

# Pennsylvania's Forest Resources, 2012

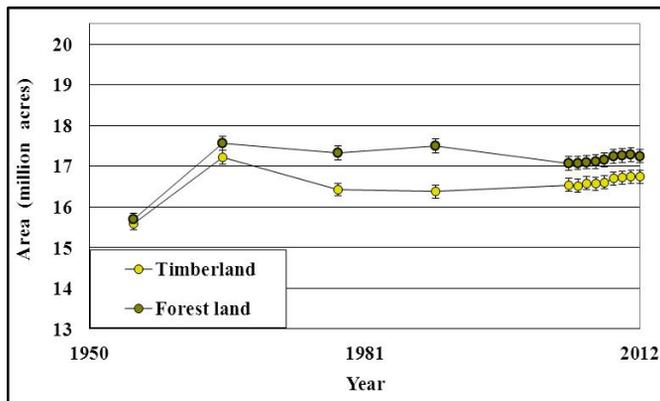
Research Note NRS-185

This publication provides an overview of forest resource attributes for Pennsylvania 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 annual estimates, along with web-posted core tables, will be updated annually. For more information please refer to page 4 of this report.

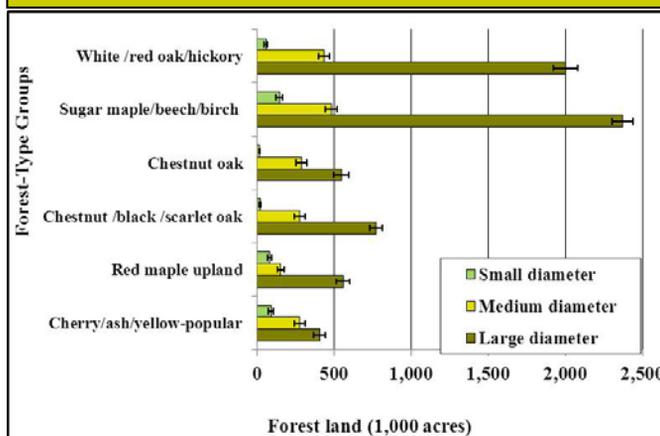
**Table 1.—Annual estimates, uncertainty, and change**

|   | Estimate (2012) | Sampling error (%) | Change(%) since 2007 |
|---|-----------------|--------------------|----------------------|
| <b>Forest Land Estimates</b>  |                 |                    |                      |
| Area (1,000 acres)  | 16,749          | 0.7                | 0.8                  |
| Number of live trees > 1-inch diameter (million trees)                          | 8,169           | 1.7                | -1.7                 |
| Dry biomass of live trees > 1-inch diameter (1,000 tons)                        | 1,052,863       | 1.0                | 4.7                  |
| Net volume of live trees > 5-inch diameter (million ft <sup>3</sup> )           | 36,886          | 1.1                | 5.2                  |
| Annual net growth of live trees > 5-inch diameter (1,000 ft <sup>3</sup> /year) | 855,094         | 3.0                | 0.9                  |
| Annual mortality of live trees (1,000 ft <sup>3</sup> /year)                    | 322,658         | 4.0                | 0.8                  |
| Annual harvest removals of live trees (1,000 ft <sup>3</sup> /year)             | 386,603         | 7.2                | -7.3                 |
| Annual other removals of live trees (1,000 ft <sup>3</sup> /year)               | 12,703          | 27.3               | -52.7                |
| <b>Timberland Estimates</b>   |                 |                    |                      |
| Area (1,000 acres)  | 16,245          | 0.8                | 1.1                  |
| Number of growing-stock trees > 5-inch diameter (million trees)                 | 7,967           | 1.8                | -1.8                 |
| Dry Biomass of live trees > 1-inch diameter (1,000 tons)                        | 1,017,495       | 1.1                | 4.7                  |
| Net volume of live trees > 5-inch diameter (million ft <sup>3</sup> )           | 35,631          | 1.2                | 5.1                  |
| Net volume of growing-stock trees (million ft <sup>3</sup> )                    | 32,590          | 1.2                | 2.3                  |
| Annual net growth of growing-stock trees (1,000 ft <sup>3</sup> /year)          | 741,151         | 3.1                | 0.1                  |
| Annual mortality of growing-stock trees (1,000 ft <sup>3</sup> /year)           | 236,496         | 4.5                | 1.9                  |
| Annual harvest removals of growing-stock trees (1,000 ft <sup>3</sup> /year)    | 328,114         | 7.4                | -6.8                 |
| Annual other removals of growing-stock trees (1,000 ft <sup>3</sup> /year)      | 32,439          | 26.3               | -45.3                |

