Northwest Woodlands

A Publication of the Oregon Small Woodlands, Washington Farm Forestry, Idaho Forest Owners & Montana Forest Owners Associations

FORESTRY TOOLS FOR LANDOWNERS

Tools of the Trade

Mobile Electronic Forestry

DIY Tools

Today’s Heavy Equipment

Safety in the Woods

Chainsaw Maintenance

NEXT ISSUE . . .

Love of the Land

This magazine is a benefit of membership in your family forestry association.
# Table of Contents

## Features

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td><strong>Tools of the Trade</strong></td>
<td>From planning and inventory aids to high-tech equipment, choose the tools that will make your work safer, easier and cost-effective.</td>
</tr>
<tr>
<td></td>
<td><em>By Tristan Huff</em></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td><strong>Mobile Electronic Forestry</strong></td>
<td>There are many benefits from using electronic aids to manage your forestland. Take a look at some of the most useful applications (apps) and devices that are available today.</td>
</tr>
<tr>
<td></td>
<td><em>By Chris Schnepf</em></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td><strong>Managing Your Forest with a Japanese Quarter Horse</strong></td>
<td>If you’re a do-it-yourselfer with some logs to move, find some valuable tips for making your project efficient, effective and minimally painful!</td>
</tr>
<tr>
<td></td>
<td><em>By Mark Havel</em></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td><strong>Today’s Heavy Harvesting Equipment</strong></td>
<td>Here you’ll find descriptions of the large machines often used on commercial logging operations.</td>
</tr>
<tr>
<td></td>
<td><em>By Rex Storm</em></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td><strong>Integrating Safety into Your Forest Management Routine</strong></td>
<td>Be sure all of your hard work and planning aren’t negated by an accident. Follow these tips for a safe operation, every day.</td>
</tr>
<tr>
<td></td>
<td><em>By Jason Pettigrew</em></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td><strong>Chainsaw Maintenance 101</strong></td>
<td>Your most-used tool might be your chainsaw. It will be a more reliable and effective tool if you follow this advice for consistent maintenance.</td>
</tr>
<tr>
<td></td>
<td><em>By Glenn Lovell</em></td>
<td></td>
</tr>
</tbody>
</table>

## Also in This Issue . . .

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td><strong>Uses of Technology in Forestry</strong></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td><strong>Professional Equipment: It’s Not Just for Professionals</strong></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td><strong>Basic Tools for Woodland Owners</strong></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td><strong>WFFA Annual Meeting</strong></td>
<td></td>
</tr>
</tbody>
</table>

## Departments

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td><strong>Presidents’ Messages</strong></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td><strong>Down on the Tree Farm</strong></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td><strong>Treesmarts</strong></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td><strong>Treeman Tips</strong></td>
<td></td>
</tr>
</tbody>
</table>

## On the Cover:

Longer logs or bunches of logs can be fully suspended with two arches resulting in minimal drag and minimal impact.  
*Photo courtesy of Mark Havel*

## Staff:

**Anne C. Maloney, Editor**  
P.O. Box 1897  
Phoenix, OR 97535  
annewithnww@gmail.com

**Minten Graphics, Graphic Design**

Northwest Woodlands Advisory Committee Members:

- Dick Alescio  
- Mike Barsotti  
- Chuck Higgins  
- Jim James  
- Anne Maloney  
- Vic Musselman  
- Tom Nygren  
- Elaine Oneil  
- Lorri Rasor

Northwest Woodlands is published quarterly by the World Forestry Center for the Oregon Small Woodlands Association, Washington Forest Association, Idaho Forest Owners Association and Montana Forest Owners Association. Other than general editing, the articles appearing in this publication have not been peer reviewed for technical accuracy. The individual authors are primarily responsible for the content and opinions expressed herein.

“All registered marks, trademarks and service marks belong to their respective owners.”
Indispensable Tools

I love my tools, how they are designed and what they let me accomplish. Some I’ve had for years while others I’ve recently added to my collection. At times there is the urge to buy a tool just because of its clever design, so I have to be careful when I go to the hardware store. Other tools are so obviously good that I wonder where they have been all my life. Take the orbital sander and the impact driver. Both are operator-friendly and make short work of what used to be onerous jobs.

On the tree farm I use a variety of tools depending on the job. For cruising or surveying you need tools for measurement, like a tape or clinometer. I thought that maybe I could be a tree farmer without a chainsaw, but that didn’t last long. Now, because I’m not good at filing chain, there is an electric chain sharpener in my garage. One thing leads to another.

Cutting brush or doing hack-and-squirt with chemicals requires a machete or a brush axe. For planting trees you need a shovel and a tree bag. My-oh-my, when I look at my forestry equipment catalogs and see all the possibilities, I have two thoughts: first, I’m thankful that all those items exist if I need them and second, I’d need a barn to put them in.

The tool I most frequently find in my hand is my pruning saw. At a hair over 6 feet long it fits in the bed of my pickup. I have fitted the saw blade to a cedar pole handle so it is very light. I use it to open up roads, trails and property lines as this makes access much easier. Also, I prune my growth plots, which makes the trees easier to identify. I admit that I prune some trees, usually the larger ones, to make them look better.

On the home front I have a tool story that relates something about life in the U.S. I burn wood for heat in my house. To split that wood I like to use a double-bitted cruiser’s axe. This axe has a 2.5-pound head and a 28-inch handle. It’s compact and easy to manage. A few years ago my cruiser’s axe was stolen from my porch and, to my surprise, I have not been able to find a new one. It appears that the era of needing an axe has passed.

There are also a couple of handleless aids to tree farming that I consider important. I have an ATV that I take to my tree farm in my pickup. I find that having a permanent onsite ramp for unloading is much safer and faster than a portable ramp. And when you need help on a job too big for you alone it’s nice to have someone to call. If those relationships can be set up ahead of time it will make life easier.
What a Tool!

A good tool is hard to beat. That’s why I carry at least one with me at all times while I walk in the woods. Since my vest only carries so much, I usually wind up having to choose which ones I expect to need the most. I’m not talking about going out to the woods to accomplish a specific job, such as cruising or burning, with its concomitant tool. No, I’m talking about those forays into your woods on a dreary day to cure cabin fever: productive goofing-off or sylvan skylarking. Here’s what I carry and why:

• **Flagging.** I have lots of plastic ribbon in a rainbow of colored rolls. I am often asked something like, “I saw some orange flagging in the woods last weekend—what’s it for?” I usually stare at the questioner blankly, like a frog in a rainstorm, while I think of a response that’s NOT smart-alecky. “Orange, you say? That color is used for Sasquatch sightings. You know, we’re never gonna catch that fella if we don’t start tracking his whereabouts with data points. It’s science.” Alas, the real answer is less satisfying. As far as I know, there is no official standardized color code that defines what the colors mean. It depends on what the hanger wants it to mean. I use blue for property lines, red for road layout, pink for stream buffers, and, yes, orange for Sasquatch sightings.

• **A machete.** It’s a knife, a sword, a hatchet, a Christmas tree pruner, and a dandy weapon to have during the zombie apocalypse. It’s a must-have tool for someone with an overactive imagination. Unfortunately, my first machete did not have bright flagging wrapped around the handle so it’s still out there somewhere.

• **A smartphone.** It’s surprising how much I’ve used this tool. I have definite technophobic leanings and I actively eschew being “plugged in.” However, I appreciate a multi-functional tool. My wife requests that I carry some method of emergency contact in case I get hurt out in the woods. So I’ve saved “Help! I’ve fallen and I can’t get up!” as an instant text in my phone. You can even take a picture of Sasquatch, download the Global Positioning System (GPS) coordinates to the authorities, and post the picture on Facebook for your friends to “like.” I think the key to success with this particular tool is to keep it from dominating your attention. Therefore, I put my phone on “forest mode” when I’m out in the woods. My daughter informed me that there is no such mode and that most people call it “airplane mode.” I guess I’m still a dork in her eyes, even with flagging wrapped around my iPhone. Whatever!

Aldo Leopold wrote that game (and I’d argue forests too) can be restored by creative uses of the same tools that were used to destroy it—the axe, cow, plow, fire, and gun. I agree that the real conservationist/tree farmer doesn’t try to enshrine their forest into a natural museum, but rather uses a tool in hand to live with the land. Now, if that dang cow would stand still so I could wrap flagging on its tail in case I lose it...
I have purchased two new tools this year that help me on my woodland property. The first is a gas-operated hedge clipper and the second is a junior arch.

The hedge clipper is helpful to cut away encroaching small brush (less than 1 inch in diameter) from a young seedling after the first year. Douglas fir seedlings thrive in full sunlight, so cutting away competing vegetation will speed up the seedlings’ ability to achieve free-to-grow status.

Another use of the clipper involves a two-step process to make a trail through head-high shrubs, in a steep area where using larger equipment is problematic. The first step is using the clipper to take the plant height to knee level, reducing the amount of herbicide to be sprayed on fewer leaves of the remaining plant in the second step.

The clipper is also effective to keep your road system open. Walk along the road with the clipper held nearly perpendicular to the ground and cut back berry vines and other small stems that are reaching out toward the middle of the road for sunlight.

The junior arch was useful to me this year when I was doing a first-entry thinning in a small area timber stand. I needed to move short logs downhill to a landing about 50 feet away. The arch hooks lift the front end of the log off the ground, thereby reducing friction, and the wheels help to traverse bumps on the ground surface. Later, a portable sawmill was used to make boards. The arch has some limitations, such as a maximum load of 1000 pounds and a maximum diameter of 16 inches, however I was able to complete the project. These two tools might be of value to you on your forestland.

When you consider that only 10% of the world’s forests are certified, we have a long way to go. The good news is that there are a number of credible forest certification programs. And each one, including SFI, encourages responsible forestry. For more on forest certification and what you can do, visit www.sfiprogram.org.

