USDA Forest Service, US Department of Agriculture
Northern Research Station

# Maryland's Forest Resources, 2011

Research Note NRS-153

This publication provides an overview of forest resource attributes for Maryland 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.**

| | 2011 estimate | Sampling error (%) | Change since 2008 (%) |
|---|---|---|---|
| **Forest Land Estimates** | | | |
| Area (1,000 acres) | 2,461 | 2.3 | -1.3 |
| Number of live trees 1-inch diameter or larger (million trees) | 1,442 | 5.1 | -2.7 |
| Dry biomass of live trees 1-inch diameter or larger (1,000 tons) | 178,880 | 3.0 | 1.4 |
| Net volume in live trees (1,000,000 $ft^3$) | 6,562 | 3.2 | 1.4 |
| Annual net growth of live trees (1,000 $ft^3$/year) | 154,854 | 10.3 | N/A |
| Annual mortality of all live trees (1,000 $ft^3$/year) | 71,236 | 11.7 | N/A |
| Annual removals of all live trees (1,000 $ft^3$/year) | 77,163 | 25.0 | N/A |
| **Timberland Estimates** | | | |
| Area (1,000 acres) | 2,329 | 2.6 | -1.7 |
| Number of live trees 1-inch diameter or larger (million trees) | 1,395 | 5.3 | -2.8 |
| Dry biomass of live trees 1-inch diameter or larger (1,000 tons) | 168,105 | 3.3 | 0.3 |
| Net volume in live trees (1,000,000 $ft^3$) | 6,162 | 3.5 | 0.1 |
| Net volume of growing-stock trees (1,000,000 $ft^3$) | 5,769 | 3.6 | -2.6 |
| Annual net growth of growing-stock trees (1,000 $ft^3$/year) | 140,733 | 10.9 | N/A |
| Annual mortality of growing-stock trees (1,000 $ft^3$/year) | 52,027 | 13.0 | N/A |
| Annual removals of growing-stock trees (1,000 $ft^3$/year) | 69,148 | 24.4 | N/A |

Note: When available, errors bars provided in figures represent 68 percent confidence intervals

