Spring 2015

NATIONAL WOODLANDS

Magazine of the National Woodland Owners Association

SPECIAL EDITORIAL FOCUS:
• Alternative Woodland Income Sources
• Top Ten Family Forestry Issues for 2015

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NATIONAL WOODLANDS

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NATIONAL WOODLANDS SPRING 2015
In April, the American Forest Foundation (AFF) brought 54 family forest landowners, representing more than 22 million individuals and families who own woodlands—people like you and me—to meet with members of Congress. Their goal was to stress the importance of legislation that supports sustainable forestry while continuing to provide the clean air and water, wildlife habitat and forest products we all use every day. Many of these issues are also priorities for our frequent partner, the National Woodland Owners Association.

Specifically, the visiting landowners focused their efforts on three priority areas where they believe Congress can help maintain or improve current legislation affecting family forest owners:

**Congressional support for the Wildfire Disaster Funding Act is needed.** The wildfire funding problem continues to grow. While many people may associate wildfire funding with America’s publicly-owned forests, the transfer of funds from non-fire programs, known as “fire borrowing,” along with the continuous rise in wildfire expenses, has significantly affected private and family owned forest programs. In the past 15 years, this diversion of funding has occurred eight times: Funds were pulled from preventative or restorative programs intended to aid forest landowners across the U.S. The money was transferred to the West to fight wildfires. Fortunately, the proposed Wildfire Disaster Funding Act provides a solution. The bill would treat funding for catastrophic wildfires much like other natural disasters, such as hurricanes.

**Congress should maintain the current tax provisions for family forest owners.** As the tax committees in Congress look to modernize the tax code, legislators should maintain the current tax provisions that help keep forests as forests and support working forests, including:
- treating income from timber as a capital gain,
- the reforestation tax deduction,
- the deduction of forest management expenses, and
- the conservation easement tax incentive.

Additionally, woodland owners asked for continued financial support for forest stewardship programs. Key programs, like the U.S. Forest Service’s Forest Stewardship Program, help family woodland owners care for and sustain healthy forests and the innumerable benefits they provide. These programs are not only helping to engage woodland owners, but they achieve meaningful on-the-ground impact on water quality, wildfire risk mitigation and species restoration.

Overall, woodland owner visits to Capitol Hill were a success. Landowners had more than 150 meetings with legislators and staff, sharing their passion and pride for their forests and stressing the need for support from Congress. These landowners, with support from AFF, will be following up with Congressional members throughout the summer to continue to encourage their support.

If you want to learn how you can be part of our advocacy efforts in the future, join our email list by visiting www.forestfoundation.org.

Rita Hite
Vice President, Public Affairs
American Forest Foundation
New Subscription Offer
With American Forests Magazine


Our big news this quarter is the announcement of the formation of a very special joint subscription partnership with American Forests magazine (see back cover).

First published in 1894 by the newly-founded American Forestry Association, champion of the conservation movement, the magazine celebrates the significance of forests to all Americans. American Forests remains a standard setter, especially in the area of forest policy, along with excellent articles on the diverse nature of forests.

It is ideal companion reading to National Woodlands. Although we have expanded our coverage of the many diverse interests of family forestry and those folks who own and manage half of all the forests in the U.S., we want to remain focused on landowner issues. That is your interest and ours. Everyone associated with NWOA is a working woodland owner.

To celebrate this historic subscription partnership, we have arranged to have the special 140th issue of American Forests mailed to all of our regular and sustaining members. Unfortunately, this special option does not apply to our many affiliate members and subscribers. If you like what you see, and agree with us that American Forests is a fine companion publication to National Woodlands, read the box below to see how you can activate this additional subscription option.

Although we have expanded our coverage of the many diverse interests of family forestry and those folks who own and manage half of all the forests in the U.S., we want to remain focused on landowner issues.

Top Ten Forestry Issues for 2015

The ballots are in and the results are impressive. Landowner access to wood markets is again #1, but this year by a convincing margin. We suspect that has something to do with the steady recovery from the recession when many members made the wise decision to postpone selling their timber until markets improved. With few exceptions, sawtimber and pulpwood markets are good and getting better. The rapidly emerging wood pellet market, especially in the Southeast, has a positive influence on prices offered by buyers.

Number two is taxes, both timber and property. As Congress revisits a major tax overhaul in 2015, many people are concerned that we may lose some of our hard-won sustainable forestry tax benefits. Property taxes are always a concern, and should be. Invasives made it into the top three for the first time, reflecting an understanding how serious this issue has become. A complete discussion of all the issues begins on page 6.

This issue includes the annual mailing to our 12 affiliated state landowner associations in the Eastern Alliance of Landowner Associations. Their annual reports begin on page 30. This new feature can be very useful to all of us as we read how the different state associations work with their legislatures, raise money, share ideas and generally have a good time doing it.

Additional Products From Your Woodlands

With the expanded size of National Woodlands, we are bringing you stories about how many of us are earning additional income from forest products. These range from ramps, ginseng and maple syrup in the East, to truffles in the West, and mushrooms just about everywhere. We even put in a story on the rapid growth of biomass markets. There you have it. A full read for sure. Next quarter we will be sharing your stories about your favorite forestry implements and tools. Be sure to read the box below to sign up for the new optional American Forests subscription.

—KAA
Argow@nwoa.net

Here’s how to continue to receive American Forests magazine for the special subscription rate of $10/year. Just let NWOA know by:
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Upon notification, we will enroll you in this program. You will receive an invoice unless your renewal rate is within the next six months. In that case we will just include it with your membership dues. It is as easy as 1, 2, or 3!
Access to wood markets is again the #1 concern of family landowners by a big margin followed by taxes, invasives and Extension Forestry

Back in 1986 when NWOA began ranking the Top Ten Family Forestry Issues, timber taxes and private property rights were clearly the #1 and #2 concerns. They stayed at the top of the list until 2001, when the issue of markets for wood appeared near the top. Until this year, those three issues have dominated the Top Ten.

The invasion of invasive species has jumped from #5 to #3, possibly because of the in-depth stories in the Winter issue that have alerted the leaders of NWOA's independent state affiliates how serious invasives can be to forest health and productivity. Another big change is property rights, including the right-to-practice forestry. It dropped to #6, indicating that private landowners are succeeding in getting meaningful state legislation in place to protect these rights.

