

OHIO Woodlands Water Wildlife

Winter 2017-18

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The Future of Oak is in Your Hands

Dave Apsley, *Extension Natural Resource Specialist*

Why is Oak So Important?

Responding to this question is a difficult task since oaks are important for so many reasons, and there are valid concerns about their future. I'll share just a few examples of the importance of oaks 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 from songbirds and small rodents to white-tailed deer and black bear, use acorns (Martin et. al. 1961). Even animals that don't 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. While others are not as obvious. For 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 is 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% 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% 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 (barrels). White oak barrels have had many uses, but there has been a recent resurgence in demand

for use in the wine and spirits industry which has resulted in a couple of new companies setting up shop in southern Ohio.

Why are we concerned?

Currently, about 60 percent of Ohio's 8.1 million acres of forest is classified as Oak Hickory (Ohio's

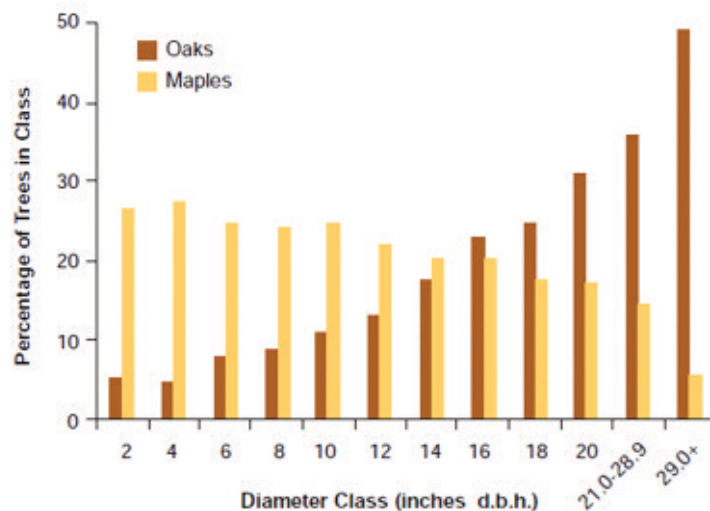


Figure 1 —Oaks and maples as a percentage of all trees by diameter class on forest land, Ohio, 2011.

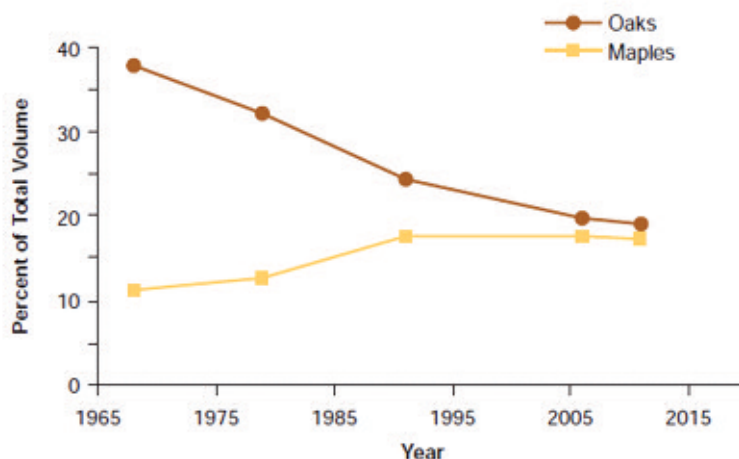


Figure 2 —Oak and maple species groups as a percentage of total growing-stock volume, Ohio, 1968 to 2011.

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 tolerant species like red maple, sugar maple and beech (Figure 1, pg 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, pg 1).

Why is this happening?

Oaks are a bit like Goldie Locks. Too much light from heavy cutting (clear cutting) and they 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 such as fire. As the size of woodland properties decreases, 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, along with a dramatic increase in non-native invasive plants have resulted in a large decline in oak seedling establishment.

What is being done about it about?

