

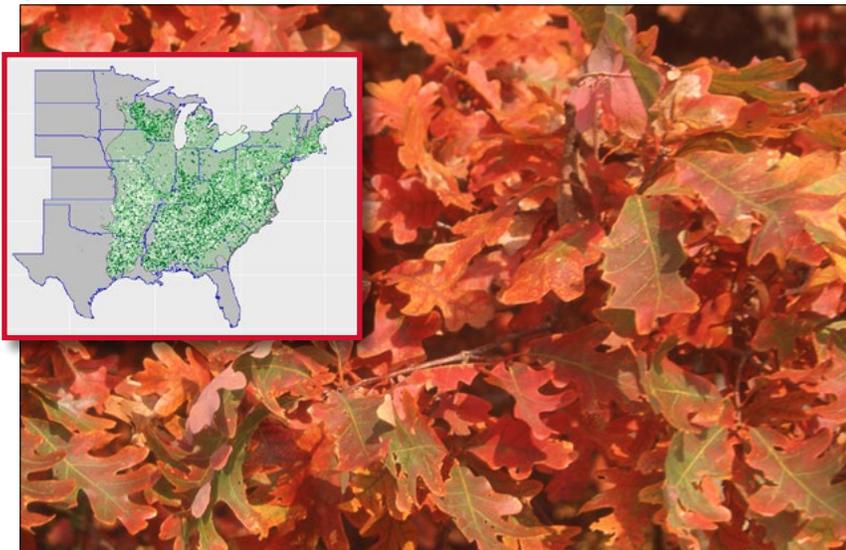
NTFPs from Trees: Nontimber Forest Products that Support our Society and Economy

WHITE OAK

Product: Baskets

Plant parts used: Small-diameter, knot-free boles

White oak (*Quercus alba* L.) is an iconic tree across most of the Eastern United States. It is a medium to large tree that grows on a wide range of xeric and mesic forest sites. Although trees may be long-lived, the majority of cohorts die young, often before 5 years of age. Populations are concentrated along the Appalachian Mountains and extend north from Louisiana and Texas to Minnesota (shown in green on the map below).



Nontimber Uses

- Being high in carbohydrates, white oak acorns were an important traditional food source.
- Early settlers used oils pressed from white oak acorns to alleviate joint pains and the dried bark to treat a variety of ailments.
- Flour made from acorns is of increasing interest to entrepreneurial forest foragers.
- Baskets, made from splits of white oak wood, are the iconic nontimber product from white oak. Traditional artisans use small-diameter, knot-free boles for these utilitarian pieces of art.

Markets

- As with most nontimber forest products, there is a lack of information on markets for white oak baskets.
- Exceptional and distinct white oak baskets made by Cherokee artisans are available through the oldest Native American cooperative.
- Traditional white oak baskets also are marketed through online retail operations managed by local artisans.
- White oak baskets, as with many other nontimber forest products, are traded through specialty niche markets with increasing visibility, access, and availability of the products.

Key Points

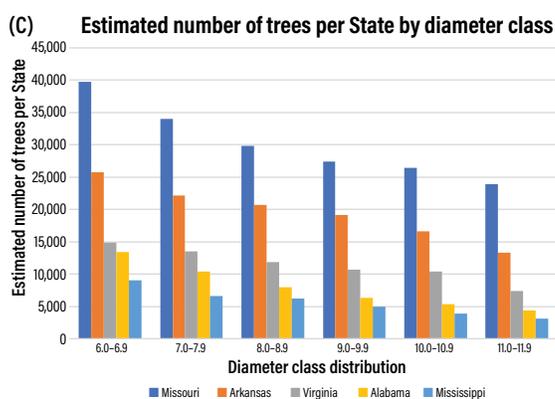
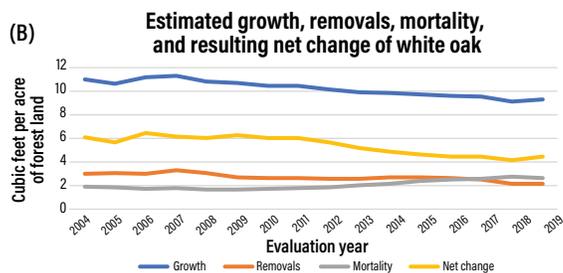
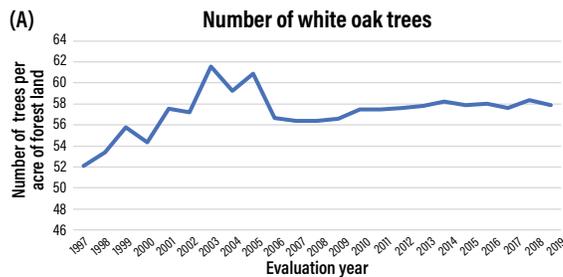
- White oak is highly valued for food, medicine, and baskets, in addition to staves and lumber.
- Specialty wood products, made from small-diameter boles, such as baskets, are considered nontimber forest products and require consideration in forest products planning and management.
- Five States (Missouri, Arkansas, Virginia, Alabama, and Mississippi) had more than half of live white oak trees <12 inches in diameter.
- Although widely distributed across the Eastern United States, a major challenge is regenerating existing stands of white oak.
- The lack of advanced regeneration of small-diameter white oak trees affects all market players, including basket makers.

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Status^a

- White oak is found in Forest Inventory and Analysis plots in 33 States, with about 57 trees per acre of forest land,^b Missouri has the highest concentration of about 81 trees per acre of forest land.^c
- The number of trees per acre has trended positive over the 23 years examined, with about an 11-percent increase from 1997 through 2019 (see chart [A]).
- Across all States, estimated growth was positive at about 9.8 cubic feet per acre of forest land,^d exceeding estimated removals and mortality for an overall positive net change.
- From 2004 through 2019, estimated growth exceeded mortality and removals, although still positive growth declined over those years (see chart [B]).
- Of the five States that have >50 percent of the small-diameter stems, Missouri has about 40 percent of each of the larger diameter classes (see chart [C]).

^a Estimates are based on observations of at least one specimen of the species in an inventory plot (representing about 6,000 acres of forest land). They are not based on all forest land for the State.

^b At 68-percent confidence interval, standard error is ± 1.19 percent of estimate.

^c At 68-percent confidence interval, standard error is ± 2.84 percent of estimate.

^d At 68-percent confidence interval, standard error is ± 1.70 percent of estimate.

Management and Implications

- There is a wealth of science-based knowledge on the silviculture, management, and utilization of oaks, yet regeneration is the major concern for sustainability and conservation of populations and species.
- Advanced regeneration with enough new cohorts to ensure cut stands are replaced with the same species is a major issue with white oak.
- The lack of advanced regeneration of small-diameter white oak boles affects all market players, including basket makers.
- White oak management that promotes advanced regeneration can aid in production of trees with characteristics desired by traditional artisans.

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The U.S. Department of Agriculture Forest Service **Forest Inventory and Analysis (FIA)** program tracks growth, mortality, and removals of forest trees and more. For additional information: <https://www.fia.fs.fed.us/>

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