Extension Forestry Education programs, which last year ranked in the #3 position following a steady climb all the way from #8 in recent years, earned a strong #4 rating, followed closely by water quality and quantity at #5. These annual evaluations and rankings are selected by the leaders of the American Alliance of Landowner Associations (NWOA's 42 independent state affiliates).

#1 Timber Markets, Biomass and Fair Trade

For the third time in five years, concern for developing and maintaining markets for timber and forest products is #1, and this year by a convincing margin. This suggests that a majority of NWOA national and affiliate members do manage their woodlands for timber and forest products, as well as income. The gradual recovery from the recession is visible in the rebound of new housing starts with real improvement in both hardwood and softwood market prices.

While prices for pulpwood continue to be variable, the market for woody biomass is strong, especially for pellets exported to fuel European power plants as a replacement for coal. Questions have been raised over just how carbon-neutral wood fired power plants are, and their long-term impact on climate change. The Environmental Protection Agency is evaluating that science. Not wanting to miss out on new market opportunities, states with ports are providing grants and other incentives to construct state-of-the-art export facilities.

The surge in support for newly constructed local biomass-fueled utilities, along with the rising export markets, has led several national environmental organizations to declare that wood from naturally regenerated forests (just about 100 percent of the eastern hardwood forests) should not be eligible for federal biomass assistance programs as a matter of public interest. Their concern is that family landowners will clearcut diverse hardwood stands and plant rapid-growth monoculture pine stands to supply the biomass market. For an in-depth review of the biomass issue see the Winter 2014 issue of National Woodlands.

NWOA is a Free Trade organization advocating minimal governmental intervention. This is not always a popular po-
sition, especially with the Canadian softwood lumber issue, which is expected to resurface later in 2015. We believe America’s premier forest products—quality hardwoods, dimension softwood lumber and logs and treated pine products—can compete effectively at home and in the world market without protective tariffs which can lead to retaliatory actions that take money from our pockets as effectively as taxes.

#2 Fair Income, Inheritance and Property Taxes
Concern over income, inheritance and property taxes returned to the #1 position in 2013, and back to #2 for 2014 and 2015. With the recent proposal by the House Ways & Means Committee to greatly simplify the federal tax code by removing most special tax regulations, including forestry, the issue remains a top concern. These include the credit for reforestation expenses, capital gains treatment of timber sales, and limit some expensing of forest management costs.

In the final hours of the 114th Congress in December, legislation to make permanent the recently expired enhanced income tax deduction for donating permanent conservation easements on woodlands failed to pass. Similar new legislation has already passed the 115th Congress and awaits action in the Senate where it is expected to pass, but no one is sure when. NWOA will be working closely with our partner advocates, the American Forest Foundation and the National Alliance of Forest Owners, to maintain these proven and important tax provisions.

Inheritance and income taxes aside, steadily rising property taxes continue to concern landowners at the local level and in some cases with state involvement. Even with land-use regulations in place in almost all counties, property tax rates continue to rise in many jurisdictions. Settlement of these issues lies primarily with the state landowner associations, but NWOA will help whenever we can.

In past years, we have shared important wins led by our state affiliates. There is no justification for taxing woodlands for schools, hospitals and other community needs. Unfortunately woodlands have little voter constituency. The best hope is to secure support of people who do not own woodlands but do appreciate the benefits everyone receives from healthy forests. As a rule-of-thumb, tax rates on woodlands should be no higher than $3/acre/year. In some cases a lower rate ($1/acre/year) is reasonable, especially if wetlands are present.

#3 Invasives & Forest Health
The Winter 2015 issue of National Woodlands explored in depth the serious spread of invasive plant species into American woodlands and the expensive damage that results. This special issue is a follow-up to the Spring 2014 issue that described serious risks resulting from a growing number of invasive insects and diseases on forest lands. The introduction of unwanted plants, insects and animals, the spread of disease and insect infestations, the implementation of quarantines, and grim prospects for damage control place this at #3, up one from last year.

If not controlled, the thousand cankers disease (TCD) has the potential of devastating the black walnut industry, which uses one of the most widespread and valuable hardwoods in America. Every year the emerald ash borer (EAB) continues to spread. Among invasive plants, cogon grass, Japanese stilt grass and wild mustard are among those causing serious failures in natural regeneration, the primary method through which hardwood forests are propagated. Even with control efforts, they continue to spread and infest more woodlands.

Invasive species, like cogon grass, are a significant concern.

#4 Extension Education & Service Forestry
Since its founding in 1983, NWOA has been the most active and outspoken advocate of Forestry Extension with the motto: “Forestry Education Beats Forest Regulation.” The leaders of the landowner associations voting these issues agree, raising the issue to the Top Three for the first time in 2014 with a strong #4 position in 2015 for forestry and natural resources Cooperative Extension programs.

Federal funding remains fairly strong, but is harder to identify in the budget. However, state legislatures are responding to the efforts of the state landowner association by continuing to match federal extension appropriations $5 to $1. With a decline in field extension foresters there is more emphasis on the use of webinars on the Internet. NWOA understands the new directions in education, but remains strongly in favor of face-to-face mentoring and demonstrations, especially with neighbor working groups.

In the past decade there has been a decline in the number of county level service foresters employed by many state forestry agencies. In some states they remain at the local level, but their duties shift toward law enforcement. Still, most state forestry agencies continue to provide introductory visits from service foresters in every county in the country because it is important. Family landowners own half the woodlands in the U.S. and teaching good forest practices through service foresters and Extension forestry programs is less expensive than enforcing the growing number of laws and regulations. NWOA continues its unqualified support for the federal Forest Stewardship Program administered through state service foresters.

#5 Right-to-Practice Forestry & Private Property Rights
Respect and recognition of private property is guaranteed in the Constitution and is as jealously guarded as the right to bear arms. Both issues are expensive to defend and stir strong
emotions all around. As rural America continues to transform from working farms and forests to homesites sans working landscapes, the character of the neighborhood changes. Newer rural residents often complain about unexpected logging on nearby lands, especially if it is in their viewedshed.

