

Salvaging & Using Wood

from Blow-down and Dead Trees

Randy Sanders, Pike County Tree Farmer

As I anticipated retirement as a fisheries/aquatic biologist with the Ohio Department of Natural Resources (ODNR) in 2006, I told my wife Liz that I wanted to spend more time at our woodland farm in southern Ohio. I wanted to see the old tobacco farm become a working farm in a more environmentally and economically sustainable way, and maybe even set an example for similar woodland farms.

The farm's main resources are native plants, both living and dead, therefore the main products from the farm would be



wood from predominantly blow-down and dead trees. I would also sell live plants such as ferns, wild flowers, and small tree seedlings harvested from disturbed areas, such as under power lines and along roads and ditches.

I also concluded that the farm needed a small portable sawmill. "Why do we need a sawmill?" Liz asked. I told her that a sawmill goes with a tree farm like a planter and combine goes with a corn or bean farm. We could make more money from our trees if they became wood that I made into items to sell.

It must have been a pretty good answer because we bought a small sawmill and I've been milling logs, drying the wood, and making picture frames, cutting boards, and other one-of-a-kind products since 2007.

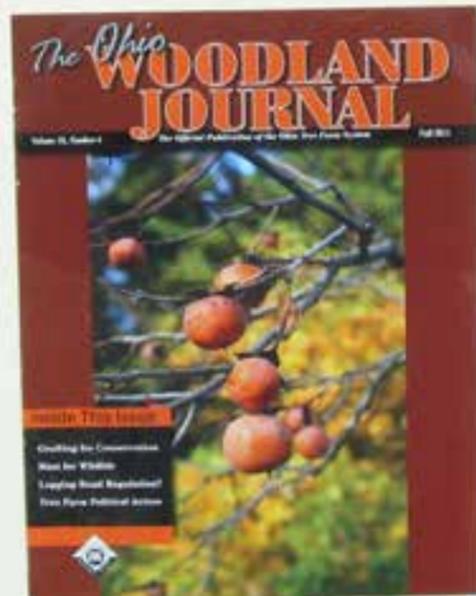
The purpose of this article is to share some thoughts on the process and equipment needed to log, mill, and dry wood. I will describe what I make from flitches¹ and share tips on selling products.

Sources of logs and certified woodland products

My main source of logs is from small annual harvests of wind and storm damage, and trees cut down doing timber stand improvement and crop tree release practices in the woods. I also get a fair number of blow downs from friends and neighbors.

While researching what it would take to have green certification for my woodland products, I learned about the green certification available

Randy Sanders showing the persimmon frame he made for Dave Apsley highlighting Dave's persimmon cover shot for his *Think Mast!* article in the Fall 2011 *Ohio Woodland Journal*. Photo by ODNR



¹Flitch— a portion of a log sawn on two (or more) sides, usually on opposite sides, leaving two wany (bark) edges. If the bark is missing, the edge is called live edge.



for members of the American Tree Farm System. I called my ODNR Division of Forestry service forester to start the process, and learned it would not be very hard since our farm already had a forest management plan.

Logging

After cutting trees into logs, landowners can take them to a milling site or take the mill to the logs. That is one advantage of a portable mill. Logging is one of the most dangerous parts of the process, and you should not attempt to do anything you cannot do safely.

Since I prefer to have perfect bark on flitches, I often take the tractor to the log, lift it up with chains or the forks, and carry it to the milling site. The logs are placed on beams or other logs to keep them off the ground. I also paint the fresh cut ends of the logs with a commercial end sealer to help slow down drying of the end grain to reduce defects.

The bark will stay on the flitches best if the logs are harvested when the sap is down in fall and winter months. Logs are milled as

soon as possible because boring insects can quickly inhabit the bark, cambium, and sap wood of logs during warmer weather.

Portable sawmill types

There are three main types of portable sawmills: chainsaw, circular, and band mill. I decided to buy a manual band mill after researching the manufacturers of each type at a Paul Bunyan Show. Most portable mills cut stationary horizontal logs by moving the blade through the log. My narrow-kerf band mill blade makes little sawdust and cuts nice book matched flitches, that is, mirror images of the figure when the top piece cut is flipped over.

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My saw has easy set-up, a heavy steel frame and trailer, and a large engine. The manual model has a winch that can be used to roll logs onto the mill, but I prefer to carefully load logs by rolling or sliding them off the tractor forks. I use a cant hook to position and turn the logs.

Deciding how to mill your logs

When considering milling your logs, landowners can buy or rent a sawmill, hire a sawyer to bring a portable mill to your farm to mill the logs, or take the logs to a commercial sawmill.

