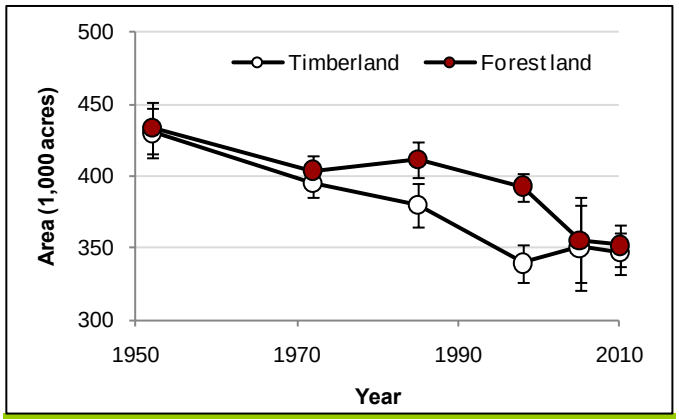

Figure 1. – Area of timberland and forest land by year.

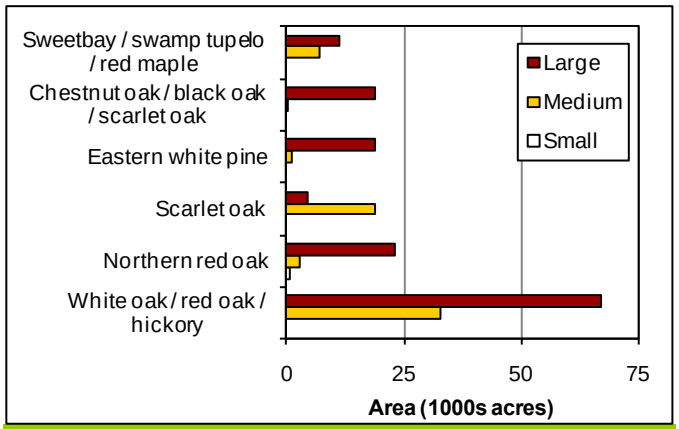

Figure 2. – Area of forest land by top six forest types and stand-size class*, 2006-2010.

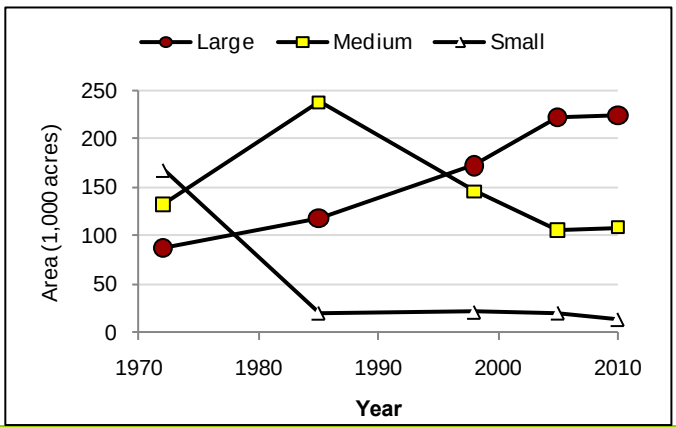

Figure 3. – Area of timberland by stand-size class* and year.

* Small: dominated by trees less than 5.0 inches d.b.h.; Medium: 5.0 to 8.9 inches d.b.h. for softwoods and 5.0 to 10.9 inches d.b.h. for hardwoods; Large:≥ 9.0 inches for softwoods and 11.0 d.b.h. for hardwoods.