As the composition of state and local elected officials changes, reflecting the votes of the new arrivals, there is a growing likelihood of more “anti-forestry” or even outright “anti-logging” local ordinances. The best defense for woodland owners is to act before it is too late and enact state laws that prevent restrictive local ordinances from being enacted by county and township governments. Many states have such laws with varying degrees of effectiveness. Check with your state association to see how well your land is protected.

NWOA asserts that a landowner’s right to own and steward private property is fundamental to the American way of life. Woodland owners can and should assert these rights through responsible and sustainable land stewardship. Twenty-eight years ago NWOA announced the widely respected Private Property Responsibility Code, which is still our standard (see www.nwoa.net). This code is our commitment to protect and honor the bundle of rights and responsibilities that go with the stewardship of private land. Twenty-six of our 42 state affiliates have adopted the same or similar codes.

#6 Water Quality and Quantity

Whether the extreme weather events in recent years are the result of global climate change, one thing is abundantly clear: water—either too much of it or too little of it—is an issue of national importance. Well-managed forested watersheds are without question the safest and most cost effective way of providing a continuous quantity of clean, good quality water. As the world is learning, the cost of water to society is whatever it costs to produce it.

There was a big water win in the 2014 Farm Bill which overturned the costly Ninth Federal Circuit Court decision that identified logging roads as “point sources” of water pollution and reinstated Section 404 of the Clean Water Act (the provisions for forestry and silviculture) and restored reliance on the proven application of Best Management Practices (BMPs). However, as reported in the Winter 2015 issue of National Woodlands, this controversy has been resurrected by plaintiffs in Oregon and Washington and could again rise to become a nationwide issue. Still to be resolved, after two decades, is a workable definition of wetlands which would be helpful to landowners. This may finally be resolved when Congress eventually considers reauthorization of the Clean Water Act.

#7 Stewardship Incentives: Cost Sharing & Tax Credits

Federal forestry cost share programs (FIP, SIP, ACP, FLEP, Soil Bank) have disappeared in the last two decades. As a result largely of efforts by the “Forests in the Farm Bill Coalition,” (of which NWOA is a member) the 2014 Farm Bill continued and even expanded programs available to woodland owners under the Conservation Stewardship Program (CSP) administered by the Natural Resources Conservation Service (NRCS). Appropriations for the Forest Stewardship and the Forest Legacy programs, funded through the U.S. Forest Service and administered by the state forestry agencies, remain fairly constant, even in a tight budget, which reflects the effectiveness of the programs.

#8 Keeping Forests as Forests

The most recent addition to the Top Ten, “Keeping Forests as Forests” was added in 2009 to reflect emerging concepts in landscape forestry, ecosystem corridors and forest fragmentation. Still in its infancy as a national concept, the idea is catching on with regional land use planners who see it as a tool to guide future development including suburban subdivisions and location of industrial parks. With the involvement of NWOA’s affiliated state landowner associations, this could better define the role of working private woodlands within the urban sprawl.

Although primarily a state issue, landscape forestry also has a potential federal role as revealed in the recently proposed Berkshire National Forest in western Massachusetts with the land remaining under private ownership and management under conservation easements. While far from a done deal, if ever, it is an example of new thinking about how landowners can maintain their woods within a larger forest system. Participation by landowners would remain voluntary.

#9 Wildfire: Suppression, Fuel Reduction, Early Detection & Woodland Fire Insurance

The catastrophic wildfires forecast for last year came to pass, especially in the drought-stricken West, with an even worse forecast for 2015. What the media reports miss is that these huge fires are occurring in the South, most recently in Oklahoma, and in the Lake States. Wildfires continue to occur in the Appalachians as well. Private landowners can limit their risk by forest thinning and reducing ladder fuel loads necessary to sustain crown fires. Often this can be accomplished by careful use of prescribed fire to restore natural ecosystems. Congress reauthorized and expanded the Healthy Forests Restoration Act with the goal of reducing fuels and fire hazards. Some of these goals on public lands been slowed by environmental lawsuits, but they are gradually being tried and resolved.
As it turns out, the timing was appropriate for NWOA to announce the first nationwide wildfire insurance policy. It is a nationwide master policy in NWOA’s name, which is much less expensive than individual policies. The coverage is well explained and easy to apply for. For only $115/year NWOA members can insure their woods for $25,000 by using the application form on page 55. Larger amounts of coverage are available, but require a review by an underwriter (see the instructions on the form). This lowest cost insurance with an A+ underwriter (Lloyds of London) has quickly become a popular NWOA member benefit.

Every year NWOA reminds members of Congress that “small landowners can only afford small fires.” About a fifth of the active fire lookouts in the U.S. are now staffed by volunteers organized by the Forest Fire Lookout Association, helping provide the earliest detection.

#10 Certification of Loggers, Foresters & Forest Practices

Although the issue remains in last place, certification of loggers, foresters and woodlands remains important. In addition to ourselves, loggers are the most important people we allow on our woodlands. Since 1986 NWOA has openly advocated the use and education of certified or trained loggers. Most states have active training programs for loggers, but they are voluntary. Be sure your logger is currently trained.

The ability of landowners to locate competent and experienced professional foresters is essential. The Association of Consulting Foresters (ACF), Society of American Foresters (CF) both certify foresters with those initials behind their name. Forest Practice Certification programs as a group—including the Sustainable Forestry Initiative (SFI), Tree Farm, Forest Stewardship Council (FSC) and Green Tag—continue to improve and become more widely available to family forest landowners. With the exception of niche markets (mostly FSC and Green Tag) landowners are not reporting a stumpage price premium. The certification of forest practices is evolving into a market access issue, with lumber and forest products buyers requesting “certified” wood, but not yet offering a premium to cover the additional expense of certification to landowners.
Wildfire Risk Appears to Attract New Homes, Residents

It sounds counter intuitive, but most people rebuild their burned-out homes, and even more move in on new subdivisions within the burn. A new study completed by the Forest Service, in cooperation with the University of Washington and Oregon State University, found that the number of buildings inside the perimeter five years after the wildfire was greater than the number before the fires.

Despite the demonstrated risk of losing buildings to fire, researchers found little evidence that homeowners and communities acknowledged the risk of fire by changing the location of buildings, or by lowering the rate of new development after the fire.