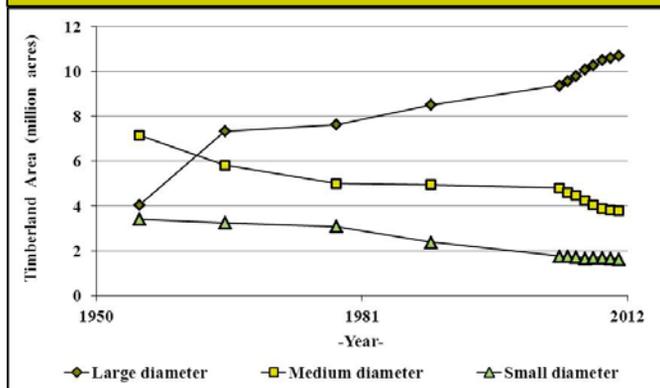
Note: When available, sampling errors and bars provided in the figures and tables represent a 68 percent confidence interval.



**Figure 1.—Area of forest land and timberland by year.**



**Figure 2.—Area of forest land by size class and top six forest types.**



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



Table 2.—Top 10 species by statewide volume estimates 2012

| Rank | Species                | Volume of live trees on forest land (million ft <sup>3</sup> ) | Sampling error (%) | Change (%) since 2007 | Volume of sawtimber trees on timberland (million bdf) | Sampling error (%) | Change (%) since 2007 |
|------|------------------------|--|--------------------|-----------------------|---|--------------------|-----------------------|
| 1    | Red maple              | 6,738.9  | 2.6                | 3.2                   | 16,507.2  | 3.7                | 8.0                   |
| 2    | Black cherry           | 4,026.6  | 3.9                | 11.7                  | 12,838.1  | 5.2                | 14.9                  |
| 3    | Northern red oak       | 3,598.9  | 3.9                | 6.1                   | 14,395.8  | 4.5                | 10.8                  |
| 4    | Sugar maple            | 2,683.9  | 4.8                | 4.9                   | 8,117.3   | 6.0                | 14.7                  |
| 5    | Chestnut oak           | 2,520.3  | 4.4                | -2.7                  | 6,802.4   | 5.2                | 0.9                   |
| 6    | Eastern hemlock        | 1,904.9  | 5.8                | 8.8                   | 5,562.0   | 6.7                | 12.7                  |
| 7    | Yellow-poplar          | 1,772.7  | 7.6                | 16.0                  | 7,684.5   | 8.5                | 23.8                  |
| 8    | White ash              | 1,747.8  | 5.1                | 3.1                   | 5,473.7   | 6.9                | 5.7                   |
| 9    | White oak              | 1,612.4  | 5.3                | -1.5                  | 5,458.3   | 6.5                | 2.4                   |
| 10   | Sweet birch            | 1,559.4  | 4.6                | 8.5                   | 2,885.4   | 6.6                | 7.5                   |
| 11   | Other softwood species | 1,656.7  | 6.6                | 7.4                   | 5,410.5   | 7.6                | 11.7                  |
| 12   | Other hardwood species | 7,063.1  | 2.3                | 3.7                   | 19,640.3  | 3.3                | 10.0                  |
| 13   | All species            | 36,885.7   | 1.1                | 5.2                   | 110,775.7   | 1.6                | 10.4                  |