SUSTAINABLE FORESTRY INITIATIVE
Good for you. Good for our forests.

| SUPPORT Responsible FORESTRY. | BUY CERTIFIED |

STATE OFFICERS

IFOA
PRESIDENT: Paul Buckland
208-771-0251 • paulbuckland@iepco.com
VICE PRESIDENT: Lawrence D. Packard
509-336-0483 • packard@moscow.com
SECRETARY: Allen L. Naugle
208-664-7059 • anaugle@earthlink.net
TREASURER: Sandra G. Murdock
208-683-2105 • smurdock20@yahoo.com
EXECUTIVE VICE PRESIDENT: Kirk David
PO Box 1257 • Coeur d’Alene, ID 83816-1257 • 208-683-3168 • info@idahoforesters.org

OSWA
PRESIDENT: Scott Hanson
503-313-3729 • scotthanson@ccgmail.net
PRESIDENT ELECT: Rick Barnes
541-673-1208 • rbarnes@barnesinc.com
2nd VICE PRESIDENT: Donna Hefferman
541-786-2257 • nslope@eoni.com
2nd VICE PRESIDENT: Bill Potterf
541-479-0868 • bnpotterf@charter.net
2nd VICE PRESIDENT: David Schmidt
541-979-7523 • lakehousedave9@gmail.com
2nd VICE PRESIDENT: Mike Barnes
503-538-5344 • mbarnes@viclink.com
TREASURER: Dallas Boge
503-357-7688 • dlboge@juno.com
PAST PRESIDENT: Scott Hayes
503-588-1813 • scotthayes@wildblue.net
EXECUTIVE DIRECTOR: Jim James
187 High Street NE, Suite 208 • Salem, OR 97301 • info@idahoforesters.org

WFFA
PRESIDENT: Boyd Wilson
360-438-1166 • boydwilson@earthlink.net
1st VICE PRESIDENT: Patti Playfair
509-936-3842 • patti.playfair@gmail.com
2nd VICE PRESIDENT: Alan Walker
509-779-4012 • watfoy2012@hughes.net
SECRETARY: Michelle Blake
360-790-5498 • olylady01@yahoo.com
TREASURER: Bill Scheer, Jr.
360-269-3850 • wscheer@wafarmforestry.com
1st PAST PRESIDENT: Tom Westergreen
360-961-0312 • tomwestergreen@hotmail.com
EXECUTIVE DIRECTOR: Elaine Oneill
P.O. Box 1010 • Chehalis, WA 98532
360-388-8033 • eoneill@wafarmforestry.com
Dispose of Your Mixed Gas if You Used Ethanol Fuel. You can add it to the gas tank in your car or pickup.

Issues with Ethanol Fuel

- Shelf life is three months or less.
- Ethanol (alcohol) is a magnet for water and contaminates your fuel. The water causes your fuel to degrade faster and rusts smaller metal parts like in your carburetor.
- Alcohol dissipates the oil you mix with your fuel and your small engine does not get the lubrication it needs.
- Fuel stabilizers appear to have mixed results.
- The simplest solution is to buy ethanol-free super and use that in your small engines or in vehicles that sit for months. It is readily available to me where I live in Oregon, but maybe not where you live. You can also purchase fuel in a container at your saw shop that is ethanol-free high octane. The car or pickup you drive the most burns a tank of fuel in three months or less, so ethanol fuel is typically not an issue.

February usually has a good week of cool dry weather for...

- A small logging job.
- A hack and squirt project.
- A basal spray project.
- Pruning roadside trees to keep your road prism open.
- A precommercial thinning project.

Precommercial Thinning (PCT)—The most important forest treatment after stand establishment is to manage stems per acre by thinning.

- PCT by definition means your expenses will be greater than your revenue. There is also a cost to not thinning when your stand is ready, such as less merchantable volume per tree, poor crown ratios, and poor resistance to wind, snow and ice storms. A stand thinned late is particularly susceptible to damage from weather events. In a PCT you decide which trees will be left to occupy the site and grow large enough for a commercial thinning operation or final harvest. The following Web address will take you to “Thinning Systems for Western Oregon Douglas-fir Stands” for good information on thinning. tinyurl.com/OregonDougfirPCT. Silviculturally, there may not a good or bad time of year to PCT. My preference would be to avoid PCT just before and during fire season to minimize red needles during the period of highest fire danger. In areas susceptible to pine engraver beetles, thin trees greater than 3 inches DBH after August 1 to minimize damage. See DOTTF Fall 2013 for a more in depth discussion on PCT.

Finish Tree Planting on the West Side of the Cascades by the Middle of the Month.

- If you run short of trees, be cautious when purchasing someone else’s surplus trees. Questions you should ask are:
  - Seed source and seedling size: Are the seedlings suitable for your site?
  - When were they pulled at the nursery? Seedlings have a shelf life that varies based on species.
  - How were they stored? In the nursery cooler? Did they go out to the planting site for a few days? Possibly not stored in ideal conditions for a while?
  - Have the bags been opened and the seedlings dried out a little or a lot?

Remember Me: Scotch Broom?

- Endearing qualities: I have pretty, bright yellow flowers; I sequester nitrogen; I was brought here from British Isles and southern Europe to control erosion. Possibly no endearing qualities if I am found on your place.
- Enduring quality: My seeds are viable for 50 years or more.
- Long-term strategy: If you can get a thick canopy of trees established, I will be shaded out.
Remember, controlling invasive weeds is your responsibility. Tips for controlling me:

- Cut plants off below the basal node (this is near or below ground level where the stem is more yellow than green) during the dry season. Most of the older plants will not sprout. Apply 25 percent Garlon 4 (20 percent Garlon XRT) in water or oil carrier to the cambium on the cut surface to prevent sprouting in younger plants.
- Pull or jack plants. Young plants in moist soil can be pulled out by hand. Use a weed wrench on older and larger plants. Search for weed wrench tools online.
- Mow. Individual plants may require several mowings before they die. If mowing only once, the best time is when the plants begin to flower, as root reserves are at their lowest point and new seeds have not been produced.
- Apply herbicide as a foliar spray with a backpack sprayer. Mix 1.5 percent Garlon 4 in water with ½-to 1-percent vegetable oil surfactant. Vegetable oil surfactants by brand name and manufacturer are HASTEN by Wilbur-Ellis and MSO by Loveland Products. I got application recommendations from: 1) anytime they are in full leaf to full bloom so you can see them and the root’s reserves are low, and 2) late summer and early fall when the plants are in seed head stage. The down side of waiting to seed head stage is you have banked another year of seeds to sprout after your herbicide treatment.
- If you have mature plants, you have a significant seed bank in the soil and control will require several treatments as the seeds sprout.
- I have applied Garlon 4 with HASTEN after leaf set and before flowering, while flowering and after seed set with good results. I have also seen mowing of mature plants with no sprouting. My experience with pulling plants is that seeds germinated in the disturbed soil. I did not use a weed wrench, but I have a friend who did and he loved it. If herbicides are not in your tool box, I would pull or cut plants in the woods to get my seedlings to crown closure and mow my roads. Search for Scotch broom control options online.

Know Your Woods Words

- **Callipers or Calipers.** A device used to measure the distance between two opposite sides of an object. The one I am familiar with looks like a capital F. The midpoint bar is the same length as the top bar and slides along the calibrated vertical bar. You can measure the diameter of, say, a future log lying on the ground before you buck it, rather than trying to get a D-tape under and around it.

Favorite Forestry Websites

- Send me your favorite forestry related website and I will share the link here.
  - **cocorahs.org.** CoCoRaHS is a national grassroots, non-profit, community-based precipitation network. Tree farmers who live on their property are ideal volunteers as they may not have any neighbors in their neck of the woods providing rainfall data. Basically you get to be a rainfall nut. You log onto their network via the internet and submit your data electronically. You have access to the data submitted by other participants and can compare your rainfall to theirs. More volunteers are needed.
  - **oregoncanopy.com.** This is the Oregon Woodland Cooperative’s conifer essential oil website. This is your opportunity to send the scent of a Northwest conifer to a friend in the city.
  - **oregonheartwood.com.** Handmade and natural goods from the Oregon woods by Oregon Woodland Cooperative members are for sale on this site. Take a peek and you will be impressed.

Disclaimer: Use all pesticides selectively and carefully, following requirements on the label.
For as long as we humans have been manipulating our environment, we have relied on tools to help us get the work done. Forests are large complex systems and it’d be hard to get much done in your woods without some help from technology, whether that technology is a simple ax, a handheld GPS receiver, or a million dollar harvester. Ultimately, the tools you choose to use should be the ones that fit your size, scale, and style of management. This edition of Northwest Woodlands is all about helping you decide which tools will help you achieve your objectives on your woodlands. The articles to follow include equipment and strategies to help you: 1) understand and make decisions about your woods, 2) take management action, and 3) be safe when working in the woods.

**Tools for understanding and making decisions about your woods**

A forest inventory is fundamental to any forest management plan; after all, how can you get your forest to your desired condition if you don’t know where it is right now? Jon Aschenbach and Jim Freed both discuss some great options for building a forest inventory toolkit. Some tools are relatively inexpensive and easy to use (diameter tape and sighting compass) while others are more expensive and may have a steep learning curve (GPS and laser rangefinder). Don’t forget a good field vest: I speak from experience when I say that without tying your expensive tools and electronics to a vest, you will spend at least one afternoon crawling through brush looking for a lost GPS, smartphone or compass. When building an inventory tool kit, it’s important to remember that the best forest tools are useless without a good understanding of inventory techniques. I recommend attending local inventory workshops offered by your Extension Service, landowner organization, or assistance provider before you go out and spend big bucks on equipment. Another option is buddying up with a knowledgeable woodland owner who can show you what inventory technique works for him or her. For more information on forest inventory tools and how to use them check out the two publications: “Tools for Measuring your Forest”, tinyurl.com/ToolsforForestry and “Basic Forest Inventory Techniques for Family Forest Owners”, tinyurl.com/InventoryTechniques.

Mobile devices such as smartphones and tablets are becoming more powerful, cheaper and more commonplace every day. In his article, Steve Wetmore describes his experience using an iPad for data recording, measuring trees, mapping, and navigating in the woods. As Chris Schnepf discusses in his article, there is an ever-expanding selection of applications (apps) that can turn your smartphone into a GPS, compass, field guide, clinometer, topo map, or any number of other useful forestry tools.

**Opensight**

Opensight® Herbicide is now labeled for forest site preparation in Oregon, Idaho, and Washington states. Outstanding control of many broadleaf weeds, plus inhibition of Scotch broom seed germination!
If you don’t think of yourself as especially tech-savvy, consider bringing along your kids or grandkids who will be excited to put their devices to work on the family tree farm. Who knows, you might get the next generation excited about growing trees!

