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- ◆ Tree Farm Pillar-Wildlife
- ◆ Ohio's Forestry Schools
- ◆ Oak Restoration

WHY CARE ABOUT OAKS?

A few years ago, I was assisting with a workshop for foresters on how to regenerate and sustain oaks in the woods. Dan Yaussy, retired research scientist with the Northern Research Station of the Forest Service, led off the training with a presentation titled “Why Should We Care About Oaks?” At the end of his presentation, he gave a list of Dave’s Top Ten Reasons to care about oaks. No, he wasn’t referring to David Letterman; he was referring to Dave Smith, a renowned forest scientist from Virginia Tech. Since then, I’ve been asked to present the topic on a few occasions. This is always a difficult task since oaks are important for so many reasons, and there are valid concerns about their future.

Why is oak so important?

I’ll share a few examples of the importance of oak trees for wildlife and the forest products industry in this brief article.

This quote from William McShea and William Healy (2002) sums up the importance of oak for wildlife: “Acorns are the most important wildlife food in the deciduous forests of North America, the ecological equivalent of manna from heaven.” Acorns are a high energy food source that stores well (Kirkpatrick and Pekins 2002). As a result, they are a key food source that helps wildlife populations survive winter when food supplies are most limited. More than 90 wildlife species use acorns, from songbirds and small rodents to white-tailed deer and black bears (Martin et. al. 1961).

Even animals that do not directly consume acorns can be positively affected by oaks. Some of these relationships are obvious. For example, many of the small mammals that carnivores like bobcats feed on have a diet of acorns. A less obvious example: ponds and vernal pools with oak leaf litter produce more and larger wood frog tadpoles and salamanders than those with mostly maple litter (Rubbo and Kiesecker 2004).

The wood from oaks has been used in many applications, but most people think of flooring, cabinetry, and furniture. The most recent data from the U.S. Forest Service shows

that 30 percent of the volume of wood harvested in Ohio comes from oaks (Forest Inventory and Analysis 2016). This percentage is even higher for southeastern Ohio. Additionally, more than 50 percent of the lumber consumed in the Amish furniture industry centered in Holmes County, Ohio is oak (Bumgardner et. al. 2011).

One historic use of white oak is cooperage. White oak barrels had many uses, but there has been a recent resurgence in demand for use in the wine and spirits industry. Southern Ohio is now home to Speyside Bourbon Cooperage, which began producing barrels in Jackson in August 2016. Brown-Foreman, a subsidiary of Jack Daniel’s Tennessee Whiskey, has been producing barrel parts in Jackson County for several years.

Why are we concerned?

About 60 percent of Ohio’s 8.1 million acres of forest is classified as the Oak-Hickory Forest Type group (Ohio’s Forests 2011). Although oaks dominate the canopies of much of our forests, there is a serious lack of smaller oak seedlings, saplings, and pole-sized (4-10 inches diameter) trees to replace them. Instead, the trees getting established under the oak canopies are mostly shade loving species like red maple, sugar maple, and beech (Figure 1). As a result, the volume of oaks in Ohio has declined considerably since 1965, while that of maples increased to the point that they are almost equal with oaks (Figure 2).

Why is this happening?

Oaks are a bit like Goldie Locks. Too much light from heavy cutting, like clear cutting, and oak trees often lose the battle to light loving species like yellow-poplar, bigtooth aspen, and black cherry; too little light from no cutting or light cutting (select cutting or diameter limit cutting) and they lose to shade loving species like red and sugar maple. However, when young oak seedlings receive adequate light from partial canopies, they can invest much of their energy into the development of large, carrot-like roots. These roots give them the ability to sprout and grow rapidly following disturbances like fire.

As the average size of woodland properties decreases as large properties are divided with changes in ownership, the trends of not harvesting or harvesting only a few trees from the canopy at a given time has increased. This situation, combined with the lack of disturbances which favor oak and a dramatic increase in non-native invasive plants, has resulted in a large decline in oak establishment.

What is being done about it?