I think about the following questions before milling each log:

- What is this kind of tree/wood good for (and what is it not good for)?
- What do I want or need out of this log?
- How long, wide, and thick do I want the dried wood to be?
- Does the log have any defects? If so, do I want them to show or should they be discarded?
- How and where am I going to dry the green wood?

The four basic ways to mill a log are live sawing, cant sawing, grade sawing, and quarter sawing. Each has its merits, and whether you own a mill or hire the job out, it is important to research the pros and cons of these types of milling. I almost always level a log by the inside (pith), unless I want to mill barked slabs with uniform thickness. Then I level it by the bark (outside), however, this will produce a tapered cant.

Drying wood

After milling the logs, there are two main drying options:

Air Drying –the simplest and least expensive way to start removing the moisture content down to 12-15 percent. However, it can take months to years depending on the species, thickness, and condition of a log.

Kiln Drying – a well designed and operated kiln can dry the highest quality wood down to 6-8 percent moisture content in the shortest period of time while killing insects. Kiln types include heated, dehumidification, and solar. It will cost more, but is faster and results in lower moisture content.



For those like me who want to air dry their wood, it is essential to start by building a good foundation off the ground, properly separate the uniform layers of boards or flitches with stickers, and make sure the stack is covered, or better yet, under some sort of roof. It is also best to dry in a mostly shady location and not subject to strong winds.

I dry my wood in our old tobacco barn. I also put down plastic or another impervious surface on the ground before I build my 4 X 8 foot stack foundation. After a year or two, I often move the more valuable wood into our house sunroom or other rooms where the wood stove helps to dry it more in the winter.

Making and selling woodland products

If you want to add even more value to your wood, make a final product and sell directly to the public. However, to do that, you will need to find your own niche by making something unique and of high quality.

I knew from the start that there was no way to compete with the many big sawmills in southern Ohio. I decided I had to mill and

operate differently, so I came up with a simple contrast to the traditional forestry model. It has served me well, and I sell my wood products mostly at a local farmers' market and at several conferences and art shows.



I also enjoy using and promoting our native tree species. Everyone has seen wood from white and red oaks, but how many have seen the wood from common trees like black locust, redbud, and persimmon? I get excited when a different tree species blows down on our farm. My signature product is a tree frame, featuring a picture and picture frame of a single species, such as a picture of a redbud tree in a redbud frame.

I use boiled linseed oil on finished picture frames and tables and food grade mineral oil on cutting boards. I do not use stains, or ever try to make one species look like another. Most species are unique. People are fascinated when you can tell a story about the wood product. I also unconditionally guarantee my products.

I registered as a State Transient Vendor with the Ohio Department of Taxation to collect sales tax based on county rates, and turned my truck and trailers into commercial vehicles. Vehicle insurance is my largest expense.



Randy Sanders displayed his craft at the 2012 Tree Farm of the Year Tour at the Lashbrook-Franchi Desert Tree Farm in Jackson County. View Randy's products at www.PikeCountyFarm.com. Photo by ODNR

Pros & Cons of Milling Your Own Wood

Advantages

- lower costs for lumber and slabs
- decide to use or not use chemicals
- specialized cuts
- mill one-of-a-kind logs
- know the species of wood you have
- recycling wood is environmentally sound
- the satisfaction of doing it yourself
- growing need for small mills as properties decrease in size

Disadvantages

- equipment is expensive
- the work can be dangerous
- it is hard physical work

Basic safety equipment and supplies

I can't stress enough the importance of basic safety equipment and supplies for the woods, at the mill, or in the woodshop. They include a first aid kit, steel tipped boots, chain saw chaps, combination hardhat, ear protection and visor, leather gloves, safety glasses, equipment manuals, cell phone, and fire extinguisher.

Final thoughts

As with my first career, I have always enjoyed my work. Purchasing a sawmill, learning how to mill, doing my own logging, drying the wood, and making and selling woodland products to the final end user has made me a better and more complete tree farmer. And Liz, who is predominantly a city girl, has been very supportive of the venture and frequently scouts out neat stuff others are making out of wood. I think it has helped her become at least a little interested in the trees at the farm.

I still have a lot to learn, but often wonder why anyone would want to grow anything but trees. And always remember – be careful what you ask for! ♦

References and recommended reading:

Hoadley, R. Bruce, *Understanding Wood: A Craftsman's Guide to Wood Technology*. The Taunton Press, 2000.

Ohio State University's Forest Operations & Products Extension--Portable Sawmill Directory by county, Timber Price Reports, and other wood utilization information at <http://ohiowood.osu.edu/>.

Woodland stewardship and utilization information through ODNR Division of Forestry at <http://forestry.ohiodnr.gov/forestindustries>.

Independent Sawmill and Woodlot Management www.sawmillmag.com.

Photos courtesy of author unless otherwise noted.