Motion-detecting game cameras, commonly called game-cams or trail-cams, can be another useful technology for monitoring your woods. They can help you monitor game and non-game wildlife populations, and can also help detect trespassers. While inexpensive models require you to visit the cameras to download photos, more sophisticated cameras can send images to your email in real time using cellular phone service.

While technology is getting cheaper and more accessible every day, there are some tools that remain out of reach for the typical family forest owner. That doesn’t mean, however, that you have nothing to gain from these technologies. Light detection and ranging (lidar), for example, is a relatively new technology that uses lasers to scan the ground from the air and create very detailed three-dimensional models of earth’s surface as well as the vegetation growing on the landscape. Map products showing detailed terrain and vegetation heights are already available in some areas and will become more common in the near future. Another mapping technology that is quickly gaining momentum is the use of unmanned aerial vehicles (UAVs). These small, relatively inexpensive aircraft are able to take very high resolution aerial photographs for a fraction of the cost of traditional, manned aerial photography. Although commercial use of UAVs is currently very restricted by the Federal Aviation Administration, new rules to address this issue are expected in 2015. Once UAVs come into play commercially, it will be possible to commission aerial imagery of your property that can be used to assess reforestation success, look for forest health concerns, or even check for signs of trespass.

Tools to take management action

This section could perhaps be titled “tools to get things done”. A management plan is essential, but what good is a binder full of written ideas if there is no work accomplished? Whether you are planting trees, controlling competing vegetation, or harvesting timber, the right tools are essential. Jim Freed discusses some of the hand tools that will be useful for accomplishing these tasks efficiently. Tree planting is an especially strenuous task and his tool recommendations will make the job easier on your back and also easier on the trees.

Harvesting trees is a decision not to be made lightly since trees are notoriously difficult to reattach to their stumps once separated. The right harvest system can help ensure a safe, efficient operation that produces quality logs while being easy on the land. Conversely, equipment that is either too large or too small for the job can result in torn up ground, damaged logs and residual trees, and perhaps injuries. Mark Havel discusses many of the options for woodland owners who want to harvest small quantities of timber for sale or personal use. On the other end of the spectrum, Rex Storm does a great job describing the harvest options when a logging contractor is brought onboard. Logging systems are constantly being refined and skilled operators are capable of high levels of productivity on tough
terrain while minimizing impact to your woods. Whether you are planning on removing a few trees for personal use or clearing a 40-acre stand, remember that a skilled operator working with care will do more to ensure a quality job than any piece of expensive equipment.

Excluding, perhaps, a book of matches, few handheld tools pack as much power and capacity to alter your woods as a chainsaw. Also, few tools are surrounded by the level of brand loyalty, maintenance dogma, or general mysteriousness that these machines garner. You won’t find opinions here on which brand is best, but you will find some excellent maintenance tips from Glenn Lovell.

**Tools to help keep you safe**

The woods of the Northwest with their rough terrain, inclement weather, and various hazards, are inherently dangerous places to work. Hazards can be mitigated through the use of appropriate personal protective equipment (PPE) and, perhaps more importantly, through adoption of safe practices. Jason Pettigrew, with the Oregon Department of Forestry, outlines some equipment and practices that can help ensure you make it home safely each day after working in your woods.

**But what tools do I need?**

The articles to follow will be filled with tools and equipment that could keep your wish list full for many, many years. Some of these tools are basic to managing a tree farm of any size, while some will only be needed occasionally for specialized purposes. When a management task comes up, you’ll need to weigh the one-time cost of purchase against alternatives such as equipment rental or hiring out the work. Also, don’t forget that along with the initial cost of purchase, you may need to invest time in learning how to use a piece of equipment.

As an example, let’s consider Landowner Kelly. Kelly owns a 40-acre tree farm and noticed Scotch broom popping up around the place. Through research, she learned that treating the sprouts with herbicide would be a good way to control the invasive plants. Kelly’s options were to: 1) purchase a backpack sprayer and associated personal protective equipment and learn how to safely apply herbicides, or 2) hire the work done by a licensed commercial applicator. In our example, Kelly decided that, because retreatment would be needed in following years, the purchase of equipment made more sense than hiring out the work each year. If Kelly had been uncomfortable working with chemicals or unable to spend the time learning how to apply them, she may instead have chosen to hire out the work.

For another example, while Kelly had an Extension forester out looking at her Scotch broom, she noticed the forester had a GPS receiver that could locate their position on the ground. She wanted to accurately locate her roads, stand boundaries and other features to add to her management map and figured a nice new GPS would be just the ticket. Her options were to: 1) purchase a GPS that matches her accuracy needs and learn to collect data and integrate them into her management map, or 2) hire a consulting forester to collect data and produce maps that suit her purposes. Kelly decided that the initial cost of a GPS receiver that was accurate under tree cover and the time needed to learn to collect and process data were hard to justify for a one-off project so she hired an expert to do the work. If she had a strong desire to learn the technology, and a continuing need for a GPS year after year, it might have made more sense to purchase.

While every decision is unique, these simple examples illustrate a process that can be used to decide when equipment purchases make sense for a woodland owner/manager. Two other options that did not come up in these examples are borrowing or renting equipment. Some woodland owner organizations have experimented with purchasing tools, such as inventory tools and planting tools, and placing them in a lending library for members to use. This system works well for specialty tools that are not used frequently enough to justify purchase by an individual, such as planting shovels and bags. Check to see if your local woodland owners’ association has a lending library and, if not, consider creating one.

Finally, remember that your mind is the most sophisticated and useful tool you will ever own. Sharpening its edge by reading up on woodland management, attending workshops and trainings, and visiting with knowledgeable neighbors will yield results far greater than the shiniest technology or heaviest equipment.

**Managing for the Future with the right expertise**

Timber Appraisal  
Sustainable Forest Planning  
Harvest/Reforestation Planning  
Timber Sale Management  
Water Rights  
Survey, Land Use & Engineering

**Stuntzner**

**Engineering & Forestry, LLC**

(541) 267-2872  
Coos Bay  ◆  Dallas  ◆  Forest Grove  
www.stuntzner.com

**Tristan Huff** is an Oregon State University Extension forester based in Myrtle Point. He can be reached at 541-572-5263 or tristan.huff@oregonstate.edu.
Mobile Electronic Forestry

By CHRIS SCHNEPF

Field data collection has steadily shifted from paper plot sheets to ruggedized devices that store data electronically. Unfortunately, these devices are not cheap: prices range from $1000 to $4000. Smartphones and tablets have added even more computing power, better internet access, GPS, and larger, sharper screens. Compared to ruggedized forestry mobile devices, smartphones and tablets are usually lighter and have current operating systems. Also, smartphones can be used for telephone calls.

These devices are also less expensive—from $100 to $700, depending on your cell service plan. Even if they are damaged in the field, you could burn through two or more smartphones and still pay less than a ruggedized device costs. Lower prices make upgrading to a newer device less painful fiscally.

Apps galore

A growing number of forestry-friendly computer applications (apps) are available on Android, an operating system from Google, Inc. that is used on many smartphones, tablets and other mobile devices. (Some apps discussed here are also available on iOS by Apple, Inc. and Windows by Microsoft, Inc.)

GPS

The inclusion of GPS (from satellites, not just cell towers) started many thinking of forestry possibilities for Android devices. Some newer devices can even access GLONASS (Russian GPS satellites). More satellites often means more accurate coordinates. At least a dozen apps will bring up screens similar to GPS receiver screens (e.g., GPS Essentials, GPS Status). Google Maps even provides audible driving directions.

Mapping, Geographical Information System (GIS)

Some of the best apps integrate GPS with aerial photos, maps or other data loaded from the internet, so you can see your live location relative to nearby roads, forest cover, the soil type you are standing (on an app called SoilWeb), topography, or any other information delineated on the map.

Google Earth and Google Maps are available as Android apps. Several other apps do some similar things including Oruxmaps, and Back-Country Navigator. Even ESRI has an Android app now (ArcGIS). Google Maps is pretty useful to most people immediately, whereas the ArcGIS app may require more familiarity with GIS to use fully.

Field Guide Apps

Books can be heavy. Field guide apps add no extra weight to your pack! One of the better apps of this kind is 1,000 Weeds of North America, which helps you identify weeds using plain language rather than arcane plant taxonomical terms, and includes over 4,000 color photos. E-books on identification of plants and animals can also be downloaded and read on a mobile device with Adobe or Kindle apps.

—Continued on next page—
**Timber Cruising**

Basic spreadsheet apps can be used to collect forest measurement data and calculate stand characteristics. There are also forestry-specific apps. For example, *Plothound* stores georeferenced (data that is tied to a location) plot data from a mobile device to a “cloud” (a computer network accessed through the internet), where you can retrieve it at another computer.

**Citizen Science**

More people are being engaged to collect more data to support better science. For example, the *EDMapS West* app allows anyone to contribute georeferenced data about noxious weeds and other invasive species.

Phenology is the relationship between a periodic biological phenomenon (e.g., flowering and migration) and climate. The *Natures Notebook* app helps you share phenological data for a given location for use in the scientific community and for your own interest.

The *CoCoRaHs* app helps you to store precipitation records online and share them with others after signing up as a *CoCoRaHs* volunteer at www.cocorahs.org.

**Other Apps**

Many other apps can be handy for a forest owner. For example:

- Want the forecast for burning slash piles? Try the *Weather Channel*, *Weatherbug*, or other weather apps.
- Converting feet to meters or chains? *gUnit* converts over 30 kinds of measurements.
- Want current snowpack information? Install the *SnoTell NRCS & RFC Stations* app.
- Estimating tree height? Try the *Measure Height* app.
- Determining a road or hill slope? Try the *Clinometer* app.
- When will the sun be best positioned to take a picture? Try *LightTrac*.

**Don't Forget your Web Browser**

Many field-useful websites aren’t channeled through a dedicated app (e.g., OSU’s tree identification site). If you use *SoilWeb* to determine soil type, the *Web Soil Survey* provides more details about various characteristics, such as road and tree planting suitability.

