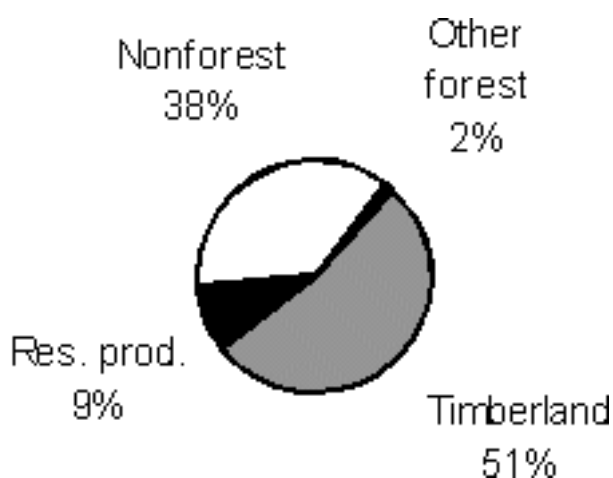


# New York

## Highlights of the 1993 Forest Inventory

### Forest-Land Area

The 18.6 million acres of forest land in New York cover 62 percent of the state's total land area (30.2 million acres). Increases and decreases in forest land at the unit level resulted in a negligible change in the amount of total forest land in the state since 1980.



**Figure 1. Area by land class, New York, 1993**

Timberland (formerly known as commercial forest land) makes up 83 percent of the forest land, totaling 15.4 million acres. The Adirondack and Catskill Preserves, with 2.5 million acres of reserved productive forest land, contribute 88 percent of the reserved productive acreage; various federal, state, county, and municipal agencies hold the remainder.

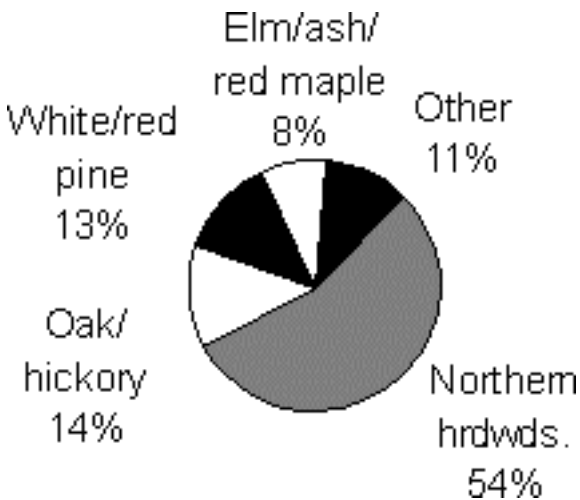
The Lake Plain Unit in the western part of New York showed the largest increase in forest land; this partly offset losses in other units, particularly the Eastern Adirondack Unit in the north.

Unit	1980	1993	Percent change
Lake Plain	2,361.6	2,505.1	+6.1
Southwest Highlands	1,798.3	1,816.2	+1.0
South-central Highlands	2,484.9	2,466.7	-0.7
St. Lawrence/No. Adirondack	3,017.4	3,018.7	none
W. Adirondack	2,012.8	2,002.7	-0.5
E. Adirondack	2,696.1	2,646.4	-1.8
Capitol District	1,487.1	1,500.5	+0.9
Catskill/Lower Hudson	2,647.5	2,685.1	+1.4
<b>State total</b>	<b>18,505.9</b>	<b>18,641.4</b>	<b>+0.7</b>

**Figure 2. Area (in thousand acres) of forest land and percent change, New York, 1980 and 1993.**

### Timberland

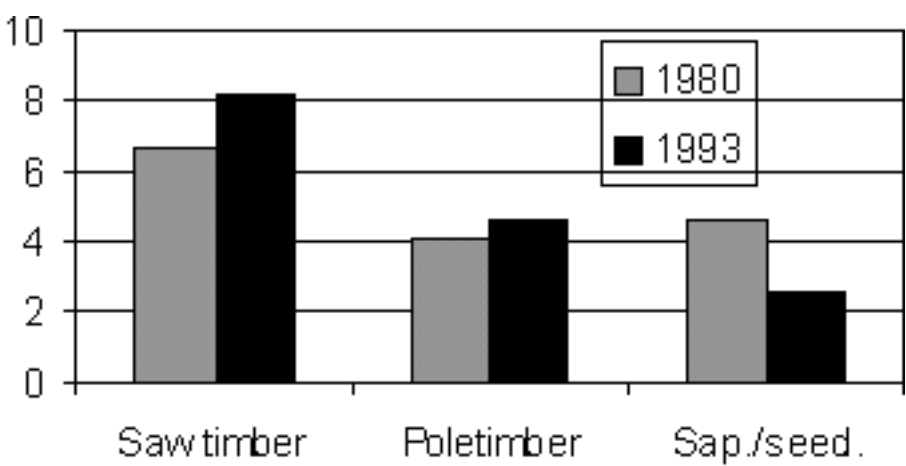
Northern hardwoods is the most common forest-type group in New York. Characterized by sugar maple, beech, yellow birch, and black cherry, this type group makes up 54 percent of the timberland area (8.4 million acres). Oak/hickory forests cover 2.1 million acres; white/red pine, 2.0 million; elm/ash/red maple, 1.2 million; aspen/birch, .7 million; and spruce/fir, .6 million acres. Other type groups contribute a half million acres.