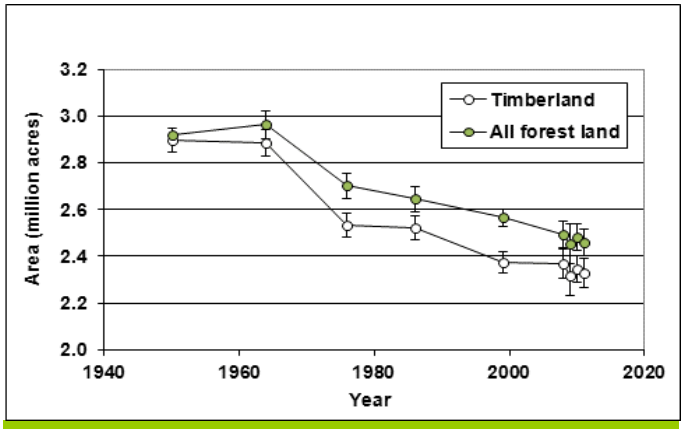


**Figure 1. – Area of timberland and forest land by year.**

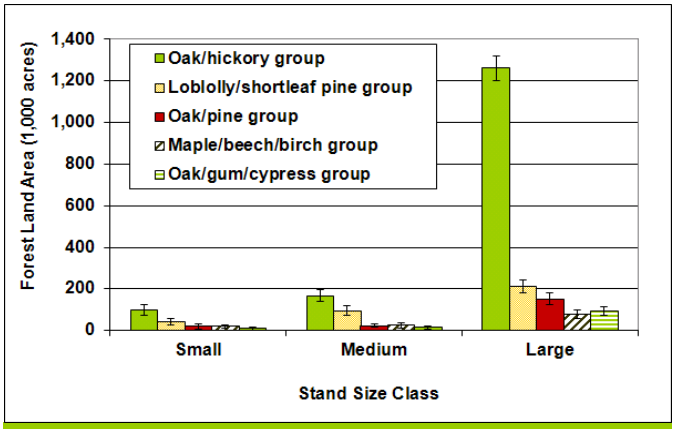


**Figure 2. – Area of forest land by stand size class for top six forest-type groups, 2007-2011.**

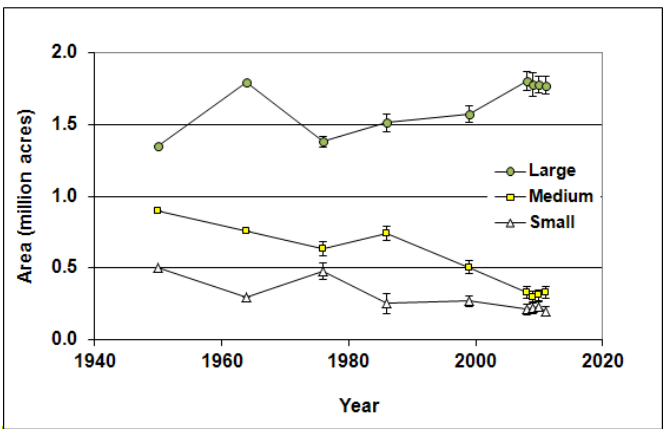


**Figure 3. – Area of timberland by stand size class and year.**

**Table 2. – Top 10 tree species by statewide volume estimates, 2007-2011**

| Rank | Species | Volume of live trees on forest land (million ft$^3$) | Sampling error (%) | Change since 2008 (%) | Volume of sawtimber trees on timberland (million bdft) | Sampling error (%) | Change since 2008 (%) |
|---|---|---|---|---|---|---|---|
| 1 | Yellow-poplar | 1,267 | 10.5 | 4.9 | 6,106 | 11.7 | 5.2 |
| 2 | Red maple | 712 | 8.2 | -3.9 | 1,999 | 11.5 | -7.8 |
| 3 | Loblolly pine | 649 | 11.2 | 8.1 | 2,140 | 12.8 | 13.2 |
| 4 | White oak | 536 | 10.4 | 8.9 | 2,132 | 12.3 | 12.9 |
| 5 | Sweetgum | 443 | 11.4 | -6.8 | 1,352 | 14.2 | -5.9 |
| 6 | Chestnut oak | 261 | 16.3 | -8.4 | 795 | 19.3 | -7.0 |
| 7 | Black cherry | 245 | 16.5 | 8.5 | 603 | 23.2 | 8.0 |
| 8 | Northern red oak | 226 | 14.3 | -4.9 | 791 | 18.7 | -8.5 |
| 9 | Black oak | 203 | 14.1 | -1.8 | 847 | 15.6 | -0.4 |
| 10 | American beech | 171 | 16.3 | -8.3 | 583 | 23.1 | -0.9 |
| | Other softwoods | 276 | 18.4 | -9.2 | 796 | 19.1 | -9.7 |
| | Other hardwoods | 1,576 | 5.9 | 4.4 | 4,838 | 7.5 | 0.3 |
| | **All species** | **6,562** | **3.2** | **1.4** | **22,981** | **4.5** | **1.6** |