Study Reveals 900,000 Homes At Risk from Wildfires

According to data released by CoreLogic, nearly 900,000 single-family homes in 13 western states are in designated “high” or “very high” fire risk zones. The total reconstruction value is estimated by insurance underwriters at $237 billion. The states most commonly associated with wildfire also contain the most properties at risk are California, Colorado and Texas. They have the largest number of residential tracts categorized as “very high risk,” with a reconstruction value of $36 billion.

California alone has 50,905 “very high risk” homes. Texas has the most, with 451,515 homes when “high” and “very high” risk zones are combined.

3M Agrees to Reshape Its Sustainable Forestry Policies

After a siege of public pressure and negotiations, punctuated by media-savvy stunts, 3M recently made a strategic change in its products marketing. The company uses a steady stream of wood fiber for Post-It notes, masking tape and other products. Most of that paper is SFI certified. The change is that 3M will work directly with suppliers for all the wood, paper and pulp it buys instead of relying on “mixed sources,” which has been the common practice.

What is the difference? Rather than relying exclusively on the standards of third party certifiers (FSC, SFI, PEFC) to certify environmental performance, the company will hold paper and pulp suppliers accountable to their own corporate standards of both environmental protection and human rights. The additional emphasis on workers and indigenous people’s rights is a reflection of world markets, which typically operate with different standards than the U.S. or Canada.

Canada Leads the World In Certified Forests

Canada now has 43 percent of the world’s independently certified forests, which is four times more than any other country. Most of these 395 million acres are Crown and private land managed by forest products companies, with a very small amount owned by family forestland owners. The certifications are done by the Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI), and the Canadian Standards Association (CSA).

A big reason for the high number is that having certified forests is a requirement of membership in the Forest Products Association of Canada. The organization does this to give its members a marketing advantage. The goal is to make international forest product purchasers confident that Canadian forest products come from responsibly managed forests.

Private Forest Owners Aging, Parcels are Shrinking

The age of woodland owners across the country is increasing as the size of the parcels they own is shrinking. The concern is that as parcels of land get smaller the people who own them might not have the same commitment to forests as the previous landowners. Owners of smaller tracts are less likely to invest in forest management plans and effective wildlife management is more difficult than on larger plots. The more land is subdivided the more likely it is to be developed, and there is little chance it will ever be a working forest again.

Forestry Quotes of the Quarter

Forestry Quotes is a regular feature highlighting the breadth, diversity, fervor and opposing views surrounding current forestry issues.

"U.S. housing starts were just over 1 million units in 2014. The seasonally adjusted annual rate topped the million-unit mark in each of the last four months. That brings them up to level that used to be considered dismal."
Jack Lutz
Forest Research Notes, Vol. 11, #4, Fourth Quarter 2014

“There is a common misconception that the majority of forest land is owned by the government. Nationally, more than half of the 766 million acres of forest land is owned privately by proprietors whose average age is 62.5.”
Brett Butler, Coordinator, USFS National Woodland Owner Survey
MassLive, December 14, 2014

“EPA intends to propose exempting biogenic CO2 emissions from regulation if the applicant can demonstrate that these feedstocks in fact come from sustainably managed lands.”
Janet G. McCabe, EPA Office of Air and Radiation
The Forestry Source, Vol. 20, #1, January, 2015
Introduction

Ramps, *Allium tricoccum* or *Allium tricoccum*, var. *burdickii*, also known as wild leeks, are native to the eastern North American mountains. They can be found growing in patches in rich, moist, deciduous forests and bottoms from as far north as Canada, west to Missouri and Minnesota, and south to North Carolina and Tennessee. In early spring, ramps send up smooth, broad, lily-of-the-valley-like leaves that disappear by summer before the white flowers appear. The bulbs have the pleasant taste of sweet spring onions with a strong garlic-like aroma.

As one of the first plants to emerge in the spring, ramps were traditionally consumed as the season’s first “greens.” They were considered a tonic because they provided necessary vitamins and minerals following long winter months without any fresh vegetables. Traditions evolved around the annual gathering and preparation of this pungent plant.

Throughout the mountains of the eastern U.S., including many western North Carolina counties, annual spring ramps festivals are held. These festivals have become major tourist attractions and are actively promoted by the communities in which they are held. The tremendous volume of ramps consumed at these festivals is gathered from the forests. In many areas, the annual intensive harvesting is seriously damaging the wild populations of ramps. Studies in Canada and Ohio demonstrated that ramps are very sensitive to how they are harvested. Years ago, gatherers would only take a small number of bulbs from a population. Now the demand for ramps is so great, the entire population is often harvested.

In recent years, white tablecloth restaurants have also begun serving ramps, increasing the demand for large, consistent supplies of the wild forest plant. Thus, in an effort to conserve native populations and meet rising demand, cultivation of ramps is strongly encouraged. Harvesting ramps from easily accessible, concentrated plantings would not only benefit festival participants, chefs, and consumers, but also create a new marketable product for the commercial grower. Native populations would be allowed to regenerate and multiply as ramps gain recognition and popularity among consumers.

Since almost all ramps consumed are harvested from wild populations, information on growing ramps is very limited. Research is in progress at N.C. State University to develop efficient, practical, and sustainable production practices for ramps. While research is ongoing, the practices described in this article are based on our experiences and those of the few existing ramp growers in North Carolina and West Virginia.


Plant Growth Cycle

In the southeastern U.S., ramps begin growing rapidly in March and early April in cool, shady areas with damp soil and an abundance of decomposed leaf litter or other organic matter. The plants produce new leaves from March to April,
Freshly-cut ramps resemble scallions—but with more kick.

which die back as the days lengthen and temperatures rise. In June, after the leaves die back, a flower stalk emerges. The flower blooms in early summer and the seeds develop in late summer. The seeds mature atop a leafless stalk and eventually fall to the ground to germinate near the mother plant. The timing of these events is usually delayed at high elevations and locations north of North Carolina and Tennessee.

**Cultivation**

Ramps grow naturally under a forest canopy of beech, birch, sugar maple and/or poplar. Other forest trees under which ramps will grow include buckeye, linden (basswood), hickory and oak. A forested area with any of these trees present provides an ideal location for planting a ramp crop. Areas that host trillium, toothwort, nettle, black cohosh, ginseng, bloodroot, trout lily, bellwort and mayapple should be suitable for growing ramps. If there is not a wooded area available to grow ramps, a shade structure can be erected over the planting site.