Table 2. – Top 10 tree species by statewide volume estimates, 2006-2010

Rank	Species	Volume of live trees on forest land (1,000,000 ft^3)	Sampling error (%)	Change since 2005 (%)	Volume of sawtimber trees on timberland (1,000,000 bdft)	Sampling error (%)	Change since 2005 (%)
1	Red maple	199	11.5	18.5	393	17.1	45.5
2	Eastern white pine	131	22.2	29.6	580	23.7	34.4
3	Northern red oak	109	17.8	-0.3	406	23.2	10.1
4	Black oak	84	18.1	4.0	291	20.6	16.1
5	Scarlet oak	75	16.0	29.4	182	17.8	39.1
6	White oak	60	15.8	4.0	195	20.3	4.2
7	Sweet birch	22	26.9	-20.6	30	41.0	-44.3
8	Pitch pine	19	52.1	-39.2	68	59.3	-42.0
9	Blackgum	16	35.2	16.2	48	44.4	15.4
10	Atlantic white-cedar	15	89.1	>100	35	91.9	>100
	Other softwoods	12	48.4	-36.3	33	61.8	-42.9
	Other hardwoods	79	14.6	-22.3	167	22.5	-27.4
	All Species	**820**	**5.8**	**6.7**	**2,428**	**8.6**	**13.5**

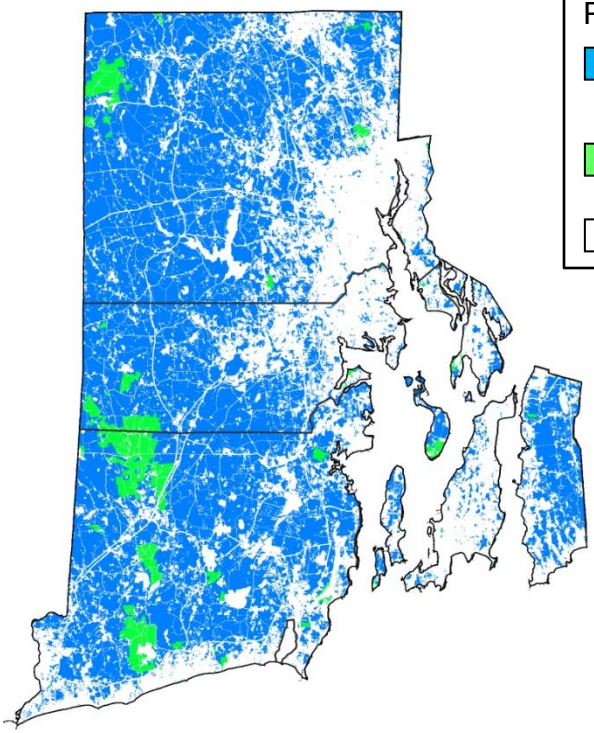

Figure 4. – Area of forest land by major owner group and size of private forest landholding (2002-2006).

Invasive Plants

Invasive plants are spreading throughout North America by humans, animals, and other vectors such as wind and water. These species are threatening forests by displacing native flora, altering nutrient composition, changing wildlife habitat, and impacting aesthetics. In addition, these plants have economic implications, nationally costing billions of dollars annually through reduced timber yield and the costs of inspection and eradication.

The forests of Rhode Island are likewise threatened by invasive plants. Beginning in 2007, the U.S. Forest Service, Forest Inventory and Analysis program began monitoring a subset of its forest inventory plots for the presence of invasive plants (Table 5). The most commonly observed invasive plants across Southern New England were multiflora rose, Japanese barberry, and oriental bittersweet (Fig. 5). Invasive plants are wide-spread across the region (Fig. 6). Future remeasurement of Forest Inventory and Analysis vegetation plots will help us to understand the characteristics that facilitate the spread of invasive plants.

Table 5. – Invasive plant species found on Forest Inventory and Analysis invasives monitoring plots in Southern New England, 2007-2009.

Common name	Scientific name
Autumn olive	*Elaeagnus umbellata*
Black locust	*Robinia pseudoacacia*
Canada thistle	*Cirsium arvense*
Common barberry	*Berberis vulgaris*
Common buckthorn	*Rhamnus cathartica*
European privet	*Ligustrum vulgare*
Garlic mustard	*Alliaria petiolata*
Glossy buckthorn	*Frangula alnus*
Japanese barberry	*Berberis thunbergii*
Japanese honeysuckle	*Lonicera japonica*
Japanese knotweed	*Polygonum cuspidatum*
Louise's swallow-wort	*Cynanchum louiseae*
Morrow's honeysuckle	*Lonicera morrowii*
Multiflora rose	*Rosa multiflora*
Nepalese browntop	*Microstegium vimineum*
Norway maple	*Acer platanoide*
Oriental bittersweet	*Celastrus orbiculatus*
Russian olive	*Elaeagnus angustifolia*
Showy fly honeysuckle	*Lonicera xbella*