**Devices and data access**

Apps are typically either free or less than $25. A more difficult issue may be the cost of data and access. Some apps require real-time access to data (e.g., mapping applications). Family forests are often relatively close to towns and cities, so you may have data access. Check to see which service providers have the best data coverage in your area.

Many apps allow saving maps or other data to the device. Downloading that data ahead of time via your home wireless network may be faster than in the woods and you won’t generate extra data costs.

**Accessories**

A bigger screen makes map viewing easier, so many smartphone users also purchase tablets. If your smartphone can act as a hotspot, you can get data for the tablet through your phone.

You can often improve GPS reception by placing an external receiver where the signal is less blocked (e.g., above your head, or away from a tree). Garmin makes a small external GPS receiver that links to a mobile device via Bluetooth.

A case protects your device if dropped or exposed to water. Supplemental power options such as extra battery packs or portable chargers help you go longer in the field. A growing number of solar devices can also charge mobile devices. Finally, a flash card provides additional data storage for maps, photo-filled field guide apps, or other large data sets.

**Conclusion**

Many of these applications are works in progress. Fortunately, multiple apps are often available to accomplish a given task. If an app isn’t working the way you like, try another similar app. The more successful apps are frequently updated to fix bugs and improve functionality, so a future upgrade may do a better job providing what you want.

**Chris Schnepf** is an Area Extension educator in forestry for University of Idaho Extension in Coeur d’Alene. He can be reached at 208-446-1680 or cschnepf@uidaho.edu.

Note: Mention or a display of a trademark, proprietary product, or firm in text or figures does not constitute an endorsement by the US Department of Agriculture or University of Idaho Extension, and does not imply approval to the exclusion of other suitable products or firms.
Uses of Technology in Forestry

By STEVE WETMORE

For many years I have been using various “high tech gadgets” or technology, such as GPS, digital camera, and notebook computers, to assist with my forestry and fire aviation work in the field. However, on more than one occasion I have forgotten to change the batteries in the GPS or charge the digital camera, and was forced to modify my plans for the day. The era of having to go into the field with Rite in the Rain paper to gather data, then come back and transpose the data into some form useable by whatever computer system you are using, is long since gone.

While there are many GPS units available, Garmin and Earthmate seem to be the most prevalent and reliable. Any model that downloads and uploads data with ease is recommended. Delorme makes a program that downloads topo maps and allows drawing and importing GPS data from Earthmate GPS units.

Four years ago I started using an iPad in the field to assist with forestry and fire management. I must admit that I am somewhat old school and not very technological (I do not even own a smartphone.) but I was able to adapt to using the iPad relatively easily and it has improved my efficiency.

Table 1. iPad Protective Case Comparison

<table>
<thead>
<tr>
<th>MAKER</th>
<th>IPAD COVER</th>
<th>DURABILITY</th>
<th>ACCESS TO PORTS</th>
<th>LONGEVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIFE FORCE</td>
<td>Extreme</td>
<td>Covered</td>
<td>Hard Plastic</td>
<td></td>
</tr>
<tr>
<td>GRIFFIN</td>
<td>Very Good</td>
<td>Covered</td>
<td>Rubber retains stiffness</td>
<td></td>
</tr>
<tr>
<td>OTTERBOX</td>
<td>Very Good</td>
<td>Covered but wear out</td>
<td>Rubber stretches</td>
<td></td>
</tr>
</tbody>
</table>

Table cases for Android tablets. All are designed to protect the unit from falls, damage to the screen, dust and water.

Now that you have your device, it’s time to get some apps that will help you use your device in forestry. Some of these apps are free and others are only a nominal fee. Basic categories to consider are office or admin, mapping devices allow easy interchange of information between devices, such as pictures, forms, maps etc.; and the apps for Android devices are not regulated, tested, or approved, meaning anyone can develop an Android app and distribute it. Another forester in my office who is quite technological stated that Android tablets are much more versatile to use because of the file transfer capability.

Whatever tablet you get, it is imperative to get a model with GPS built in, otherwise you will be limiting the unit’s field functionality unless you spend more money to purchase an external GPS. Now that you have a device with built-in GPS, protecting that device from the elements is imperative. Otterbox, Griffin, and Life Force all make very durable cases for iPads. Rhino and Gumdrop make and storage. The apps for iPad may be downloaded through the Apple App Store, and for Android devices through the Google Play Store. Any forestry tool or gadget such as compass, GPS, clinometer, camera and data sheets have an associated app.

Most Apple apps are not purely compatible with Windows programs such as Word, Excel or PowerPoint. There are many apps that are similar and I have tried several. Figure 1 shows my suggestions for basic apps. I would recommend you try others to see what works for you. Pages is Word-compatible, Numbers is Excel-compatible and, if you do presentations, Keynote is Powerpoint-compatible. Numbers is a great tool for conducting surveys, scheduling forest

—Continued on next page—
management activities, inventorying roads and culverts, and tracking wildlife sightings. If you have a need for a spreadsheet, Numbers is the ticket.

Essential to managing your forest property is the ability to map harvest units, wildlife areas and other areas of special concern. An example is shown in Figure 2. Avenza PDF Maps is an excellent tool and topographic maps may be downloaded for free, as well as aerial photos. Avenza PDF Maps is available for both iPads and Android tablets. Downloading requires Internet access and must be done prior to going to the field. This app allows the import of KML files made in Google Earth.

Another excellent tool is Offline Topo Maps, which allows the user to select a zone and download all of the topographic maps at one time to be used when there is no cell service, and the maps are seamless. The ability to view your maps offline when there is no cell service or internet is critical.

Theodolite is an app which is useful for measuring distances and tree heights, and triangulating points.

Using technology to assist with your forest management activities is as simple as: 1) use Google Earth to delineate the various stands, 2) save your work as a KMZ file and send it to yourself as an attachment to an email, 3) open the file in Avenza, 4) create or use your spreadsheets in Numbers, and 5) remember to take pictures while at a plot.

Whether we like it or not, the use of a hip chain and survey instruments, paper notes and printed pictures have been surpassed by technology. As I stated earlier, crossing over from “old school” forestry to embrace technology was a fairly simple process. But it would be nice to occasionally be fully detached from the technology umbilical cord and simply enjoy the forest and all of its splendor.

STEVE WETMORE is a stewardship forester working in Grants Pass for the Oregon Department of Forestry. He can be reached at 541-474-3152 or stephen.k.wetmore@odf.state.or.us
Managing Your Forestland with a Japanese Quarter Horse

By MARK HAVEL

Look at things from the perspective of 20 to 100 acres in western Oregon, so please make the necessary adjustments to fit this information to your situation. I have travelled all around the Pacific Northwest, met many of you, and visited your property, so I’m certain there is no one-size-fits-all situation.

I was given a book a few months ago titled Ancient Forests and Western Man. It is a beautiful volume of photographs, all from a century or more ago, about harvesting of the huge Pacific Northwest forests, essentially by hand. As I leaf through and see the fabulous trestles that allowed logging of the steep and convoluted mountains, the camps of working men on 7000 calorie/day diets, and the ingenious primitive machines powered by steam or beast, I think, “What a people we were!” and enjoy this beautiful perspective on working in the woods. It’s no walk in the park.

As forestland owners in the 21st century, our management plans and ownership goals seem so whimsical in comparison. We’ll thin this and clearcut that, replant with improved seedlings and watch them all grow as we chemically manage their competition. Much of this is with the stroke of a pen or a click of a mouse, relying on the men and women with machines to come in and do the job. But for the family living on the property and managing all the various aspects of forestry, one notices a unique range of tools and techniques at their disposal.

Today was the only nearly rain-free weekend in more than a month. The most important tools I used were a rake and a trailer to clear the picnic grounds down by the creek to bring that valuable mulch material into the hillside gardens by the house. For a resident landowner-forest operator, forest operations may take only a small portion of the total number of work days, and the equipment will likely be of a similarly small size and capacity. Manual labor steps in to make up the difference! Forest management is an athletic endeavor, especially logging. Let’s not forget that, since it is crucial to our health and ability to get the job done.

Besides logging with the quarter horse itself, there are many things to do on the farm that don’t need much power at all. While we can haul our tools around in carts, trailers or wagons, the work is done by the person swinging the axe in that athletic endeavor. It eventually comes down to cutting and moving wood: lots of it, heavy and dangerous, as it goes from standing up in the sky to laying on the ground and moving off to a log deck. It is the chainsaw that can make a single person powerful in the forest, such a sculptor of the landscape and skyline.

The chainsaw is a marvelous

—Continued on next page—
With two hands on this snarling bar of a million flying chisels, let the chips fly and the cuts open up! But it troubles the author that anyone can just walk into a store, purchase a chainsaw, and walk out the door without any training or safety gear or nary a word of caution! Though I haven’t been seriously injured in all these years, early training sure would have made things much easier, safer and more efficient. From the various cuts to perform for safe and predictable tree felling, to the sharpening of these million flying chisels, all aspiring chainsaw users should have training from a qualified instructor. And I would recommend backing it up by reading To Fell a Tree by Jeff Jepson. A logger, an arborist and a good writer, Jeff takes the reader through many situations and explains them well. Overall, there isn’t a better or more concise book on the topic. Professional cutters are required to use certain safety equipment such as chaps, cut-proof pant liners, helmets, and boots. Shouldn’t a nonprofessional be as protected? Come equipped or stay home.

What does my Japanese quarter horse look like? It’s a ‘98 300 Honda Fourtrax that’s old, with a torn seat and banged up racks. But it is a well-running four-wheel drive machine with a trailer ball. Usually the small scale equipment we’re going to discuss is going to be our prime mover and that trailer ball is the key. It could literally be a horse, such as my neighbor’s that he uses to log using arches that would also fit behind the ATV. Each machine will have its strengths and limitations, often having to do with its weight. Is it too little or too much? We must also be aware that many of these vehicles are not meant for, or safe in, situations where the ground is sloped, uneven/rocky or soft.

The capabilities of some machines are very specific, like the Jonsereds Iron Horse, which is a little, walk-along, tracked skidder. It has some attractive qualities, like its low ground pressure, but first you have to find a way to get the log up onto it. I’ve worked around these machines and they are truly cool, but slow, and a hassle to set up for the pull. On the other end of the spectrum are the prime movers that are general, like a tractor. Notwithstanding their weight and traction, there really isn’t any way to use them specifically in forestry applications without an attachment, such as a 3-point grapple or forwarding trailer. Just dragging things.