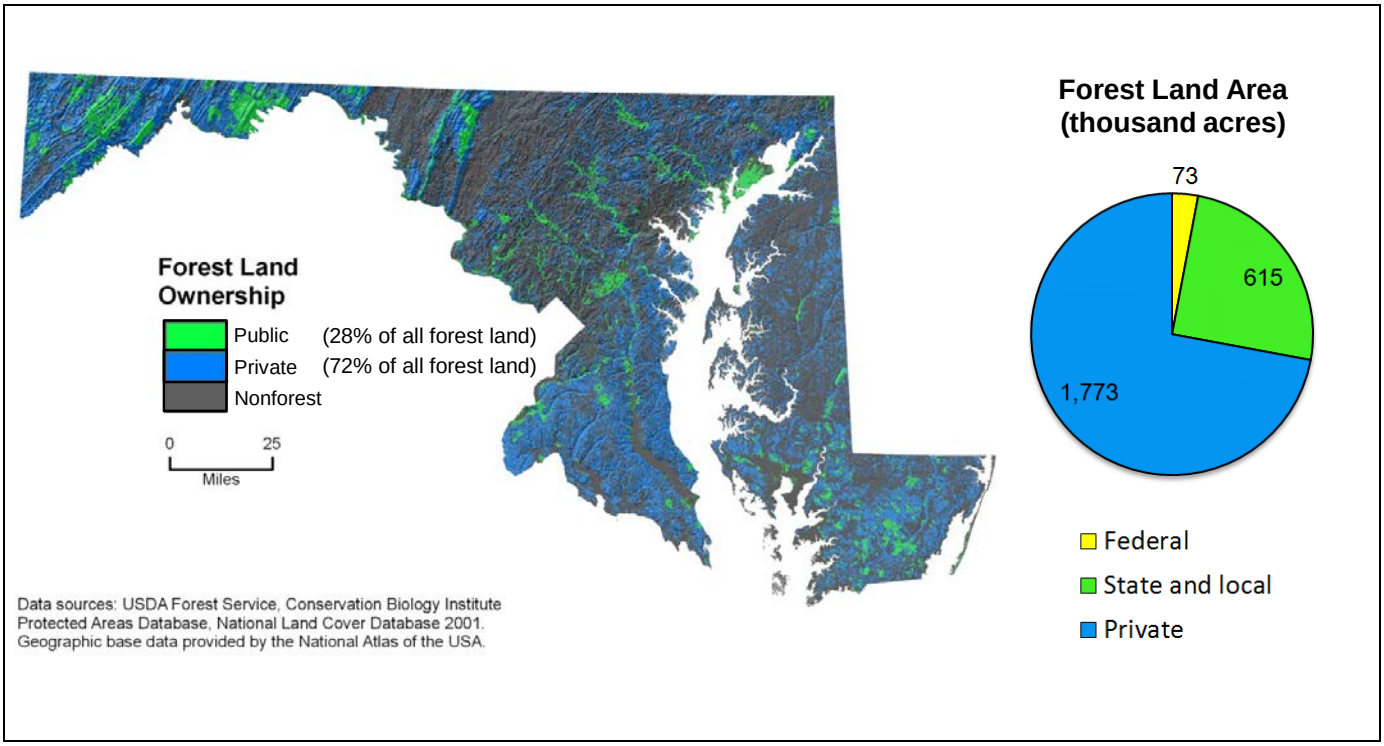


**Figure 4. – Distribution of ownerships and area of forest land (thousand acres) by ownership group, Maryland, 2011.**

# Urban Forest Land in Maryland and Delaware

More than 80 percent of the U.S. population lives in urban areas. Tree cover in these areas offers a wide range of environmental benefits, including the provision of wildlife habitat, aesthetic appeal and visual barriers, climate control, water quality improvement, and air and noise pollution abatement. Many studies indicate that forest land that lies in close proximity to developed land or in areas of high population density may be strongly influenced by urban land uses. These forests often differ from their rural counterparts in forest structure and function as they may be exposed to a unique set of abiotic and biotic pressures associated with their proximity to developed areas. The higher density of forest-nonforest edges near urban areas can significantly impact the flora and fauna of these areas by altering patterns of seed dispersal and by changing local climate and moisture dynamics.

Maryland and Delaware are ranked 6th and 5th, respectively, among the U.S. states in terms of percent urban land, which includes urbanized areas and urban clusters as defined by the U.S. Census Bureau (2010). Urban area is generally found in census blocks that have a population density of at least 1,000 people per square mile. Using FIA's definition of forest land, the forested portion of this urban land is estimated to be 310,000 acres in Maryland and 34,000 acres in Delaware. These estimates, however, don't include all urban area with tree cover. Areas with tree cover may be excluded from FIA forest land for a number of reasons, such as not meeting minimum area and shape requirements (Woudenberg and others 2010).