**Figure 3. Timberland by forest-type group, New York, 1993**

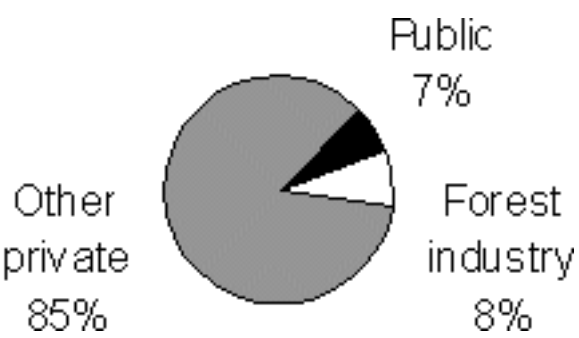
Sawtimber stands (stands in which the stocking of live sawtimber trees makes up more than half) are found on 53 percent of the timberland, or 8.2 million acres. Poletimber stands cover 30 percent (4.6 million acres), sapling and seedling stands account for 16 percent (2.5 million acres), and nonstocked stands make up less than one percent. In 1980, stand sizes were distributed more evenly. Sawtimber stands covered 6.7 million acres (43 percent), while poletimber stands accounted for 4.1 million acres (27

percent). The greatest difference is in the area of timberland in sapling and seedling stands. This class has decreased by 45 percent since 1980 when these stands covered 30 percent (4.6 million acres) of timberland.



**Figure 4. Area of timberland (in million acres) by stand-size class, New York, 1980 and 1993.**

New York's timberland is primarily privately owned. Ninety-three percent (14.4 million acres) of all timberland is owned by individuals, corporations, clubs, forest industries, and other nonpublic owners. The remainder is administered by public agencies, primarily the New York Department of Environmental Conservation.



**Figure 5. Timberland by owner class, New York, 1993**

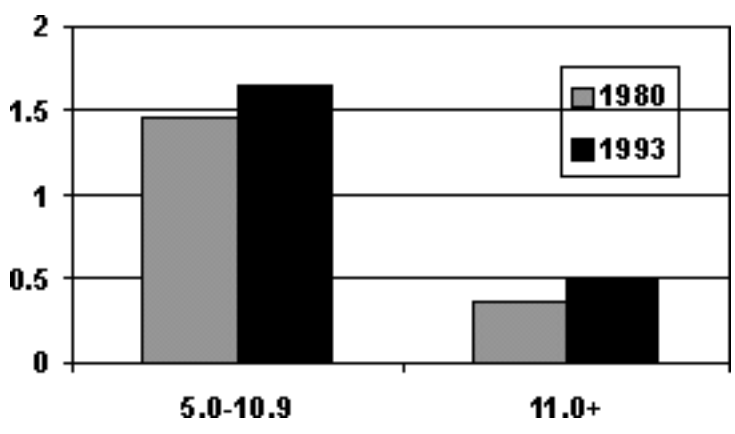
**Numbers of Trees**

There are 9.7 billion live trees 1.0 inch or larger in diameter at breast height (d.b.h.) on New York's timberland, or 631 trees per acre. Of these, 2.4 billion (156 trees per acre) are at least 5.0 inches in d.b.h. Red maple is the most common tree species in New York, accounting for 14 percent of all saplings and 18 percent of the live trees 5.0 inches and larger in d.b.h. Sugar maple is the second most common tree species, with 12 percent of the saplings and 14 percent of the live trees at least 5.0 inches in diameter. American beech rounds out the top three overall, with 9 percent of the saplings and 7 percent of the live

trees 5.0 inches and larger in d.b.h., although eastern hemlock is third in numbers of live trees at least 5.0 inches in diameter, with 8 percent.

Growing-stock trees make up 90 percent of live trees 5.0 inches and larger in d.b.h. Red maple is the most common of the trees 5.0 inches and larger in d.b.h., with 18 percent of the growing-stock trees. Sugar maple makes up 15 percent of the total. 95 percent of all live sugar maple trees 5.0 inches and larger in d.b.h. are classified as growing stock. Eastern hemlock is third, with 8 percent of all growing-stock trees.