Choose a well-drained site with rich, moist soil high in organic matter. Soil moisture appears to be an important environmental variable influencing seed germination, seedling emergence rate, survival, and growth rate of the plant. Thus, adequate moisture must be maintained throughout all seasons, not just the active growing season.

Keep in mind that the growth period for ramps is limited to only a few weeks in the spring, during which time the plant is dependent on having adequate light, moisture, and nutrients for survival.

**Direct Seeding**

Although ramp seeds can be sown any time the soil is not frozen, late summer to early fall is usually considered the best time for seeding ramps. Fresh ramp seeds have a dormant, under-developed embryo. The seed requires a warm, moist period to break root dormancy and a subsequent cold period to break shoot dormancy. Some years there is enough warm weather after sowing in late summer or early fall to break root dormancy.

The following winter cold breaks shoot dormancy and the plants emerge in the spring. If there is not an adequate warm period after sowing, the seed will not germinate until the second spring. Thus, ramp seeds can take 6 to 18 months to germinate. For example, in Fletcher, NC, ramp seeds sown in fall 1999 and spring 2000 all germinated in April 2001. Being able to provide adequate soil moisture and protection from wildlife are other key factors in determining where and when to sow seeds. Production from sowing seeds to root harvest can take five to seven years.

To plant under a forested canopy, rake back the leaves on the forest floor, removing any unwanted weeds, tree sprouts, or roots. If the soil is not naturally high in organic matter, incorporate organic materials such as composted leaves and other decaying plant material from the forest. Loosen the soil and rake to prepare a fine seed bed. Sow seeds thinly on top of the ground pressing them gently into the soil. Cover seeds with several inches of leaves to retain moisture in the soil and to protect the seeds from wildlife. In a field site under artificial shade, add organic matter if needed, till the soil, sow the seeds, and cover with composted leaves or other similar natural materials.

**Transplanting**

Many growers prefer planting bulbs or young plants instead of sowing seeds. Since germination of the seed can take up to 18 months, transplants and bulbs can be a good alternative for the beginning ramp grower. Planting large bulbs (> 1/2-inch diameter) can provide harvestable ramps within two to three years. Bulbs can be purchased in February and March or dug for transplanting between September and March, with February to mid March being the best time.

March is the best time for transplanting young plants. If bulbs are to be dug for transplanting, once the ground has thawed gently dig the ramps, taking great care not to damage the roots or bulbs. In a prepared planting bed, transplant the bulbs approximately three inches deep, and four to six inches apart, allowing all the roots to be buried and keeping just the very tip of the bulb above the surface.

Planting bulbs at the proper depth is important for survival. Transplant leafed-out plants at the same depth they had been growing and space four to six inches apart. If space is limited, clumps of four or five plants can be grouped together. Mulch the planting bed with at least two to three inches of leaf litter.

**Mulching**

Hardwood leaves provide the best mulch for ramps. Poor results have been obtained with pine bark and commercial mulches and they should be avoided until further research is done. The effects of mulching are numerous: decaying organic matter provides essential elements like nitrogen, much needed moisture is retained within the mulched area, and the mulch acts as an insulator to protect the plants in sub-zero temperatures. In addition, mulching helps to suppress weeds as well as protect newly sown seeds and seedlings from wildlife.
Harvesting

In native populations, ramps usually form extensive colonies or clumps. Often the bulbs are so densely spaced that other vegetation can hardly penetrate the stands. Methods for harvest include digging the whole patch, harvesting a portion of a patch, or thinning out and harvesting just the largest plants. Do not harvest plants until they have filled the site, have large bulbs, and have flowered.

If whole plots are harvested at one time, it is recommended to have enough plots to allow for a five to seven year rotation. That is, to have continuous harvest year after year, harvest only one-fifth or one-seventh of your production area each year. When harvesting a portion of a plot, no more than 15 percent of the ramps should be removed. If the thinning method is used, great care should be taken not to damage plants that are not harvested. Based on research done on wild populations; harvests should be limited to five to ten percent of the plants in each plot.

Tools for harvesting ramps vary with the person using them. A ramp “digger” tool can be purchased or made. This hand tool is the size of a hammer, with a long, narrow head similar to a mattock. Other suitable tools include a garden hoe, pick, and soil knife. For commercial operations, having a tool that can be used comfortably all day is essential.

Digging methods are the same as those described for transplanting. Again, great care should be taken not to damage the bulbs. While harvesting, keep the dug ramps cool and moist. When harvesting is complete, wash ramps thoroughly, and trim off the rootlets. Pack in waxed cardboard produce boxes and store in a cool place, preferably a walk-in cooler. Do not store in airtight containers.

Pests

Currently, very little information is available on disease or insect pressures on ramps. In North Carolina and Tennessee, Septoria leaf spot has been observed in wild and cultivated ramps. Although the spot was unsightly on the foliage, it did not appear to adversely affect plant yields in 2001. The long-term effects of the disease are unknown. New ramp plantings do not compete successfully with weeds thus, weeds should be controlled until the plants are well established.

Transplanting bulbs can result in harvestable ramps in 2-3 years.

The rewards are certainly worth the effort.

This article and the research described within are the result of a collaboration between the NC Department of Agriculture & Consumer Services Plant Protection Section and the authors.

The authors wish to thank Glen and Norene Face-mire, G&N Ramp Farm in Richmond, West Virginia and the late Mr. Ramsey of Madison County, North Carolina for all of their advice, assistance, and encouragement with this project.

Information on seed dormancy provided by Carol Baskin, University of Kentucky. North Carolina State University and North Carolina A&T.
American ginseng is a complicated income opportunity for forest farmers to understand because it can be grown in several different production systems and because there is great variation in market demand and prices paid for the various grades of dried roots. It is a controversial plant. Wild harvest has depleted the natural population to such a degree that it has become threatened with extinction in certain regions, according to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES.

Ginseng has a reputation as an aphrodisiac, which has made it a comical rather than a credible plant. It is not easy to grow. A great deal of failure has occurred, in the past, by landowners who casually scatter ginseng seeds in their woods hoping to get rich without doing any work.