Get More Out of the Land You Love
Connect, Map, and Plan with a Free My Land Plan Account
www.myoregonlandplan.org

This log size is fully carried in a modern log arch, with no drag. Longer logs have increasing drag, if you let them, and a 4-inch stob on the bottom side will simply stop the show.
around behind it may be far from the low-impact operation desired. In order to do some specific task, tractors or skid-steers have many attachments, all stepping up the complexity and the cost. We must also realize that the farm tractor is a very dangerous machine in the woods, especially on sloping terrain. The only more dangerous operation than skidding logs with a base tractor on a hill is pruning trees from the bucket with your significant other driving from tree to tree!

Once we realize the limitations of our ATV, and work around them, there are many operations that can be done safely, relatively easily and with a much lower level of impact than other methods. I’ve narrowed down the discussion to ATVs, but you can insert your own preferred prime mover into the discussion. I’ve seen Amos and Andy, a team of Holstein oxen, working the land. You might be able to use your pickup for some things, but they are limited. So we are back to ATVs and tractors of various sorts. At the far end of the spectrum we get into crawler tractors, bulldozers, and heavier production equipment.

Logging with an ATV would be impossible without some way to get the log weight off the ground and reduce the drag while skidding. Even 40-footers are possible, with two log arches. It isn’t so much a choice of the primary machine, but an adherence to a philosophy. Small scale, low-impact forestry work is nothing like production forest harvesting. Falling must be spot on, and maneuvering is the key to extricating anything out of a forest without damaging the remaining stems. Folks often start to buy themselves out of a job by purchasing one machine, then another, and then some attachments. The work doesn’t get easier, just more complex and harder to budget. So by keeping things simple, understanding that there is a lot of wood weight to move around, and gaining important chainsaw skills, one can enjoy the athletic endeavor and get those projects done.

The principles are simple: if you need to drag things around on the ground it will take a lot of power for a comparable weight. With this will come an associated environmental impact: dirty logs for your saw or sawmill, and some large forces acting on everything. If we just pick up the logs and carry them, in an arch or a trailer, the drag becomes minimal and everything becomes smoother. The slope can be both our friend and adversary.

If your forest is relatively flat and drivable, and the logs are short, you might harvest with a tractor and a self-loading forwarding trailer. If the terrain is too steep to drive, you might log with a tractor and a 3-point hitch Farmi (or similar winch), leaving the tractor parked on a nice level landing and winching the logs in. Or, if your terrain is varied but drivable with an ATV, you might do your logging with a Japanese quarter horse and an arch or two.

MARK HAVEL is a forest landowner, engineer and operator of Havel Designs and Future Forestry Products Inc. He also stands in as Forest Dan, a tree hugger and tree whacker, teaching classes at Tree School and various PNW forestry venues. He can be reached at vmarkhavel@gmail.com.
Today’s Heavy Harvesting Equipment

By REX STORM

Northwest timber harvesting operations employ many different machines that are unique to logging and other forest management activities. Often called “heavy equipment,” today’s specialized logging machines are purpose-built, right-sized, and designed for the exacting demands of varying forestry tasks. For each machine, there’s a skilled logging professional to safely operate it.

Small harvest operations typically do not have the large-scale economies necessary to afford the full range of expensive logging mechanization. Therefore, small timber harvest acreages and low volumes may warrant the logging contractor’s efficient use of fewer dual-purpose machines, older equipment, choker-setting of logs, and more manual chainsaw cutting. Nonetheless, a small-scale complement of well-tailored equipment should readily yield professional harvest results for the woodland owner.

This article focuses on logging machines for six tasks: 1) fall trees; 2) move trees from the stump to the roadside landing; 3) manufacture log products to mill specifications; 4) sort and load logs onto trucks; 5) transport logs from landing to the mill; and 6) pile logging slash (limbs/tops.)

Here are 13 logging machines a contractor may employ on a harvest. The codes following the description indicate where each logging machine may be utilized using the key below.

Chainsaw
Although machinery does much of the harvesting, skilled logging professionals in specific situations may rely on a “pro” chainsaw to complete numerous cutting tasks, such as tree falling, log bucking, and delimbing. [a-h]

Feller-Buncher
A tracked machine cuts and falls trees in a controlled direction, then places trees onto piles or “bunches”. A buncher can work on moderately steep slopes. Different cutting-head configurations are available, such as the rotary hot saw. [b,c,f,g]

Harvester-Processor
This high tech machine, on tracks or wheels, has multiple purposes. The machine’s automated “dangle-head” cutter reaches from the end of a boom arm to grab, cut, buck, delimb, and position logs. An on-board computer optimizes cutting while working on moderately steep slopes. [a-h]

Stroke Delimber
This tracked machine, with a stroke boom arm and cutting device, removes limbs and bucks trees into logs. It often works at the landing with an automated cutting head and an on-
board computer that optimizes log bucking. [b,c,h]

**Track Skidder/Skid Cat**

This tracked machine has multiple purposes and blade attachments. It moves logs or whole trees to the roadside landing, sorts and piles logs at the landing, piles logging slash, smooths roads and landing surfaces, and can be used as an anchor in cable logging. [a-f,h]

**Skidder**

A wheeled log mover, this machine grabs logs or whole trees with grappling or choker cables, lifts the front end of logs off the ground, then pulls them to the roadside. Equipped with a small front blade, the skidder can also pile logs or slash, and smooth road surfaces. [a-f,h]

**Log Loader/Shovel Logger**

The log loader is another tracked machine with multiple purposes: sorting and piling logs; loading logs onto trucks; piling of logging slash; and “shovel logging” by moving logs from the stump to the landing (logs are lifted from one side to the other of the machine, thereby moving logs to the road.) [a-f,h]

**Forwarder**

Looking like an off-road log truck, the forwarder picks up and carries small logs from the stump to the roadside landing. The operator maneuvers a heel-boom grapple to lift and load logs onto the forwarder bunk, as well as off loading logs onto roadside piles, and loading logs onto log trucks. [a-h]

**Mobile Yarder**

This log-lifting and -pulling “yarder” machine stays on the roadside landing, and is rigged with spooled cable suspended from a steel tower (40-70’ tall). Cables reach to the far side of steep-sloped harvest areas, and are pulled in/out by the machine. A “carriage” rides the suspended cable, connects to logs using additional cables, then lifts and carries logs or whole-trees over steep slopes to the roadside, often while suspended fully off the ground. [b-e,h]

**Yarder-Loader Attachment**

A specialized attachment can convert a log loader into a small cable yarder. This can be an effective substitute for cable yarding shorter distances and smaller timber. Several attachment configurations are available. [a-e,g,h]

**Cable Yarding Carriage**

This carriage machine is a log mover that rides on a suspended cable. Many carriages are radio-controlled and motorized, with movements directed by workers carrying radio devices. The carriage motor pulls a cable and attached logs upward toward the carriage, then the yarder cables pull the carriage and logs from the stump to the roadside. [a-e,g]

**Log Truck**

Heavy trucks that haul logs from the roadside to the timber mills come in different sizes and configurations—all equipped with electronic scales. The long-log truck is an 18-wheel semi-truck & trailer that hauls 42-foot logs. Where a log loader is unavailable, a “self-loader” log truck is equipped with its own log-loading arm capable of loading and hauling 42-foot logs. The short-log truck pulls a “hay rack” trailer hauling 32-foot logs. [h]

**Woodland Harvest Situations**

[a] Small operation: <10 acres; <10 truckloads
[b] Mid-scale operation: 10-30+ acres; 10-30+ truckloads
[c] Clearcut/regeneration harvest of mature trees
[d] Thinning harvest of immature timber
[e] Partial-cut harvest
[f] Gentle slopes: 0-45%
[g] Slopes: 45+%
[h] Roadside landing

Descriptions and images of more forest logging machines are available online at oregonloggers.org.

**REX STORM,** Certified Forester, is Forest Policy Manager for Associated Oregon Loggers, Inc. based in Salem. He can be reached at 503-364-1330 or rstorm@oregonloggers.org.
Integrating Safety into Your Forest Management Routine

By JASON PETTIGREW

Whether working alone or as part of a crew, the inherent principles of safety should be first and foremost in your thoughts and actions every day. Developing a woods program or routine where safety is not something extra that you do, but simply something that is integrated into every activity, will provide for your personal safety while enjoying your forestland.

Safe practices that are inherent in your daily operations are easier to implement and generally feel less burdensome than strict programs comprised of policies and checklists. There are numerous tools and systems to meet your specific communications and personal needs. They will also help you comply with laws for personal safety, public safety, and fire protection on your lands. An evaluation of your operations with the mindset of “What if this were to occur?” is an efficient start to developing a comprehensive program to meet your needs.

It is important to be aware of the laws that are required of you to operate on your forestlands. For example, in the State of Oregon, forestry operations are covered under Oregon Occupational Safety and Health Standards (OR OSHA) Division 7 rules that are aligned with Federal OSHA rules. You might also fall under specific seasonal safety rules that are imposed during fire season by the Oregon Department of Forestry. Within Division 7 rules, you find the minimum safety and health requirements that guide your operations, ranging from chemical applications and timber cruising to wildland firefighting. Similar rules exist in all states and it is important to be aware of those specific to your operation. A wealth of information about the rules and laws can be found on the Internet or at the local offices that administer the laws that affect your land.

Communication is integral in everything we do and an effective communication program for your activities is paramount to success. In almost every mishap that occurs there is a failure in communication, so focus much of your effort here. Emergency communications need to be reliable, effective, and readily available. Designing your communications should be done based upon the environment and needs of your forestry operation. Do you work alone or are you part of a team? Are you working in remote, rugged terrain or an urban environment? Do you have the budget to subscribe to a larger communication system? These questions will help you determine your needs and develop the best safety communication program based upon the worst case scenario that you might face. Time is of the essence in any emergency, and clear, effective communication reduces response time for help to arrive.