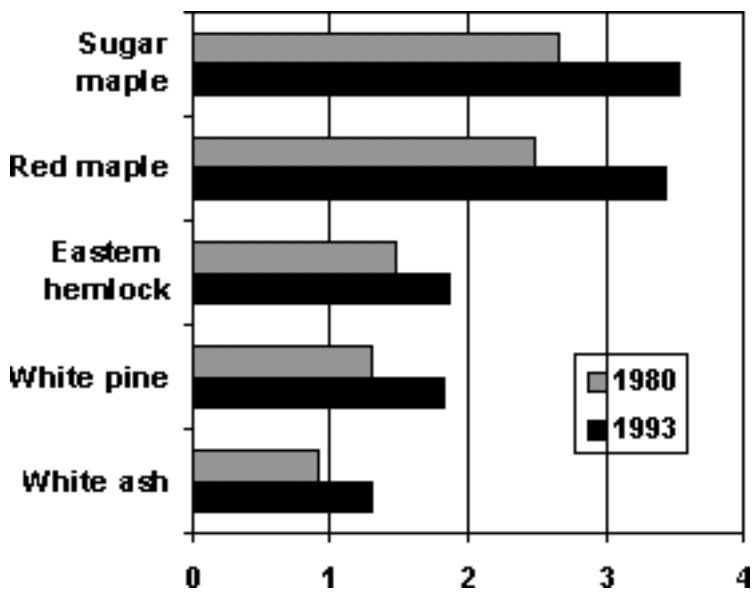
There has been a 19-percent increase in the number of growing-stock trees since 1980. In trees 5.0 to 10.9 inches in d.b.h., the increase of 14 percent is much less than that for trees that are 11.0 inches and larger in diameter. The larger trees increased from 359 million to 497 million (38 percent).



**Figure 6. Number of growing-stock trees (in billion trees) on timberland by diameter group, New York, 1980 and 1993**

### Growing-Stock Volume

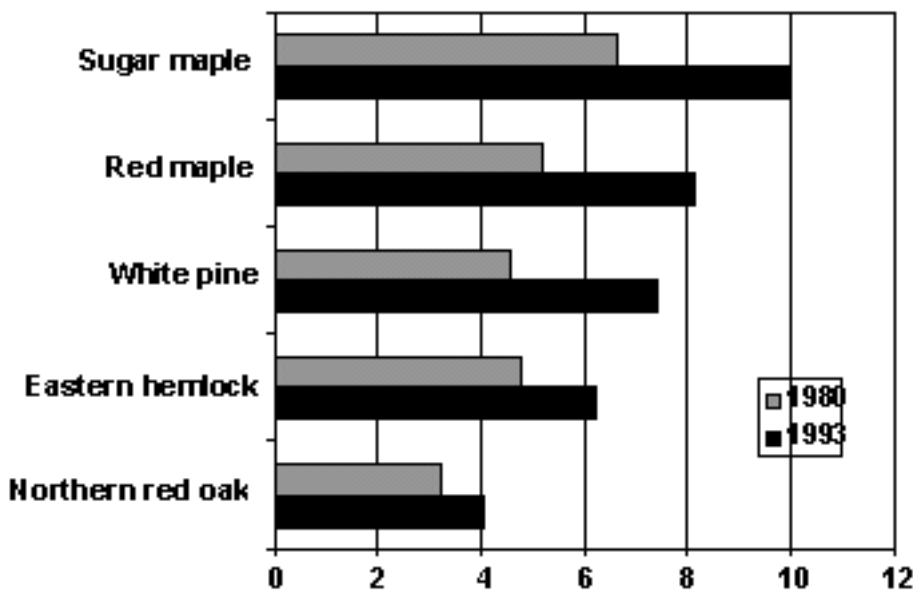
The volume of growing-stock trees in New York is 21.8 billion cubic feet, or 1,413 cubic feet per acre. This is a 32-percent increase since 1980 when the volume totaled 16.5 billion feet, or 1,070 cubic feet per acre. Sugar maple is the leading species in growing-stock volume, barely edging out red maple with 3.5 billion cubic feet, or 16 percent of the total. Red maple growing-stock trees contribute another 3.4 billion cubic feet. Eastern hemlock ranks third with 9 percent of the total (1.9 billion cubic feet). There has been no change in the ranking of the top three species since 1980.