But by doing it right, landowners may establish naturalized populations of wild American ginseng on the forest floor in their privately-owned woodlands. If managed correctly, these natural stands of ginseng will be perpetual. A natural stand of undisturbed wild ginseng renews itself by self-seeding. Careful harvest of mature plants can take place, in wild simulated ginseng patches, without taking the site out of production. Young seedling ginseng plants will just grow up to take their place. A carefully managed stand of naturalized American ginseng may produce income for several decades.

The ginseng market is disorganized. Certain dealers try to buy ginseng at low prices so they can sell it at high prices. The threat of human theft has made ginseng production impractical in certain regions. There are constant reports about the low prices being paid for cultivated ginseng crops grown in Wisconsin. On the other hand, wild ginseng sells for over $300 a pound and the market demand in Asia for wild roots is practically unlimited. That market demand and price can not be easily dismissed.

Ginseng can be purchased from suppliers in either seed or rootlet form. It is best to transplant the rootlets in spring, usually in March and April just before they begin to bud. Another good time is in the fall, after the berries have fallen off. Handle the roots carefully, taking care not to disturb them at all stages of transplanting. Fall transplantings should be left undisturbed until they come up in the spring.

Ginseng requires 80 percent shade to thrive and prefers a deep rich loamy soil with good drainage. Organic humus works well.

A cultivating method called “wild-simulated” can be used to grow ginseng without fungicide sprays and expensive establishment costs. The cost of genuine, wild-simulated

This article is derived and adapted from online information provided by hardingsginsengfarm.com, and by Andy Hankens, Extension Specialist at the University of Virginia.
roots approaches that of wild roots. It takes an expert to tell
them apart.

Ginseng cultivation is risky. The crop can be stolen by
thieves or eaten by rodents. The chosen site may not be
right. Plant diseases will certainly occur. On the other hand,
if the right conditions can be found, wild-simulated cultivation
can provide supplemental income and get forest landowners
involved in a form of agriculture that is in harmony with the
forest. It is a completely natural process.

The first step is site selection. Favorable soil and moisture
conditions are most often associated with north- or east-facing
slopes with at least 75 percent shade canopy. This is dense
shade we’re talking about. The best shade is provided by
deep rooted, deciduous trees such as poplar and oaks.

Ginseng grows best in a moist, well drained soil. That is
a contradiction, but these soils do exist. Successful growth
of ginseng most often occurs on sites where herbaceous
woodland plants such as Jack-in-the-Pulpit, Bloodroot,
Solomon’s Seal and ferns are thriving. If no herbaceous
plants are growing on the forest floor, ginseng will probably
not grow there, either. Excellent soil drainage is essential
and swampy or clay soil must be avoided.

In the wild-simulated method, stratified ginseng seed is
planted in the fall when the trees lose their leaves. In some
locations, it will be necessary to clear undergrowth. In some
locations, it will be necessary to clear undergrowth. If the
site is sufficiently shaded, there should not be a great deal
of competitive weed growth. Avoid dense patches of weeds,
and disturb the site as little as possible to reduce the spread
of fungal disease.

It is recommended that only stratified seed be planted.
Commercial nurseries harvest mature ginseng plants and
collect the seed, which is then put into moist sand for one
year. This process helps protect the seed from predators
and Mother Nature while the embryo develops and grows.
After one year, the seed is removed from these special seed
boxes and it is ready to be planted. Stratified seed should be
planted throughout the fall and into early spring (September
through March). Seeds sprout in spring.

Because of the procedure used, stratified seed is only
vulnerable to the elements and other enemies for a very short
time period (as opposed to 18 months in natural conditions)
and survival rates are much greater.

The only tools needed to plant wild simulated ginseng are
a rake and a garden hoe. It is a good idea to plant seeds in
generally defined beds that are five feet wide and up to 50 feet
long. The beds can be separated by three-foot walkways. The
beds should run up and down the slope rather than across
the slope for better air and water drainage around the plants.
Rake the leaves on the forest floor away from the bed right
down to the topsoil. Using the hoe, make three narrow furrows
18 inches apart, all the way down the length of the bed. Plant
seeds by hand, three inches apart in each furrow. About one
ounce or 500 seeds will be needed to plant three furrows at
this spacing in a bed that is five feet wide and 50 feet long.
Cover the seeds with 1 1/2 inches of topsoil. After planting, carefully step down each row to firm the soil around the seeds. To finish planting, rake one inch of leaves back over the bed as mulch. After a couple of rainstorms no one will be able to detect that any planting has occurred. The site should look completely natural.

The stratified seed will germinate the following spring. The plants will look like three small strawberry leaves on a stem about an inch tall. Some of the seeds will not germinate; others will be eaten by rodents. Over the next seven years, the plant population in each bed will be reduced every year by various natural forces.

If all goes well, the final stand will be a thin, healthy population of wild ginseng plants. In the wild-simulated method, after planting, little or no work is required until harvest seven to ten years later. The ginseng plants are left to the mercy of nature. Weeds will compete with them for water and nutrients, as the plants struggle to grow in barely cultivated soil.

These stressful conditions are a good thing: They result in the wild, and more valuable, appearance of the roots that are eventually harvested.

Harvested roots should be air dried in the shade. A half acre will require ten pounds of seed and will yield anywhere from 0 to 200 pounds of dried root in six to ten years. It pays to note, when calculating income potential, that freshly-dug ginseng roots weight three times as much as dried ginseng roots.

The greatest threat to your crop is theft. Despite the temptation to plant where wild ginseng is already growing, don’t plant your seeds in areas where people hunt for and dig wild ginseng. It is best to plant on controlled land and to keep quiet about the enterprise. Growing ginseng away from the mountains, where most ginseng hunters search, is also a good way to keep the crop safe. Elsewhere, someone may come across your planting, but probably will not know what it is.

Ideal growing conditions for ginseng are more difficult to find in low-lying regions than they are in the mountains. The forest floor in most woodland areas is too hot and dry during the summer for ginseng to thrive. Moist environments may be found that are good, if not perfect, places to grow ginseng. Small pockets of cooler soil may be found very often on a north-facing hillside above a stream or river. Many landowners with the right conditions are successfully growing ginseng far away from the mountains.

