

RED MAPLE ON THE RISE IN THE NORTHEAST

DRAMATIC GAINS IN STOCKING & VOLUME SEEN OVER THE PAST 30 YEARS

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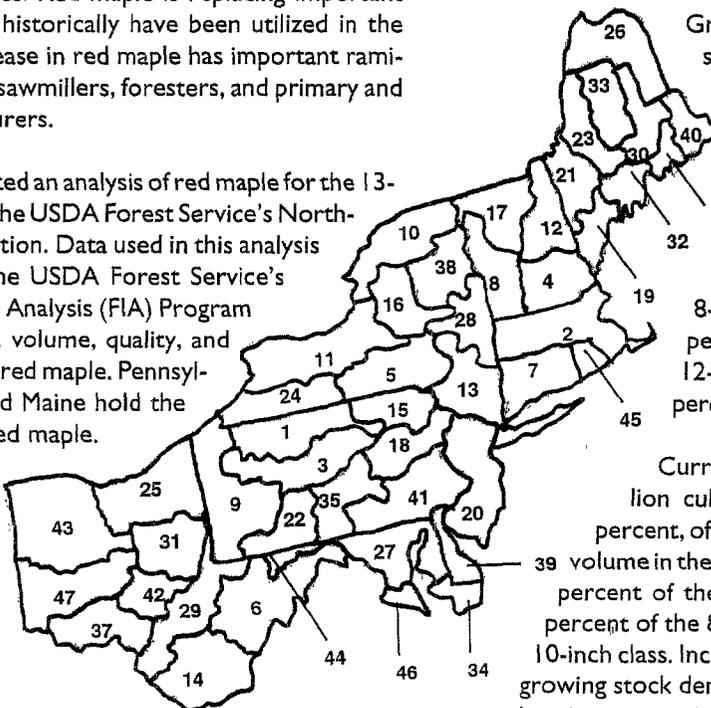
I ntroduction

The northeastern forest is changing and those who work in the woods on a regular basis have probably noticed this transformation. There is one species in particular that is changing the composition of forests in the Northeast: red maple. Red maple stem numbers have exhibited dramatic gains in the past three decades and sawtimber and roundwood volumes have displayed extraordinary growth when compared to those of other species. Red maple is replacing important market species that historically have been utilized in the Northeast. The increase in red maple has important ramifications for loggers, sawmillers, foresters, and primary and secondary manufacturers.

Recently, we conducted an analysis of red maple for the 13-state area served by the USDA Forest Service's Northeastern Research Station. Data used in this analysis were provided by the USDA Forest Service's Forest Inventory and Analysis (FIA) Program and include location, volume, quality, and current utilization of red maple. Pennsylvania, New York, and Maine hold the largest volumes of red maple.

In total, our findings indicate that the Northeastern region holds 38.893 billion board feet (bf) of red maple sawtimber in the 12-inch and greater in diameter-at-breast-height (dbh) classes.

Numbers indicate rank by cubic foot volume of red maple growing stock.



Growing stock or stem quantities of a species are important indicators of its current and future availability. Red maple, as a percentage of all hardwoods, exceeds 19 percent of the total hardwood stems growing in the Northeast. The percentage of red maple stems in the 2- through 8-inch dbh classes are about 20 percent of the total and in the 10- and 12-inch dbh classes are more than 20 percent.

Currently, red maple comprises 18 million cubic feet (mcf), or more than 19 percent, of the total hardwood growing stock volume in the Northeast. This includes nearly 28 percent of the 6-inch dbh class, more than 25 percent of the 8-inch class, and 23 percent of the 10-inch class. Increases in the volumes of red maple growing stock demonstrate important trends in the changing composition of the northeastern forest. In the eight northeastern states with the largest volumes of red maple growing stock, all but Vermont and New Hampshire had increases since the last Forest Service inventory. Increases in red maple growing stock exceeded

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hard maple, red oaks, and white oaks.

Sawtimber volume of red maple exceeds 38.893 billion bf, more than 14 percent of the total hardwood sawtimber volume. The majority of red maple sawtimber (13.544 billion bf) is in tree grades 3, 4, and 5; about 63 percent. Tree grades 1 and 2 represent 7.809 billion bf. The volume of red maple sawtimber in the Northeast increased by nearly 58 percent between FIA surveys, whereas all hardwoods combined increased about 39 percent. Eight states hold more than 2.0 billion bf of red maple sawtimber, with the top four states exceeding 3.2 billion bf. A brief overview of red maple in each northeastern state follows.