The Northern Research Station of the U.S. Forest Service has been conducting research at the Vinton Furnace State Forest near McArthur, Ohio since 1952. For more than 20 years, the focus of the research has been on regenerating and sustaining oak forests. The forest scientists are finding that eliminating much of the mid-story and understory poles and





saplings, mostly red maple, with repeated fire or herbicides is not enough for oak seedlings to become established. However, when combined with a shelterwood harvest that allows adequate light to reach the forest floor, oaks can be successfully established on many sites.

These practices are currently being employed on Ohio's state forests in southeastern Ohio and on the Wayne National Forest; however, they are rarely employed on the private woodlands which make up over 80 percent of Ohio's forested lands. In 2016, the Natural Resources Conservation Service in conjunction with the Ohio Department of Natural Resources – Division of Forestry began offering special Environmental Quality Incentives Program (EQIP) funding to assist woodland owners in 17 southeastern Ohio counties with practices to help to sustain oaks. If you would like to enhance oaks in your woods, be sure to contact your ODNR service forester or a consulting forester to get assistance.

Oaks were here in the past, and they're here now. Help us to make sure that they are here in the future. The future of oak is in your hands. ♦

Author's note: In 2015, the U.S. Forest Service-Wayne National Forest, USDA Natural Resources Conservation Service (NRCS), and the ODNR-Division of Forestry combined forces to restore and sustain oak ecosystems on state, federal, and private woodlands in southeastern Ohio. The chiefs of the Forest Service and NRCS provided funding to kick-start the effort. The goal is to build a larger coalition of federal, state, and private partners to address oak restoration the region. I am honored to represent Ohio State University Extension as the outreach coordinator for this effort. We'll share the progress of this effort in future editions of the OWJ.
 --Dave Apsley

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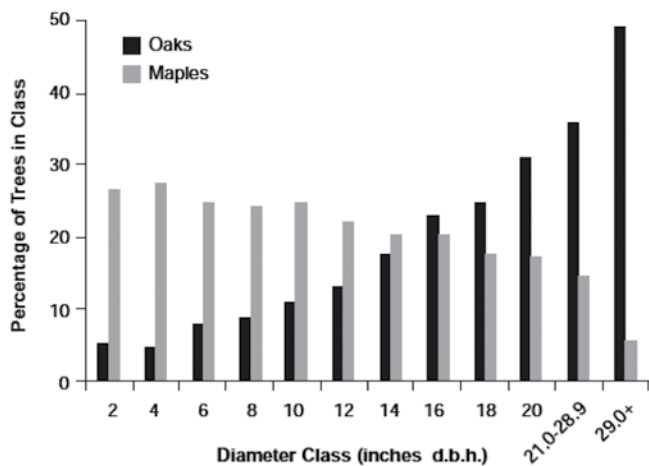


Figure 1: Oaks and maples as a percentage of all trees by diameter class on forest land, Ohio, 2011

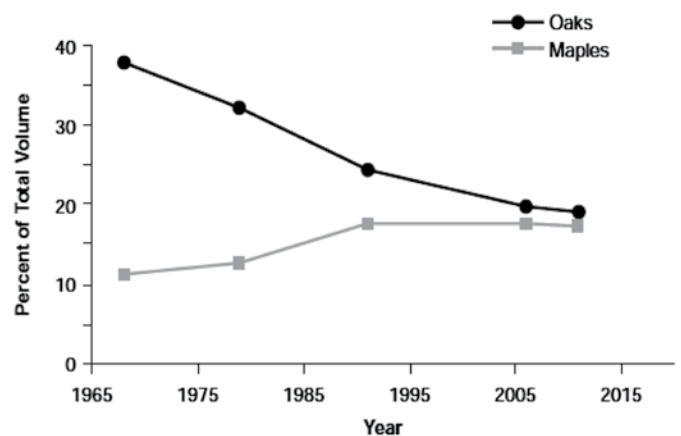


Figure 2: Oak and maples species groups as a percentage of total growing-stock volume, Ohio, 2011

How do I find a professional forester for information and long-term care of my woodland?
 The Call Before You Cut program has a useful link and phone number to get you started:
<http://CALLB4UCUT.com> or 1-877-424-8288