The Northern Research Station of the U.S. Forest Service has been conducting research at the Vinton Furnace Experimental Forest (which is located within the Vinton Furnace State Forest) near McArthur since 1952. For more than 20 years the focus of the research has been on regenerating and sustaining oak forests. In a nut shell what they are finding is that eliminating much of the mid 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 harvest that allows adequate light to reach the forest floor (i.e. shelterwood harvest) oaks can be successfully established on many sites.

These practices are currently being employed on State Forests in southeastern Ohio and on the Wayne National Forest; however, they are rarely employed on private woodlands which make up nearly 80% of Ohio's forest. In 2015 the U.S. Forest Service-Wayne National Forest, U.S.D.A

Natural Resources Conservation Service, 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 in the region. In 2016 the Natural Resources Conservation Service in conjunction with the Ohio Department of Natural Resources – Division of Forestry began offering special EQIP (Environmental Quality Incentives Program) funding to assist woodland owners in 17 southeastern Ohio counties with practices designed to help sustain oaks.

The future of oak is in your hands!

If you would like to enhance oaks in your woods be sure to contact your service forester (forestry.ohiodnr.gov/landownerassistance) or a consulting forester (osafdirectory.com) to get assistance or contact Call Before You Cut (CALLB4UCUT.com; 1-877-424-8288).

Oaks were here in the past, and they're here now. Help us to make sure that they are here in the future.



References: Continued on page 5, Column



Busy as a Beaver

Marne Titchenell, Extension Wildlife Specialist

We've all heard the phrase "busy as a beaver," tossed around in reference to someone who is hurriedly checking items off their to-do list, but is there truth behind such a phrase? For the most part, the answer is yes. Beaver are often busiest in the spring and fall, repairing dams and lodges in preparation for the New Year or for the coming winter. However during the winter, beaver activity slows (much like ours does, ha) and they spend more time in their lodges, which can be surprisingly warm when a family of beavers is living inside. In fact on a cold day, steam can be seen rising from the top of an active beaver lodge, which is a large pile of branches, sticks and debris piled high above the water level. A beaver lodge typically has several underwater entrances, which allow the lodge to be accessible to the beaver even when the pond freezes over.

So why would a beaver need to come and go during the winter? They do not hibernate during the winter, and so require food. Like other rodents such as squirrels and chipmunks, beavers cache food. In the fall, while beavers are working hard to maintain their dam(s), they are also stockpiling food for the winter. They create what is



called a raft, which is essentially a floating collection of branches, sticks, and other preferable woody plants. Often times, the very top of the raft is composed of inedible or less preferred species whereas the bottom of the raft (underwater, accessible, and ice free) is composed of the species beavers like to munch on the most.



Welcome our New Natural Resource Economist

Hello! I am Dr. Sayeed Mehmood. I am a new faculty and extension specialist at the School of Environment and Natural Resources. My area of specialization is economics. Prior to joining



Dr. Sayeed Mehmood
Photo Credit: Jeff Newton

SENR in July, I was a faculty at the School of Forestry and Natural Resources, University of Arkansas for 16 years. I have had extensive research experience in a broad range of natural resource

economics issues including forest landowner behavior analysis, wood-based energy issues, and environmental policy analysis. I plan to use my previous experience to help the people of Ohio through my research and outreach efforts.

In the near term (2-3 years), I plan to focus on analyzing economic contributions of the forest products industries to Ohio's economy at the state, regional, and county levels. I also plan to analyze relevant economic indicators important for Ohio's timber market outlook. My long-term plan is to do applied scientific research on a variety of topic including modeling woodland owner behavior, identifying ways to optimize resources to provide the highest level of technical assistance to woodland owners, valuation of ecosystem services and non-traditional forest products such as recreation, water quality, carbon sequestration, maple syrup, and Christmas trees.

In my outreach activities, I hope to work with a number of stakeholders such as woodland owners, forest products industries, forestry professionals and practitioners, and extension staff. I hope to work with all of you in the near future.