Marketing Wild Simulated Ginseng

Andy Hankins, Extension Specialist, Alternative Agriculture, Virginia State University

Small farmers who try to grow and sell fruit and vegetables for profit generally have to give a great deal of time and attention to marketing. With those crops, it is extremely important to have a buyer lined up before even planting the crop. Seasonal price fluctuations can mean the difference between profit and loss. In some years markets become totally flooded with certain kinds of produce and growers can barely give it away. Vegetable growers often spend long hours at tailgate farmer’s markets trying to sell their produce directly to the public. Various kinds of cooperatives and grower associations have been organized to assist vegetable growers with the difficult job of marketing.

In selling dried roots of wild simulated ginseng, the situation is totally different. It is hard to find any product that is easier to sell. In Virginia, there are 45 certified ginseng buyers spread out across the state. These buyers are regulated by the Virginia Department of Agriculture and Consumer Services - Office of Plant Protection. A list of the certified buyers can be obtained from that office.

All that a grower has to do is drive to the buyer’s house or store or service station, carry the roots in, watch as they are weighed and accept payment if he agrees with the price that is offered. If the grower does not like the price that is offered, he can take his roots to the next buyer down the road. A grower who has a large volume of roots to sell often will allow buyers to make bids on his roots to get the highest price.

Some growers sell directly to large herb companies who buy ginseng for export to Asia. In a few states, ginseng auctions have been organized to help both the buyers and the sellers. Current price information is easy to obtain from several sources.

Marketing wild simulated American ginseng roots is easy because market demand is very strong for this scarce commodity. The only thing a first-time seller has to watch out for is dealers who might try to buy valuable ginseng at a low price. Many of these country dealers also buy and sell guns, hunting dogs, furs, used car batteries, etc. They practice the art of trading. If they make a low offer and the grower accepts it, it is his own fault.

<table>
<thead>
<tr>
<th>Theoretical Ginseng Business Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10 lbs. of ginseng seeds</strong></td>
</tr>
<tr>
<td>planting labor (180 hrs. at $6.00/hr.)</td>
</tr>
<tr>
<td>harvest labor (270 hrs. at $8.00/hr.)</td>
</tr>
<tr>
<td>drying labor (10 hrs. at $5.00/hr.)</td>
</tr>
<tr>
<td>ginseng (16 - 50 lbs. bags at $4.00/lb.)</td>
</tr>
<tr>
<td>rock phosphate (16 - 50 lbs. bags at $8.00/lb.)</td>
</tr>
<tr>
<td>miscellaneous - tools, clippers, heat, phone, etc.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

The income involved in growing half an acre of wild ginseng depends upon the yield and future price. If a low price of $20 per pound of dried roots is used, income will be:

- **Rootyield**
  - 50 lbs. Gross Income = $13,000 Net Income = $9,232
  - 75 lbs. Gross Income = $15,750 Net Income = $11,732
  - 100 lbs. Gross Income = $20,000 Net Income = $15,232

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Introduction
Shiitake (Lentinula edodes) and oyster (Pleurotus spp.) mushrooms are specialty mushrooms that are well-suited to small-scale production. Unlike Agaricus types (common button mushroom, portabellas, and crimini), which require large, highly mechanized facilities with environmental controls, shiitake and oyster mushrooms can be log-cultivated outdoors. While growers with access to a woodlot will have a clear advantage in terms of production site and log supply, these mushrooms can also be cultivated in other heavily shaded locations.

Marketing
The market for log-grown specialty mushrooms continues to develop in Kentucky. Fine restaurants (particularly those specializing in Continental, French, or Asian cuisine), along with organic or whole food markets, are currently the main market outlets. Direct markets, including farmers markets and community supported agriculture (CSAs), are also feasible.

Additional options for marketing include locally owned supermarkets (in contrast to national chains) and pizza parlors. Dried mushrooms can be sold at local outlets, as well as by mail order or on the Internet. Value-added products, such as soups or dip mixes, are an additional possibility. Shiitake is known for its medicinal, as well as its culinary value, so there may be possible markets in the pharmaceutical or nutraceutical industries for large-scale producers. Growers will need to provide a consistent year-round supply of quality mushrooms to compete in these larger markets.

Growers producing sawdust-grown mushrooms under controlled environmental conditions can provide a year-round supply, giving them a marketing advantage. However, log-grown mushrooms are considered superior in flavor and have a longer shelf life when compared to those grown on artificial media. Additionally, log-grown mushrooms may contain higher percentages of the medicinally active ingredient(s) present in these species. Whether the quality factors are sufficient to outweigh the efficiency factors in the marketplace is uncertain.

Market Outlook
Specialty mushrooms, which are relatively new to the U.S., are becoming very popular as a gourmet food item. Their increasing presence (especially shiitake mushrooms) in national food market chains indicates they are becoming mainstream. Sales of shiitake mushrooms have increased steadily over the past 15 years. According to USDA, sales of specialty mushrooms by larger growers, including shiitake and oyster, totaled $65 million in the 2012-13 season; the average price reported was $3.51 per pound. As consumer awareness increases through taste tests and other effective marketing strategies, an even greater demand is expected.

Production Methods
Shiitake mushrooms are cultivated on small-diameter (three to eight inches) hardwood logs that have been cut from decay-free, live trees with intact bark. Trees are most commonly inoculated in late winter/early spring (February/March) as soon as possible after felling. Logs can also be inoculated successfully at the time of leaf drop in the autumn when the food-rich sap is returning to the roots for the winter (October/November). However, the rising sap in the late winter/early spring has a higher sugar content and will encourage a more rapid growth of the fungus.

Shiitake is introduced into holes using Your Woodlot Resources To Cultivate Specialty Mushrooms
drilled in the logs by inserting commercially produced spawn (either as loose sawdust, dowels, or plugs). The inoculation sites are then sealed with hot wax to sterilize them and to retain moisture in the logs at those sites. Logs are stacked and incubated for 6 to 18 months in a moist, shady location. The moisture level of the logs must be closely monitored and irrigation may be necessary if drought conditions develop. Once white mycelial growth from the spawn is visible at the ends of the logs, growers will know that the spawn has fully occupied the entire log. The logs can then be forced to fruit on a schedule by immersing them in water overnight or for 24 hours, although it is recommended that producers wait a year from the time of inoculation before placing the logs on a production schedule. After soaking, the logs are loosely stacked for production under a clear plastic cover. A building or greenhouse with humidity and temperature controls is necessary for winter production. The normal season for shiitake production in Kentucky is from March to October or November.