Start with a check in process that tracks your location. This can be as simple as a sign out board or a phone text identifying your physical location for others (e.g., landmark, road name, latitude/longitude, or township/section) and specifying a return time. Or your system could be as advanced as using GPS. One example is the SPOT, LLC product that registers your location at specified time intervals to geolocate your position, or a Garmin Rino handheld two-way radio with GPS location sharing. Radio communications can range from a citizens band (CB) radio commonly used for decades in the woods industry, to company-specific frequencies developed by private companies for your service. Mountaintop radio repeater systems, satellite phones, cellular communications (e.g., voice, picture, text, Skype) are readily available to us for a price. The system you choose must be effective in the worst conditions you will face, so make your decisions with that scenario in mind. Further, personal signaling devices such as whistles, horns, and mirrors should be considered in your safety program to complement the electronic systems you have in place by providing a basic but reliable system in the event that the technology fails.

Knowing local emergency radio frequencies and having those programmed into a portable radio is helpful and will integrate you into a coordinated system if an emergency occurs. Programming your radio with local law enforcement, medical support, air ambulance, and natural resource agency frequencies can be very effective in your emergency plan. Permission to utilize these frequencies needs to be obtained. For woods operations, work closely with the natural resource department that has jurisdiction for fire and forestry in your area to implement this valuable tool into your program. Work through a scenario of a rapidly developing, complex wildland fire incident or a medical emergency while you’re on scene. How will you communicate your local knowledge to responders? Will you be able to seamlessly and effectively participate in the incident management?

Knowing your location is critical.

LUSIGNAN FORESTRY, INC.
Shelton, WA
360-426-1140

Forestry consultants serving timberland owners small and large, private and public since 1972.

Forest Management, Timber Cruising, Inventories and Valuations, Timber Harvest Administration and Lump Sum Sales

E-MAIL: JFROST@LFIFOREST.COM
for many reasons, but for safety it is vital. You must be able to communicate the incident location using methods that are common language to emergency responders.

All wildland emergency response organizations utilize latitude/longitude for pinpointing their responses. Be competent in adjusting your location using different formats such as degrees, minutes and seconds, degrees and decimal minutes (the standard for aviation resources), or decimal degrees. Are you using a paper map, an iPad, a handheld GPS unit with downloaded maps, or something similar to identify your location?

Township, range and section are commonly used on the west coast in the forest industry but are often not understood by a 911 dispatch center. Medical and fire emergency services typically use physical road addresses for responses but this is not effective in the forest environment. Road names might only be known to a company or an agency and may not be shown on common mapping programs. Free downloadable map readers, such as Avenza PDF Maps, are great resources to display any PDF map on your electronic device so that you can track your location, copy the screen and text or email it, as long as you have cellular service to your device. Have your work location identified with several different location formats and share them with those tracking you for safety.

Personal Protective Equipment (PPE) is important to protect you from the daily risks you face and should be integrated into your daily operations and routines. Developing good, consistent habits of utilizing appropriate PPE is important to minimize injury. The most common injuries in the forest environment are related to slips, trips, falls, cuts, overhead hazards and exposure to the elements. Do you use your seat belt, safety glasses, and hearing protection? Do you have first aid equipment to treat cuts and burns, slip and fall prevention awareness, and emergency preparedness for other hazards you may face in the forest environment? Will a situation arise where you need Nomex clothing for fire protection or caulk boots for slip prevention? PPE needs to be readily available to address the situations you commonly face and provide a level of protection that greatly reduces personal injury. Working on your property alone necessitates the use of practices and devices to prevent injury in an environment of increased risk. Take the time to use safe practices, do the job right, and have the right tools to be successful and safe every time.

Personal preparedness not only involves the communications we addressed earlier, but also the basic supplies needed for unexpected stays in the woods. Appropriate clothing, potable water, food, and shelter should also have a place in your safety program. Meals-Ready-to-Eat (MRE) are commercially available and easily affordable. Additionally, the vehicle you drive in can be the best shelter in an emergency. Is it safe to operate in a forest environment? Does it provide you with reliable communications and the basic needs of survival for a short duration emergency event?

Basic first aid knowledge and equipment is also important to a woods safety program. Help is often far away and you must be able to deal with situations until more advanced assistance arrives. Enroll in local first responder courses and develop a mobile medical kit that can take care of situations such as severe cuts, trauma and shock. Methods to extricate injured persons should be addressed and training in communication with emergency responders is important. Do you have helispots identified in your area and are those known, approved, and available to medical helicopters?

To assist you in building a woods safety program consider contacting others who have already done so and have a low incidence safety record. Neighbors who actively manage their forestlands can be part of a simple but effective safety network.

Successfully managing your woodland means marketing harvestable products, employing sustainable practices, and integrating safety into everything you do, every day.

Jason Pettigrew is a stewardship forester on the Klamath-Lake District of Oregon Department of Forestry. He can be reached at 541-883-5681 or Jason.W.Pettigrew@oregon.gov.
As a woodland owner and professional forester, I know both worlds. Over the past 40 years I have seen many small woodland owners who could benefit from having some of the equipment used by professional foresters. While some of the equipment can be expensive, most is affordable. Professional equipment allows you to work more efficiently and perform some tasks that would otherwise be impossible. The equipment below is easy to use, with the possible exception of the professional GPS unit. Here is my list of equipment that small woodland owners should have, along with approximate costs:

1. Mirror-sighted compass: $45
2. Caulked boots: $175 to $300
3. 14” increment borer: $150
4. Timber cruiser’s vest: $80 to $125
5. Laser rangefinder: $450 to $750
6. Professional GPS receiver: $1,500 to $5,000.

The most commonly used mirror-sighted compass is the Silva Ranger. It is available in azimuth format or in quadrants. The main advantage of a mirror-sighted compass is higher accuracy. Also, this compass allows users to set the declination to about a half-degree of accuracy. All small woodland owners should have a good compass for doing navigation and mapping work.

I use a pair of rubber Viking caulked boots for most of my forestry work. When using a chainsaw, I always like to have my Viking boots on as they give me exceptionally stable footing and have Kevlar built into the toe for protection against cuts. For woodland owners on the west side of the Cascades, caulked boots are highly recommended. For owners on the east side, they have less functionality and generally are not used.

An increment borer helps to determine the age and growth rate of a tree. Core samples also show defects such as pitch ring and internal decay. Don’t underestimate the value of being able to look inside a tree. If nothing else, an increment borer will give you a great upper body workout.

The timber cruiser’s vest is a mainstay with professional foresters. It gives users lots of pockets, both inside and out, for storing equipment. The large pouch in back is great for stowing rain gear. Many vests have a zippered pocket in the back, which is good for holding aerial photos and anything else that needs to be secure. Good cruiser’s vests are tough as nails and help give protection from brush and blackberry vines. Buy a vest large enough to fit over your jacket.

The laser rangefinder allows users to measure tree heights very accurately. The importance of having accurate tree heights cannot be overstated. Height is the main factor in calculating volume. Certainly we can measure tree diameter and we should be doing that. Tree height is more difficult to measure than diameter, and often more important.

GPS units vary widely in price, capability and ease of use. A good GPS unit will allow you to accurately map your tree farm. You may know the overall acreage of your ownership. Do you know how much supports merchantable timber, young growth or grassland? Do you really know where your roads and streams are located? Having good GPS data can make your maps more accurate and the management of your woodland property easier.

Think about the equipment listed above as an investment to help you work more efficiently. Instructional videos are available at: ruggedready.com. Call me if you have any questions. I would love to hear from you.

Jon Aschenbach is president of Resource Supply, LLC in Tigard, Oregon. He can be reached at 503-521-0888 or jon@resourcesupplyllc.com.
By GLENN LOVELL

Proper maintenance of your chainsaw is as important to your productivity as food is to your body. Without food, the body withers and dies; without maintenance, your saw does the same. Let's break down the chainsaw into two parts: the power head and the cutting system.

Power Head Maintenance

Periodic cleaning of your saw makes it easier to work on. An air compressor makes simple work of cleaning off all the loose grit, dust and grime from your power head. While cleaning the saw, make sure all of the fasteners are tight and not missing. Three components in particular—the air filter, spark plug, and muffler—will require additional, routine maintenance.

Chainsaw work produces fine particulate matter that the air filter traps to keep out of the engine. If this matter is not removed, then the saw will run rich (the fuel will not have enough air in it) and begin pulling air from wherever it can scavenge it: which usually means from around the bearings on the crank. If dirty air is drawn into the engine it will eventually destroy it. Be sure to check and clean the air filter daily when your saw is in heavy use. If the air filter shows signs of tearing or wear, replace it.

The condition of the spark plug can tell you a lot about how the saw is running and should be checked on a routine basis: once a month with heavy use, every other month with moderate or light use. A healthy spark plug will be chocolate brown in color. A black, greasy looking spark plug means your saw is running rich and you need to clean or replace your spark plug to avoid failures when you need your saw the most.

The muffler is another component of the power head that requires maintenance. The muffler reduces noise levels, but it also captures and traps carbon deposits that can come out as sparks. Check the spark arrestor screen and clean it periodically (approximately every 3 months.) A plugged spark arrestor screen will cause poor engine performance.

When placing a saw into storage remember to remove any fuel that may still be in the fuel tank and push the primer bulb until there is no more fuel in the fuel line. The ethanol fuel that is prevalent in today's market can destroy carburetor gaskets and fuel lines in a matter of weeks.

Cutting System Maintenance

The cutting system is comprised of three separate parts: the chain, the guide bar, and the drive sprocket. These three items work together as a team.

The Four Basic Rules of Saw Chain

Rule #1
Check the tension before use and during refueling. Only adjust tension when it is cool enough to touch. A chain should never hang loose out of the groove of the bar. A loose chain increases wear on the bar, chain and sprocket.

Saw chain must be correctly tensioned.

Rule #2
Use a good quality bar and chain lubricant. All chains should be soaked in bar and chain oil prior to use. Check your saw's oiler to make sure it is operating correctly and fill your oil tank each time you fill up with gas.

Rule #3

The chain should be clean and inspected for damage prior to sharpening. If damage is evident on the cutters, find the cutter with the most damage and begin sharpening at this location. All of the damage must be removed or the cutter will not hold an edge. Count the number of strokes it takes to remove the damage and file the remaining cutters in the loop the same number of times. All of the cutters in the loop must be the same length. If the cutters are not the same length cutting performance will suffer. All chains must be sharpened to the manufacturer's specifications.