**Figure 7. Net volume of growing-stock trees (in billion cubic feet) on timberland, top five species, New York, 1980 and 1993**

### Sawtimber Volume

With an average of 4,008 board feet per acre, there are 61.7 billion board feet of sawtimber volume in New York. In 1980, the volume was 42.3 billion board feet, or 2,739 board feet per acre; sawtimber volume has increased by 46 percent since the last inventory. As with growing-stock volume, sugar maple is the top species with 10.0 billion board feet, or 16 percent of the total. Red maple has 13 percent (8.1 billion board feet) of the total sawtimber volume. Rounding out the top three sawtimber volume species is eastern white pine with 12 percent.



## **Figure 8. Net volume of sawtimber trees (in billion board feet) on timberland, top five species, New York, 1980 and 1993**

For all size classes, northern red oak is the hardwood species with the highest percentage of its total volume in tree grades 1 and 2; 56 percent of its volume is in the higher quality grades. Sugar maple has 32 percent in tree grades 1 and 2, and red maple has 22 percent. As expected, for trees of larger diameter (15 inches and larger in d.b.h.), the percentage of volume in the higher tree grades rises, as diameter is a consideration when grading a tree. Trees in grades 1 and 2 account for 73 percent of the volume of larger northern red oaks, 45 percent of sugar maples, and 32 percent of red maples.

### **Growth and Removals**

Since the last inventory, the average annual net growth of growing stock is 585.9 million cubic feet, or 38.0 cubic feet per acre per year. This represents 2.7 percent of the current inventory. Average annual removals of growing stock total 194.7 million cubic feet, or 12.6 cubic feet per acre per year. Net change is positive over the period since the last inventory, with an average annual net change of 391.2 million cubic feet.

At the state level, all species except chestnut oak and select white oaks (white oak, swamp white oak, and bur oak) showed an average annual increase in growing-stock volume. Red maple showed an annual increase of 78.5 million cubic feet, or 5.1 cubic feet per acre yearly. Sugar maple increased at an annual rate of 57.8 million cubic feet, and northern red oak annually rose by 11.2 million cubic feet.

Rates of growth to removals of growing-stock volume vary with tree species. Red maple is growing four times faster than it is being removed, either by harvest or by land-use change, while northern red oak is outgrowing removals at a much lower rate of 1.6 to 1. Sugar maple shows the highest amount of total removals at 30 million board feet annually; growth still outpaces removals by 2.9 to 1.

Average annual net growth of sawtimber is 2.1 billion board feet, or 135.9 board feet per acre per year. The rate of growth to removals of sawtimber volume is 3 to 1. Annual removals of 673.0 million board feet per year, or 43.7 board feet per acre annually. Removals combined with growth yielded a positive annual change in board-foot volume of 1.4 billion board feet.

For all species there was a positive change in board-foot volume, with red maple showing the largest annual increase at 242.6 million board feet, and a growth-to-removals ratio of 4.3 to 1. Sugar maple had an annual increase of 224.0 million board feet, with a growth-to-removals ratio of 3 to 1. Northern red oak, despite a growth-to-removals ratio of 1.7 to 1, showed an annual increase of 53.9 million board feet.

Species	Growing stock	Sawtimber
Sugar maple	2.9 to 1	3.0 to 1
Red maple	4.2 to 1	4.3 to 1
Eastern hemlock	3.7 to 1	3.5 to 1
White pine	4.0 to 1	4.3 to 1
Northern red oak	1.6 to 1	1.7 to 1

**Figure 9. Growth to removals ratios of growing-stock and sawtimber volume on timberland, top five species, New York, 1979-92.**

## Nontimber Resources

Although designed primarily to sample the timber resource, the inventory also provides information that relates to wildlife habitat and other nontimber factors.

On all forest land excluding Preserve acreage, there are 10.0 billion trees that are 1.0 inches and larger in d.b.h. The dry weight biomass of all live trees (seedling and larger) and shrubs on all non-Preserve forest land is 1.1 billion dry tons, or 70 dry tons per acre. Rough and rotten cull trees and noncommercial tree species contribute 10 percent (250.6 million trees) of the live trees at least 5.0 inches in diameter on timberland. These trees have limited timber value, but many are used by wildlife for habitat or food. Also, all trees sequester carbon, which is a valuable asset to the environment.

New York's timberland includes 250 million dead trees, or 16 dead trees per acre, that are 5.0 inches and larger in d.b.h. Of these, 70 million are standing and have some form of cavity that can provide nesting sites for birds and dens for animals. Seven percent (161 million) of standing live trees that are at least 5.0 inches in diameter have some sort of cavity.

Understory vegetation (seedlings, saplings, and shrubs) totals 152 billion stems on the state's timberland. The most common tree species are white ash, sugar maple, beech, and red maple. *Rubus* species, paniced dogwood, spirea, and blueberry are the most common shrubs.