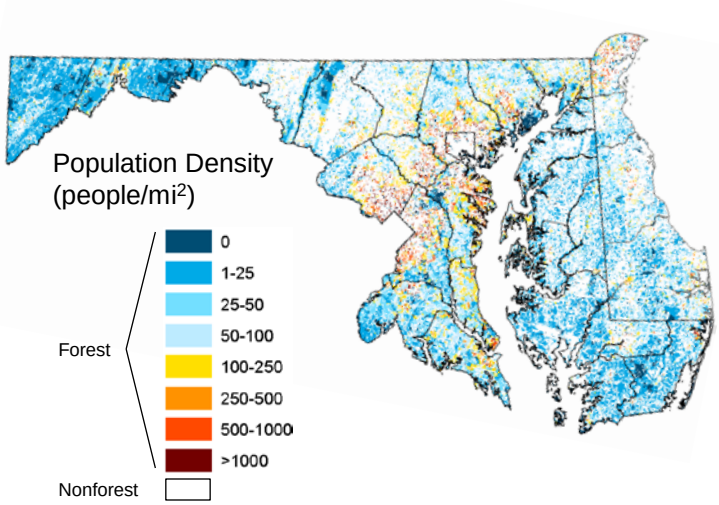


**Figure 5. – Distribution of forest land by population density class in Maryland and Delaware.**

Figure 5 shows the spatial distribution of forest land by population density class. Urban forest land in Maryland is concentrated primarily in the central part of the state along the Baltimore-Washington D.C. corridor. Urban forest land in Delaware is mostly located in northern New Castle County.

FIA data was used to characterize the forest land in these urban areas to see if it differed from the forest land of the non-urban areas. Since the area of urban forest land is relatively small, FIA data from Maryland and Delaware were combined to increase the reliability of the estimates. The oak/hickory forest-type group predominates in both urban and non-urban areas and the distribution of forest land by forest type group and stand size is similar for both urban non-urban areas in Maryland and Delaware. Figure 6 shows the proportion of forest land in each major ownership group. Most forest land in both urban and non-urban areas is privately owned, however there appears to be a greater proportion of local and municipal government forest land ownership in urban areas than in non-urban areas.

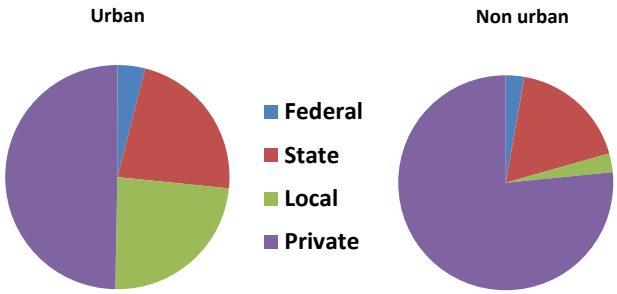


**Figure 6. – Urban and non-urban forest land by ownership category in Maryland and Delaware.**

## Citation for this Publication

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## FIA Program Information

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Woudenberg, S.W.; Conkling; B.L.; O'Connell, B.M.; LaPoint, E.B.; Turner, J.A.; Waddell, K.L. 2010. **The Forest Inventory and Analysis database: Database description and users manual version 4.0 for Phase 2.** Gen. Tech. Rep. RMRS-GTR-245. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 339 p.

## Additional Inventory Information

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## Contact Information

Lead Analyst: Tonya Lister (610) 557-4033, tlister01@fs.fed.us
Data processing/access: Chuck Barnett, (610) 557-4031, cjbarnett@fs.fed.us
Field data collection: Tom Willard, (717) 718-7881, thomaswillard@fs.fed.us
Estimates, tabular data, and maps from this report may be generated at: www.fiatools.fs.fed.us