Maine

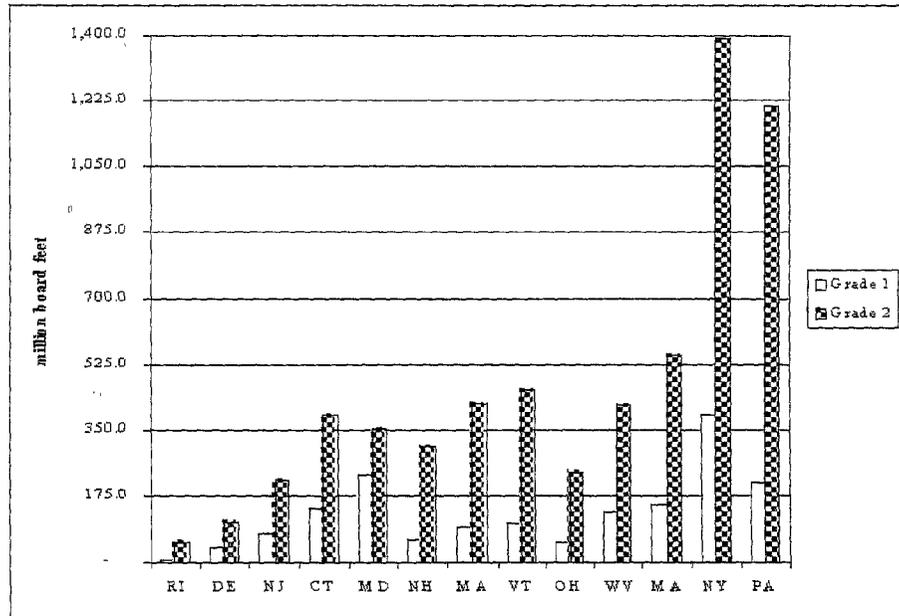
In stem numbers, the Pine Tree State has more red maple than any other northeastern state: about 1.9 million. Of this, 79 percent of the stems are in the 2- to 4-inch dbh class and 15 percent are in the 6- to 8-inch class. Eighteen percent of Maine's red maple sawtimber volume is in the 6-inch class, 24 percent in the 8-inch class, and 22 percent in the 10-inch class. Aggregated, red maple represents 64 percent of Maine's growing stock volume.

New Hampshire

The Granite State ranks fifth in the number of red maple stems among northeastern states: about 563,000. Of this, 70 percent are in the 2- to 4-inch dbh class and 20 percent are in the 6- to 8-inch class. Fourteen percent of New Hampshire's red maple sawtimber volume is in the 6-inch class, 22 percent is in the 8-inch class, and 24 percent is in the 10-inch class. Combined, red maple represents 60 percent of New Hampshire's growing stock volume.

Vermont

In stem numbers, the Green Mountain State ranks eighth in the number of red maple stems among northeastern states: about 293,000. Of this, 64 percent are in the 2- to 4-inch dbh class and 21 percent are in the 6- to 8-inch class. Nine percent of Vermont's red maple sawtimber volume is in the 6-inch class, 16 percent in the 8-inch class, and 20 percent in the



10-inch class. Aggregated, this represents 45 percent of Vermont's growing stock volume.

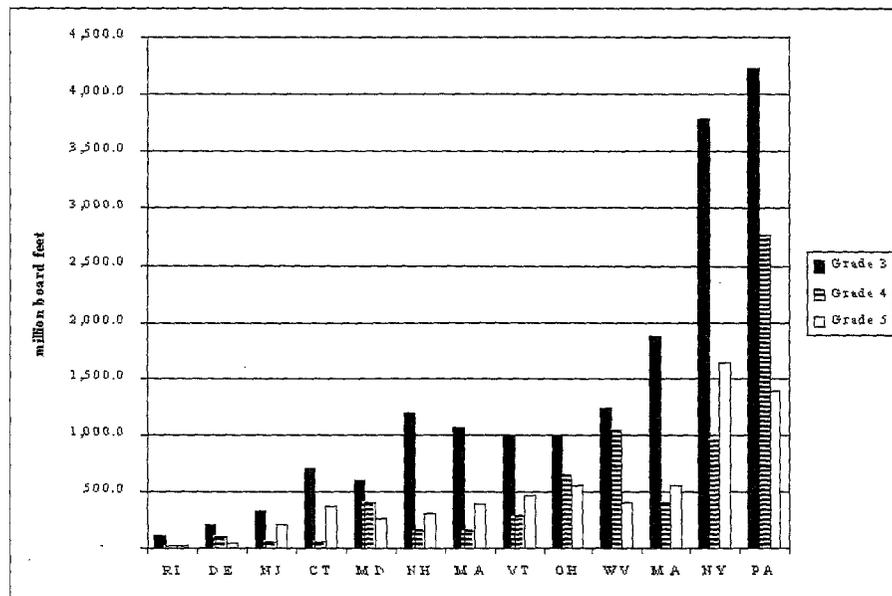
Massachusetts

The Bay State, in stem numbers, ranks seventh in the number of red maple stems among northeastern states: about 340,000. Of this, 64 percent are in the 2- to 4-inch dbh class and 22 percent are in the 6- to 8-inch class. Nine percent of Massachusetts's red maple sawtimber volume is in the 6-inch class, 18 percent in the 8-inch class, and 21 percent in the 10-inch class. Combined, this represents 49 percent of Massachusetts's growing stock volume.

Rhode Island

In stem numbers, the Ocean State ranks twelfth in the number of red maple stems among northeastern states: about 60,000. Of this, 75 percent are in the 2- to 4-inch dbh

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class and 15 percent are in the 6- to 8-inch class. Ten percent of Rhode Island's red maple sawtimber volume is in the 6-inch class, 17 percent in the 8-inch class, and 23 percent in the 10-inch class. Aggregated, this represents 50 percent of Rhode Island's growing stock volume.