Rule #4

The depth gauges, often referred to as rakers, riders or drags, must be set after sharpening. The depth gauges control the amount of bite the cutters take in the wood. Proper depth gauge settings will insure optimal cutting performance. The depth gauge setting should not exceed the manufacturers specified setting.

Saw chain's depth gauges must be set correctly.

The depth gauges, often referred to as rakers, riders or drags, must be set after sharpening. The depth gauges control the amount of bite the cutters take in the wood. Proper depth gauge settings will insure optimal cutting performance. The depth gauge setting should not exceed the manufacturers specified setting.

—Continued on next page—
For those who do a lot of cutting, it may be worthwhile to purchase a chain grinder. When it comes to chain grinders, it is important to note that while a cheaper grinder will get the job done, you truly get what you pay for.

**Bar Maintenance**

*Clean the Oil and Grease Holes*

Fine particulate matter builds up in the oil hole at the tail of the bar and the grease hole on the nose of the bar. (Note: not all bar manufacturers put grease holes in the nose of the bar.) These holes need to be cleaned out so that the flow of bar and chain oil is unrestricted, and so that the nose bearings can be kept clean and lubricated.

*Clean the Bar Groove*

Cleaning of the groove is necessary to remove the debris that builds up in the groove of the bar. The debris in the bar groove can be carried around the bar and deposited in the nose where it can get lodged and eventually prevent the nose sprocket from turning. If the debris is not removed, it can prevent the chain from turning.

*Grease the Bar Nose*

Grease the nose liberally while turning the nose sprocket. Apply enough grease to get all of the old grease and gunk out of the bearings. Do not stop applying grease until fresh grease can be seen.

*Bar Nose Clearance*

Check the clearance of the chain on the nose of the bar. There should be approximately a 1/32-inch gap between the chassis of the chain and the bar rails on the nose. If there is no gap, then it is time to replace the bar.

*Guide Bar Rails*

Check the condition of the bar rails by placing a straight edge against the body of the bar and against the side of a cutter. The cutter should remain upright and there should be a small gap between the straight edge and the body of the bar. If there is no gap present, then the groove is worn out.

Remove the burrs from the bar rails during your periodic maintenance. If the burrs are allowed to remain, they can chip or break off and lead to binding during cutting.

Instructional videos can be found at tinyurl.com/ChainsawMaintenance101

**Drive Sprocket Maintenance**

The third component of the cutting system is the drive sprocket. The drive sprocket is the portion of the cutting system that transfers the motion of the saw to the chain. If the sprocket is not checked periodically and replaced, it will cause damage to the chain and poor cutting performance. There are two different types of drive sprockets: a rim sprocket system and a spur sprocket system.

The drive sprocket requires periodic inspection, and greasing of the clutch cup bearing. Some rim sprockets have wear indicators on them similar to the tread bars on tires. Once the wear on the rim sprocket is as deep as the wear indicator (about .022 inch) it is time to replace the rim sprocket.

Spur sprockets do not have wear indicators on them, so when the wear gets to about .023 inch, or about the same width as a penny, it needs to be replaced. A good rule of thumb: if you have used two loops of chain to end of life then it is time to replace the drive sprocket.

Performing these maintenance items will insure a productive and safe cutting experience. Remember to always wear safety glasses when working with, or working on, your chainsaw.

**Glenn Lovell** is a senior technical services technician at Blount International. He can be reached at 503-653-4529, 503-866-0633 or glenn.lovell@blount.com.

All photos and graphics courtesy of OREGON™ Blount, Inc.
A COMPLETE LINE OF BARS TO FIT NEARLY EVERY SAW ON THE PLANET

oregonproducts.com

OREGON® and PowerMatch® are registered trademarks of Blount, Inc.
Basic Tools for Woodland Owners

By JAMES FREED

There are many tools available to the landowner that cost thousands of dollars and use the most sophisticated computer programs. But if you are a more hands-on person you can do basic forestry work with the same tools that have been used for many years.

As a forestland owner, it is a great idea for you to learn as much about your property as you can. Whether you are managing the land yourself or hiring someone to do the work, the more you know about your resources the more successful you will be in obtaining the results you desire.

Tools for Forest Description and Location

When starting a forest plan you need to know the location of your property lines. The first tool you will need for this task is a good map/aerial photo. Your county assessor can provide a map with the legal description, dimensions, and corner locations for your property. A good map can also show adjacent ownerships and any easements across your land. When asking for maps from a governmental agency, request GIS overlays that show any special areas of concern. Critical areas like habitat for endangered plants/animals, hazardous slopes and cultural resources can be shown.

Aerial photos can be obtained from commercial map services, the Farm Service Agency, the Natural Resources Conservation Service, and other state and federal natural resource agencies.

With a map in hand you now need a good compass. A lensatic compass was used by orienteering professionals and engineers before satellites and is good for more precise work. A Silva Ranger is less precise than the lensatic compass, but it does have a sighting window and the option to set declination. If you are not concerned about precision, a basic compass with map scales on its straight edges is adequate to take map coordinates and relate them to the ground.

A hand-held GPS unit, or a cell phone with GPS, can be used to find or set the locations of corner posts, property lines, photo points and inventory plot locations. They are more expensive than a hand-held compass and often do not work as well in heavy tree cover and remote locations.

One of the best inexpensive tools for forestland owners is a cruising stick with scales for measuring diameter, log length, log volume, and tree height. The stick is easy to master and is available from forestry tool suppliers and some forestland owner associations.

Tools for Tree and Site Evaluation

Clinometers are used for determining angles of slope, but the number one use by most family forestland owners is to obtain tree heights. The hand-held ones work well if you can do some simple math. By standing a given distance from a tree, and obtaining readings from the clinometer for the top and bottom of the tree, you can measure the total tree height based upon the clinometer’s scale.

Increment borers are not inexpensive but they give you the best information about your trees without cutting them down. The annual rings on the core sample show the age of the tree, how fast it is growing, and if

WANT MORE FROM YOUR WOODLANDS?
MORE PROGRESS MEETING YOUR OBJECTIVES?
MORE VOLUME? BETTER PLANTATIONS?
MORE CONFIDENCE IN YOUR MANAGEMENT?
MORE SATISFACTION?
MORE INCOME?

Leverage your knowledge and passion for your tree farm by working with an ACF forester. ACF foresters have spent their careers managing forests—many just like yours. They must have a bachelors degree, be experienced, meet continuing education requirements and adhere to a strict code of ethics.

Visit our website at ACF-foresters.org to find an ACF Forester near you. Or call 888-540-8733 for a referral.

THE ASSOCIATION of CONSULTING FORESTERS
there have been any changes in growth rate due to thinning, fertilizing, pruning, climate change, and insects or diseases. You only need a borer long enough to go to the middle of the trees you will be checking. In a young stand a 6-inch borer will be sufficient, while a 12-inch borer will be adequate for most stands.

A diameter tape is a good tool for obtaining tree diameters. The tape is calibrated to read diameter when it is wrapped around the circumference of the tree. The tape should have a hook on the end of it to attach to the tree for ease of use. If you will be measuring longer distances or larger logs, then you will want to buy a cruising tape that is available in various lengths.

If you are going to set up variable-radius plots for inventory or cruising, you will need a method of determining which trees are in the plot. This can be done by hand, measuring the distance of each tree from the plot center. A quicker method is to use a prism or a cruising angle. Prisms are calibrated for various basal area factors (BAF). The basal area describes stocking density for your site by giving an estimate of ground surface area that is covered by tree trunks (the cross section at DBH). For instance, if you use a 20 BAF prism and find 6 trees in your plot, you have 120 square feet of basal area per acre, i.e., each acre is supporting 120 square feet of wood in cross section. By comparing the current basal area with the desired basal area, you will know if your stands need to be harvested, thinned or planted.

Tools for Stand Treatments

If you plan on planting trees and shrubs you will need the most appropriate tool for what you are planting and the soils you will encounter. Planting tools range from hand trowels to tractor-mounted augers. Tool choice is based on many factors, including the size of the roots and number of trees to be planted, the soil and vegetation on the planting site, and how much time, money and energy you want to expend.

Power augers are useful for planting in heavy and hard soils. If more than a few trees will be planted, they are best used by two operators and a planter following behind. The tool typically consists of an auger bit fitted to a power head. The cost ranges from $300 to over $1500. In wet clay soils an auger often leaves a smooth, compressed side of the hole that inhibits root growth and drainage.

A hoedad is a traditional planting tool that has a sharpened 4-inch wide blade at a right angle to the handle. They are effective for planting on hills, in heavy vegetation and in sandy soils. They are primarily used with smaller seedlings. Some operators have adapted their hoedad to also cut roots that are in the planting area. Planting thousands of trees with a hoedad is hard, physical labor and requires lots of bending from the waist.

Dibbles are also used by professionals and family forest owners alike. They are suitable for flatter ground. The user is more upright and has less stress on their lower back. They can be a problem in wetter soils as they compress the edges of the planting hole and are not appropriate for very rocky or compacted soils. A forestland manager can use a dibble to plant

—Continued on page 31—
Planning for next year’s capital expenditures obviously has important economic impacts—if nothing else, it’s cash out the door! But understanding and planning around the tax impact may help mitigate, at least to an extent, some of the negative cash flow. There are the operational considerations of when or whether to buy a new piece of equipment, how much road to build, or the timing of replanting. While we certainly do not want the “tax tail” to wag the dog, knowing some of the rules and opportunities may impact decisions.

First, let’s start with some of the basics. Before I go any further I want to remind everybody that this is the tax code, which probably means some of you have already begun to glaze over, but stick with me. Although we all have infinite confidence in our elected officials who have so diligently crafted this masterpiece, I need to point out that it can often seem illogical. It is, after all, a tool designed principally to generate revenue for the government.

So, with that in mind, you are generally required to capitalize assets that have useful lives of more than a year, and deduct the expense over an assigned multi-year period. The number of years is set forth in the tax code and regulations, as is the amount of the deduction in any given year. (This is an example of how the rules may seem illogical.) Needless to say, most of us would prefer to be able to deduct everything in the year we purchased the asset. So trying to find ways to do that, or at least reduce the number of years, or somehow have disproportionately more deducted in the earlier years, is a worthwhile effort.