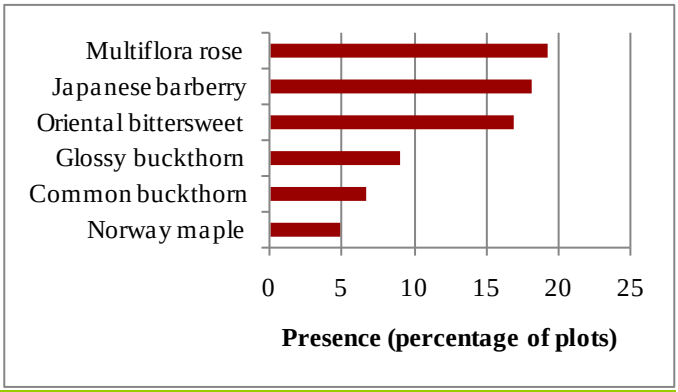

Figure 5. – Presence of the six most common invasive plant species found on invasives monitoring plots, Southern New England, 2007-2009.

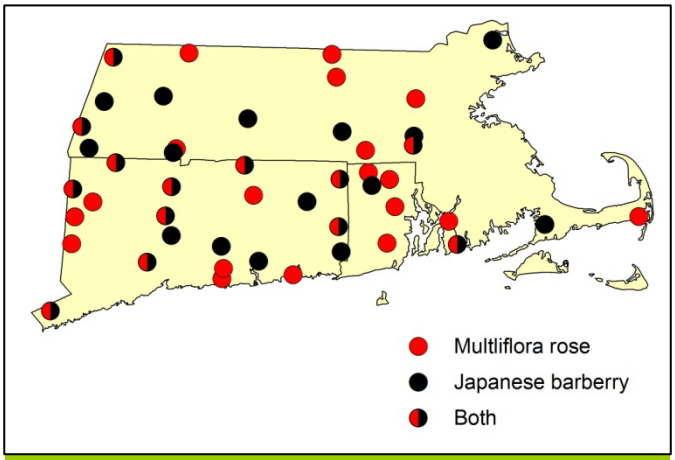

Figure 6. – Approximate location of invasives monitoring plots with multiflora rose and Japanese barberry, Southern New England, 2007-2009.

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FIA Program Information

Bechtold, W.A.; Patterson, P.L., eds. 2005. **The enhanced Forest Inventory and Analysis program: national sampling design and estimation procedures.** Gen. Tech. Rep. SRS-80. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 85 p.

Smith, W.B. 2002. **Forest inventory and analysis: a national inventory and monitoring program.** Environmental Pollution. 116: 233-242.

USDA Forest Service. 2005. **Forest Inventory and Analysis national core field guide, Vol. 1, field data collection procedures for phase 2 plots, Ver. 3.0.** Washington, DC: U.S. Department of Agriculture, Forest Service. Available at http://www.fia.fs.fed.us/library/field-guides-methods-proc/ (verified Aug. 1, 2008).

Additional Rhode Island Inventory Information

Alerich, Carol L. 2000. **Forest statistics for Rhode Island: 1985 and 1998.** Resour. Bull. NE-149. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 104 p.

Butler, Brett J.; Barnett, Charles H.; Dolan, Paul; Dupree, Thomas A.; Emery, Marla; Lister, Andrew; Lister, Tonya W.; Ricard, Paul; Sparks, Catherine; Wharton, Eric H.; Widmann, Richard H. 2002. **The forests of Rhode Island.** NE-INF-155-02. Newtown Square: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 28 p.

Dickson, David R.; McAfee, Carol L. 1988. **Forest statistics for Rhode Island--1972 and 1985.** Resour. Bull. NE-104. Broomall, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 96 p.

Ferguson, Roland H.; McGuire, John R. 1957. **The timber resources of Rhode Island.** Upper Darby, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 38 p.

Peters, John R.; Bowers, Theresa M. 1977. **Forest statistics for Rhode Island.** Resour. Bull. NE-49. Upper Darby, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 38 p.

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