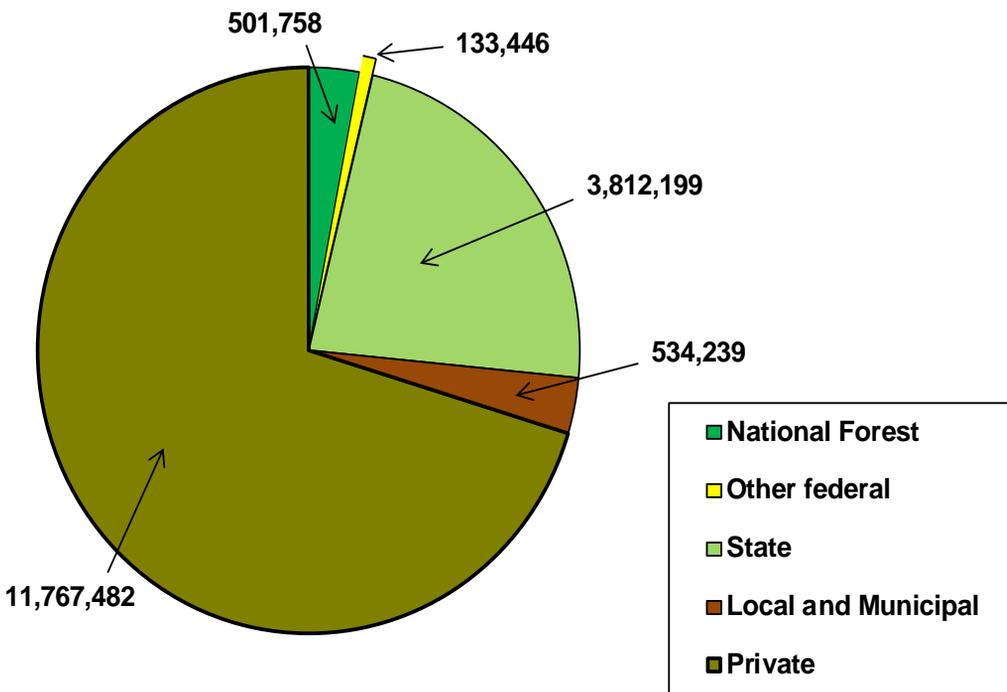


Figure 4.—Area of forest land (acres) by major owner group, 2012.



## Pennsylvania's Valuable Hardwoods

Pennsylvania forests consist of a large group of economically valuable tree species. The 10 most valuable hardwood species are found in large numbers and make up the majority of the volume in the Commonwealth (Fig. 5 density and Table 2 volume). Red maple (1.5 billion trees) and black cherry have the greatest number of trees >1-inch diameter at breast height (d.b.h.) (Fig. 5) and contain the greatest volume (Table 2). Beech surpasses northern red oak and sugar maple in the number of trees >1-inch d.b.h. (Fig. 5), but because the number of commercial-size trees >11 inches d.b.h. is less than a third of northern red oak and sugar maple numbers, this species has less commercial value (Fig. 6). Northern red oak, chestnut oak, and white oak contain more than 7,700 million cubic feet of wood (Table 2). In practice, chestnut oak is sold as white oak in the marketplace because of its similar wood properties and quantity, but it generally produces twice the number of cull trees as white oak (Fig.7).