One tactic that is commonly used for expenditures on basic equipment is Internal Revenue Code (IRC) §179. This section allows a taxpayer to deduct 100% in the year of acquisition. However, it is subject to limitations and qualifications and you may not always be able to use it. Here are a few additional items to note: 1) for 2014 the maximum amount you can deduct is $25,000, and you can only do this if your total investment for the year is less than $200,000. (These limits were much higher the past several years as part of temporary economic stimulus policies that have now expired.); 2) the deduction is limited to certain types of personal property (Personal property is generally anything other than land and buildings); 3) you cannot take the deduction if you have a net loss (The deduction will carry forward to future years); and 4) it cannot be used by a trust or estate.

So that was some information on deducting expenditures for basic equipment. But as we all know, much more can be spent on other types of long-lived assets, such as roads, bridges, and reforestation. And this is where the timber industry has several unique rules and methods for deduction with meaningful tax implications.

First, roads can be very confusing. When is an expense simply repair or maintenance as opposed to an installation or “betterment”? The former can be immediately deducted, while the latter may need to be charged off over fifteen years, or even capitalized to land which can only be deducted when the land is sold. Here are a couple of examples that usually qualify as repair and maintenance (R&M): 1) a seasonal top dressing of gravel, 2) repair of a washout to the road’s previous condition, and 3) a minor rerouting. Anything more significant and you’ll want to consult your tax advisor.

Building new roads is obviously not going to be R&M, but the new road can have vastly different treatments depending on its intended purpose. In general, a light road built to access a particular stand for harvest which will largely be abandoned afterwards can normally be charged off as the harvest is completed. In other words, if 30% of the target harvest was completed in year 1, and the remaining 70% in year 2, you would similarly expense 30% of...
the harvest road cost in year 1 and the rest in year 2. More significant mainline roads, however, will often be charged off proportionally over fifteen years.

But there is an important complication when it comes to mainline roads. The IRS has been clear that when a mainline road is built, two separate assets have been created. The sculpting of the land and more permanent land manipulation is considered a land cost, which is added to the land account and not deducted until the land is sold. The remaining cost is a road addition and, as stated above, is expensed over fifteen years. The determination of how much of the total cost is land versus road can be tricky. Historically the IRS has accepted an allocation to land of 20 to 35 percent, however this can vary depending on the facts and circumstances.

Another complicated concept involves reforestation costs. For example, the IRS normally expects that some portion of the post-harvest cleanup cost be capitalized along with the new planting cost. (I know it seems unfair but that’s the position of the IRS.) However, in 2004 a new and very advantageous law was enacted that allows a taxpayer to elect to expense the first $10,000 “with respect to each qualified timber property” (refer to the block accounting discussion in the summer 2014 issue), and any amounts beyond this may be expensed over a seven-year period. Previously most of the reforestation costs could not be expensed until ultimate harvest, more than 40 years in the future!

The foregoing concepts can be very important for your tax planning and compliance, and each one could be its own lengthy article. The rules are complex and, as stated earlier, not always logical. Also, some things that are assumed for some, may not apply to you. For example, you may not always want to accelerate deductions. You may want to leave those for the advantage of the future generation. Either way, it can be well worth the effort to understand and incorporate deductions into your planning decisions.

Send in Your Tax Question
Do you have a question that relates to accounting, business, or tax planning? If so, send it to tax expert John Johnston (jjohnston@bbjsllp.com) and he will answer it in the next scheduled column.

You know how to read a 90 year old log... but can you read the 90 year old tax law?

Timberland owners certainly know their way around the woods, but the forest of taxation and financial decisions can seem impenetrable. That’s where BBJS can be your guide. We’re a full service accounting firm that has been quietly serving the forest products industry since 1954. For a free initial consultation please give us a call at:
206.682.4840
Phone us today, before more opportunities get lost in the woods.

BANCROFT BUCKLEY
JOHNSTON & SERRES LLP
Certified Public Accountants
1501 4th Avenue
Suite 2880
Seattle, WA
98101-1631
www.bbjsllp.com

We count trees, not beans.
DEAR TREEMAN, When did they start calling a filbert a hazelnut? —Scott

DEAR SCOTT, Growing-up in Oregon, “filbert” was the ubiquitous usage by local residents and growers. “Hazelnut” was somewhat of a neologism, although as time progressed Oregon residents evolved to calling our state nut the hazelnut rather than filbert. Some perceive it as disparaging: how do you designate a state “nut” when so many reside in Salem and throughout our local county governments? But there is a difference: one being conducive to good health while the other is toxic. Where’s the filbert blight when we need it?

Filbert or hazelnut, the name refers to any of about 15 species of shrubs and trees constituting the genus Corylus in the birch family (Betulaceae) and the edible nuts they produce. The name “hazel” likely comes from the Anglo-Saxon word “haesel”, which means bonnet or headdress, describing the shape of the shell surrounding the nut. Filbert is the correct name for both the tree and nut. The name is of French origin and likely first introduced into Oregon by early French settlers. Some thought the name filbert was derived from St. Philibert whose celebration came during the nutting season.

Perhaps we are being provincial in the filbert designation. In eastern North America, they may be called filberts or hazelnuts depending on your family history. If you are in England or Europe, you probably call them filberts unless you specifically are speaking about cobnuts, another nut of the genus Corylus, grown in England. If you are in Turkey, where production and export of the nut has been going on since the mid-1800s, you probably call them hazelnuts. In Oregon, the debate began in 1858 when the first cultured hazelnut/filbert tree was planted by a retired Hudson Bay Company employee named Sam Strictland.

Documentation shows that residents of the Pacific Northwest give filberts the nod when comprising the older generation, while the younger crowd knows them as hazelnuts. Likely the biggest reason for the change came in 1981 when the Oregon Filbert Commission decided to conform to a standard and began emphasizing hazelnut. When considering the production of all of Oregon’s fruits and nuts, the hazelnut has surpassed grapes as the largest revenue producer in the state. But it still lags far behind timber.

How ’bout a spirit of compromise? I and the geriatric crowd can continue calling them filberts, while the young whippersnappers can tweet hazelnuts. We are equal opportunity name-callers here. Regardless of designation: take a handful of these nuts, place them in a bag, shake ‘em up and roll ‘em out on a table and they all look, smell and taste the same, much like the aforementioned occupation. Only difference: digest one and expectorate the other. Your call.

DEAR TREEMAN, I attended one of your ponds classes and you talked about the importance of getting a permit before you start digging. How big a hole can you dig before you have to get a permit? —Paul

DEAR PAUL, Are we speaking literally or figuratively? Remember the old saying that a person finding himself in a hole should stop digging? We adhere to the closed universe theory: merely keep digging until you wind up where you initiated the journey. The strategy suggests, if you can excavate enough material, eventually your adversaries become so inundated they abandon any attempt to challenge the premise of your exercise. Capitulation by inces-
Basic Tools for Woodland Owners  
continued from page 27

many hundreds of trees once they get a system established.

Planting shovels are handy for planting larger seedlings and trees in fine and sandy soils. They do not work well in rocky ground or highly-compacted soils. Planting shovels are not your typical homestead shovel. They are specialty shovels with spades designed to cut though roots and turf. They often have foot plates that provide a flatter surface for your boot and less stress on your foot when pushing them in the ground.

A good planting bag is a must for all tree planting efforts. Two compartments, a shoulder harness and water-proof construction are recommended. These bags provide protection for the young roots so they do not dry out, and free up your hands for the planting tool.

Marking your trees for thinning, harvest or protection is an important task. The method you use will be based on how long you want the marking to stay. Metal or plastic tags are best for permanent inventory plot, wildlife, and legacy trees. They are easy to use and can offer years of value. For quick marking of harvest area boundaries and plot areas, plastic flagging tape is best. It is very easy to use and biodegrades in a few years. It is easy to remove from the tree, and even move to other trees, so it is not typically used to mark harvest trees. Flagging comes in many colors and patterns. You can use different ones for different tasks.

When marking trees for removal, tree marking paint is quick, easy and durable. You can buy it in an aerosol can for small projects (25 trees) or in larger cans for hand or backpack marking guns. You will use a lot of paint for a thinning or harvest project since you will mark the tree on the bole and on the stump so you can make sure that only marked trees were removed.

If you are going to do lots of weed control, buy a high-quality backpack sprayer that can easily be cleaned and repaired. One that holds 3 to 5 gallons is optimal. A comfortable harness and easy-to-use pumping handle are essential. For small projects a handheld tank will work.

So if you have the time, energy and inclination to do your own work, check out all the non-power tools that you can have in your cruiser’s vest. ■

James Freed is an Extension forestry professor at Washington State University, working primarily in the field of non-timber forest products, or special forest products. He can be reached at 360-902-1314 or freedj@wsu.edu.

2015 WFFA Annual Meeting

The 2015 Annual Meeting of the Washington Farm Forestry Association will be held at Great Wolf Lodge in Grand Mound from April 30 to May 2. Best known as a water park with a giant slide immediate adjacent to I-5 (Exit 88 off I-5, 7 miles north of Centralia, 15 miles south of Olympia), Great Wolf Lodge also has a first class meeting space and accommodations are available without water park admission.

Friday’s program will focus on educational topics with concurrent sessions designed to interest everyone. The 2015 Washington Tree Farmer of the Year will be named during lunch. On Saturday there will be a field tour, which is also open to people who do not attend Friday’s sessions. Vendors will be present Friday and a raffle will be held to raise money to add to the Steven D. Stinson Leadership in Natural Resources scholarship. Port Blakely Companies started the scholarship at the 2014 WFFA Annual Meeting.

For further details and registration information, visit wafarmforestry.com or contact Donna Loucks, 360-736-2147.
Looking for direction?

Find the help you need at KnowYourForest.org

Learn how to …
- keep your forest healthy
- improve wildlife habitat
- reduce wildfire risk
- earn sustainability certification
- find a forester, logger or other specialist

KnowYourForest.org was created in cooperation with the Partnership for Forestry Education, a collaboration of state, federal and private forestry organizations.