Connecticut

The Constitution State, in stem numbers, ranks tenth in the number of red maple stems among northeastern states: about

217,000. Of this, 67 percent are in the 2- to 4-inch dbh class and 19 percent are in the 6- to 8-inch class. Seven percent of Connecticut's red maple sawtimber volume is in the 6-inch class, 13 percent in the 8-inch class, and 20 percent in the 10-inch class. Combined, this represents 40 percent of Connecticut's growing stock volume.

New York

In stem numbers, the Empire State ranks third in the number of red maple stems among northeastern states: about 1.4

million. Of this, 71 percent are in the 2- to 4-inch dbh class and 20 percent are in the 6- to 8-inch class. Eleven percent of New York's red maple sawtimber volume is in the 6-inch class, 17 percent in the 8-inch class, and 19 percent in the 10-inch class. Aggregated, this represents 47 percent of New York's growing stock volume.

Pennsylvania

The Keystone State, in stem numbers, ranks second in the number of red maple stems among northeastern states: about 1.7 million. Of this, 71 percent are in the 2- to 4-inch dbh class and 19 percent are in the 6- to 8-inch class. Eleven percent of Pennsylvania's red maple sawtimber volume is in the 6-inch class, 17 percent in the 8-inch class, and 19 percent in the 10-inch class, similar to percentages for New York. Combined, this represents 47 percent of Pennsylvania's growing stock volume.

Ohio

In stem numbers, the Buckeye State ranks sixth in the number of red maple stems among northeastern states: about 493,000. Of this, 78 percent are in the 2- to 4-inch dbh class and 14 percent are in the 6- to 8-inch class. Ten percent of Ohio's red maple sawtimber volume is in the 6-inch class, 14 percent in the 8-inch class, and 15 percent in the 10-inch class. Aggregated, this represents only 40 percent of Ohio's growing stock volume; which is a lower percentage than for most of the other northeastern states.

Maryland

The Old Line State, in stem numbers, ranks ninth in the number of red maple stems among northeastern states: about 247,000. Of this, 78 percent are in the 2- to 4-inch dbh class and 14 percent are in the 6- to 8-inch class. Seven percent of Maryland's red maple sawtimber volume is in the 6-inch class, 10 percent in the 8-inch class, and 13 percent in the 10-inch class. Combined, this represents 30 percent of Maryland's growing stock volume.

New Jersey

In stem numbers, the Garden State ranks eleventh in the number of red maple stems among northeastern states: about 157,000. Of this, 72 percent are in the 2- to 4-inch dbh class and 18 percent are in

the 6- to 8-inch class. Ten percent of New Jersey's red maple sawtimber volume is in the 6-inch class, 17 percent in the 8-inch class, and 17 percent in the 10-inch class. Aggregated, this represents 44 percent of New Jersey's growing stock volume.

Delaware

The First State, in stem numbers, ranks last in the number of red maple stems among northeastern states : about 57,000. Of this, 74 percent are in the 2- to 4-inch dbh class and 14 percent are in the 6- to 8-inch class. Five percent of Delaware's red maple sawtimber volume is in the 6-inch class, 9 percent in the 8-inch class, and 11 percent in the 10-inch class. Combined, this represents 25 percent of Delaware's growing stock volume.

West Virginia

In stem numbers, the Mountain State ranks fourth in the number of red maple among northeastern states: about 897,000. Of this, 80 percent are in the 2- to 4-inch dbh class and 14 percent are in the 6- to 8-inch class. Thirteen percent of West Virginia's red maple sawtimber volume is in the 6-inch class, 17 percent in the 8-inch class, and 18 percent in the 10-inch class. Aggregated, this represents 48 percent of West Virginia's growing stock volume.

Utilization

The total hardwood and softwood production from this 13-state area reported from the most recent USDA Forest Service Timber Product Output data was 1,884.9 mcf. Of this total, hardwood production was 1,258 mcf, of which red maple was only 6 percent. Prices paid for red maple are quite respectable when compared to other species (e.g., hard maple, northern red oak, etc.). In July 2004, the *Hardwood Market Report* stated that FAS 4/4 soft maple brought \$1,100 per MBF and #2A 4/4 commanded \$375 per mbf in the Appalachian region. We should expect to see, and anecdotal evidence suggests that market opportunities for red maple are becoming increasingly available.

Conclusion

This study demonstrates that the influence of red maple is increasing in the eastern deciduous forest. In the northern hardwood type forest classification, red maple acreage increased by more than 31 percent between FIA surveys. This species also is a prominent component of both the sapling-seedling and pole timber classifications and will remain so for the foreseeable future. The red maple stems in the smaller diameter classes were found to comprise nearly the total number for all species; over one-quarter of the stems in the 10- and 12-inch classes are red maple. When net cubic foot or board foot volumes are considered, red maple comprises nearly one-fifth of the total hardwood growing stock volume and over one-seventh of the hardwood resource in the sawtimber classification. 