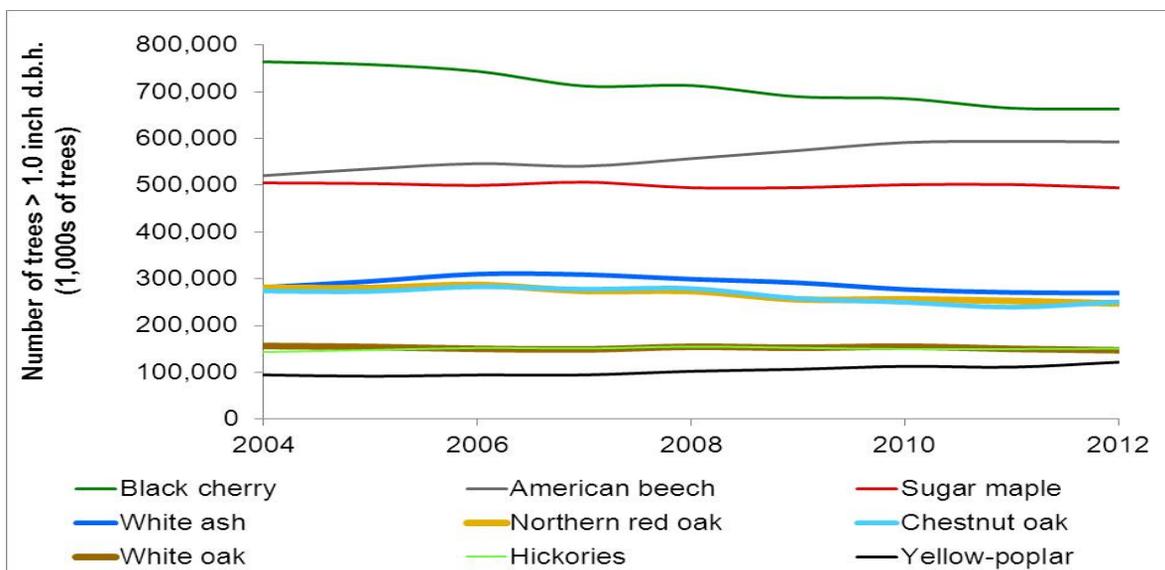


Figure 5. – Top “nine” most valuable hardwoods minus red maple, 2004-2012.

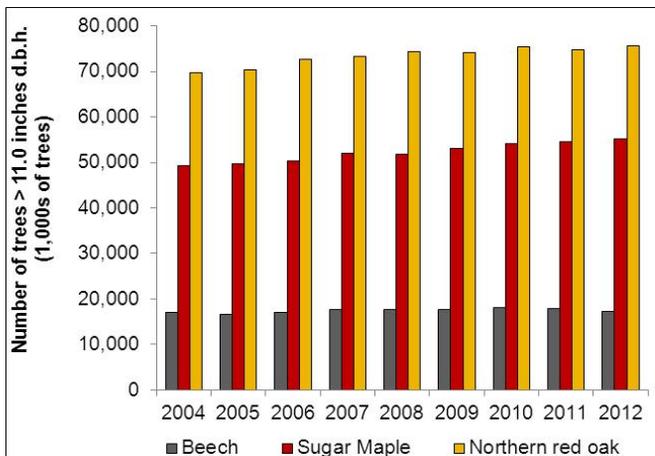


Figure 6.—Number of trees of commercial size, 2004-2012.

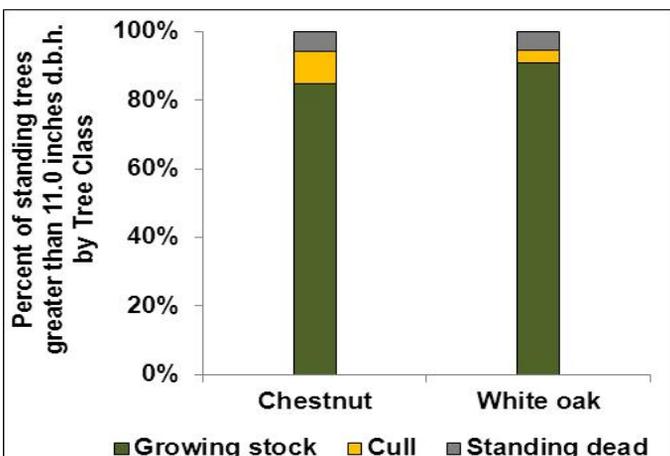


Figure 7.—Number of commercial-size trees in percent, by tree class, 2012.

#### Citation for this Publication

McCaskill, G.L.; McWilliams, W.H.; Barnett, C.J. 2013. **Pennsylvania's forest resources, 2012**. Res. Note. NRS-185. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

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#### Additional Pennsylvania Inventory Information

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