There are many fascinating adaptations of beavers such as webbed feet, clear eyelids for seeing with protected eyes underwater, valvular ear canals and nostrils, waterproof fur, effective digestion of a cellulose-rich diet, and the ability to hold their breath under water for 15 minutes! The most impressive, in my opinion, is their ability to completely change and alter a landscape to their benefit. Through the construction of a dam made mostly of sticks and mud, beavers can reroute rivers and streams. Their main objective is to slow the flow of the water and create a calm, deep area of water (often called a beaver pond) in which to construct their lodge. However, it is this natural behavior of beavers, along with missing and chewed up trees, that can sometimes give landowners such a headache.

Despite the damage beavers can cause they are integral parts of their ecosystem, creating habitat for not only themselves, but for other wildlife as well. Scientists have reported beavers as keystone species and ecosystem engineers. A keystone species is one that greatly influences biodiversity and ecosystem functionality; such influences are disproportionately large relative to the species abundance. An ecosystem engineer means the beaver controls the availability of resources to other species by physically altering the ecosystem, such as providing nesting grounds for waterfowl in a beaver pond. Talk about being "busy as a beaver!"

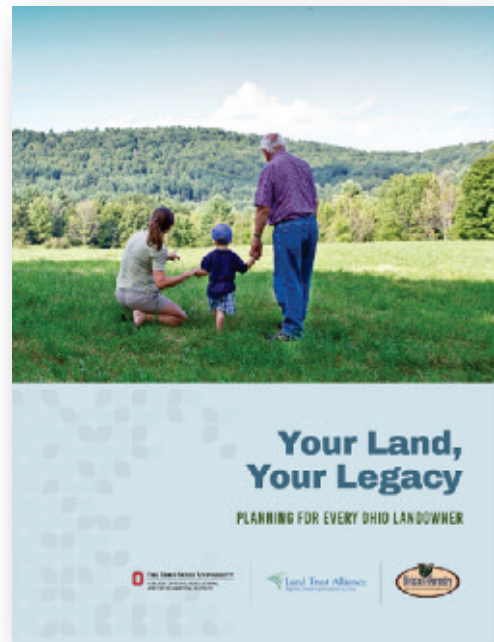
Your Land, Your Legacy

New Resources available for Ohio Woodland Owners.

In order to be good stewards many Ohio woodland owners invest considerable time, energy, money and a host of other resources into their land. Throughout their ownership they are building a legacy for the future – whether they think of it that way or not. However, what happens to this legacy when the time comes to pass it on to future generations? What happens to this when you're gone? Some thought and planning should be part of this legacy building process. In fact planning may very well be the most important step that you take as a landowner.

Now with the help of several Extension foresters, especially Paul Catanzaro from the University of Massachusetts Amherst, and funding from the USDA-National Institute of Food and Agriculture woodland owners in Ohio now have a new resource to guide them through the process of deciding what happens to their property after they are gone.

Your Land, Your Legacy- Planning for Every Ohio Landowner is a detailed guide with resources just for Ohio landowners. This publication and a narrated white-board video are both available



under the publications tab on the Ohio Woodland Stewards webpage (woodlandstewards.osu.edu).

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Calendar of Events

We are working hard on getting a calendar of events together for the 2018 season. Here is a start for the year. As always, check out the website for more up to date information and links for registration.
woodlandstewards.osu.edu

March 7	Ohio Woodland Water and Wildlife Conference for Professionals – Mid-Ohio Conference Center, Mansfield
March 17	River Valley Woodland and Wildlife Landowner Workshop, Oasis Conference Center, Loveland, OH
April 10	For The Love of Trees – from Landscapes to Forests, Lucas County
April 27	The Good, The Bad and The Hungry: Dealing with Wildlife Conflict at Home –Ohio State, Mansfield Campus
May 18	Managing Woodlands for Pollinators - Ohio State, Mansfield Campus
May 23	Trees on Tap – Ohio State , Mansfield Campus
June 28	Name That Tree – Defiance County
July 12	Woodland Wildlife – Defiance County
July 13	Name That Tree – Ohio State, Mansfield Campus
July 26	Timber Marketing – Williams County



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Look for newsletter articles, links to fact sheets and other publications by browsing our site. Registration for upcoming Woodland Stewards classes may also be done electronically.

Website:

woodlandstewards.osu.edu

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