Shiitake can also be grown on artificial logs or blocks under controlled environmental conditions. Artificial logs are composed largely of sawdust with supplements (such as millet, rice bran or wheat bran) added to this substrate. Artificial logs have the advantages of controlled productivity and efficiency over natural logs, and can be used for year-round production. However, in comparison with natural logs, production of shiitake on artificial logs is highly capital and labor-intensive. As such, artificial log production may not be appropriate for producers just starting out in a shiitake venture. It is recommended that new producers start small and get a sense of what is involved in shiitake production on natural logs (as well as a sense of what their proposed market will bear) before moving on to artificial log shiitake production.

Oyster mushrooms can similarly be grown on hardwood logs using spawn introduced into holes drilled in logs. Alternatively, the grower can cut an inch-thick layer from the end of a log, cover the cut end with spawn, and then nail the slice back onto the log. Inoculated logs are then placed in black polyethylene bags of vermiculite or sand drenched in water. The bags are stored in a cool place for 4 to 5 weeks before mushrooms appear.

In addition to log culture, oyster mushrooms can be grown on a variety of artificial substrates, such as composted straw, chopped wheat straw with cottonseed hulls, and sawdust. After the substrate is pasteurized or sterilized, it is cooled and spawn is added. The mixture is placed in sealed plastic bags, bottles, trays or beds in a controlled environment. Timing to production is similar to that of logs.
Pest Management
Potential disease threats include *Trichoderma*, *Hypoxylon*, and *Polyporus versicolor*. These fungi can invade the logs, resulting in wood decay. Logs exhibiting *Trichoderma*, the most serious competitor for shiitake, must be removed from the log area and destroyed. Termites, bark beetles and springtails may also cause damage to the logs, but can be controlled fairly simply by good log management. Direct damage to the mushroom caps can occur as a result of feeding by slugs, snails, birds, squirrels, and deer, if the logs are left unprotected.

Harvest and Storage
Mushrooms are harvested by either cutting or twisting them off at the base of the stem. They should be refrigerated immediately in corrugated cardboard containers or paper bags to retain quality and freshness. Packing boxes for fresh mushrooms should be vented to allow for air circulation. Shiitake have a longer shelf-life under refrigeration (12 to 14 days) than the more fragile oyster mushroom (5 to 7 days). Both species can be dried (air-dried or in a dehumidifier) and stored in sealed containers. Drying increases their shelf-life by at least six months.

Labor Requirements
Log-production of shiitake mushrooms requires labor for cutting trees, hauling logs to the inoculation/incubation site, drilling and inoculating logs (five minutes per log or approximately eight hours per 100 logs), moving logs into and out of soak tanks, harvesting (30 to 60 minutes per 100 logs per harvest), packing and transporting to markets. Pre-harvest labor for a 500-log operation is estimated at 42 hours, with harvest labor at approximately 18 hours.

Economic Considerations
The major start-up costs for specialty mushroom production include a refrigeration unit, high speed drill, hardwood logs, spawn, and wax. Costs can vary considerably depending on raw materials, equipment used, equipment already available, ability of the producer to build equipment, efficiency and costs of labor, and the production methods used. For example, growers who own their own woodlot can utilize the low-quality logs that are cut during timber stand improvement, a cost advantage over producers who must purchase their logs.

University of Kentucky shiitake costs and returns estimates, first published in 2003 and updated at a $9/hr. wage rate, are based on the small-scale production of shiitake using approximately 500 logs inoculated over a four-year period. After six to 18 months of incubation, the logs are forced to fruit three times a year. Net revenues in the first two years are negative; it is not until the third year that a positive annual return to land, labor and management is realized. Total cost of establishment during the first four years (total expenses less revenues) is about $1,500. In Year 5, pre-harvest variable costs in a full fruiting year are $320 and harvest variable costs in Year 5 are $783. Total variable costs are approximately $1,100, with total fixed costs running $315 for a total cost of more than $1,400. Profits with no hired labor (a family run business) can fall in the $2,300 range. Hired labor, at a cost of $540, can reduce these profits to the $1,800 range.

How to Inoculate Logs to Grow Mushrooms

- Holes are drilled in the log with a high-speed drill.
- Recommended pattern for drilling the holes.
- Pound in the spawn-inoculated dowels.
- Coat with wax.
Maple syrup is produced in 14 northern U.S. states and four Canadian provinces, with Quebec producing approximately 70 percent of all maple syrup in the world. In the United States, Vermont, New York, Maine, Wisconsin and Pennsylvania produce the most maple syrup.

Sugar (hard) maple is a common tree throughout the forests of the Northeast and Midwest, though it doesn’t grow everywhere in the region. On better soils, sugar maple will reach heights of 60 to 100 feet, with trunk diameters in excess of three feet.

When sugar maple is growing in a dense forest, it develops a clear or limb-free trunk. If it grows in the open, allowing branches and tree crowns to receive sunlight, it will form a dense, round-topped crown, which is a very desirable tree for sap production.

There are at least 100 species of maple in the world. Four species of maple found in North America can be used for sap production. With a sugar content of two percent, sugar maple (Acer saccharum) is generally preferred by commercial producers as it produces the sweetest sap. Because sap from other maple species, such as red or “soft” maple (Acer rubrum), is usually lower in sugar content, it takes approximately twice as much sap to yield the same amount of finished syrup.

If processed carefully, syrup from any of the maples described will have good flavor, including sap gathered from red maple, silver maple (Acer saccharinum), and box elder (Acer negundo).

Yard trees, street trees and open-grown trees in pastures or woodlands can be used for maple sap production. Maples are easy to identify because of their opposite branching leaf shape and unique fruit, called samaras.

The four maples have leaves of similar shape—a single leaf blade with the characteristic maple shape. The leaves, buds and twigs of all maple species are arranged in pairs opposite each other along the branches. All four produce samaras.

There are ornamental maples, such as the Norway maple and the Schwedler maple, that have a milky sap and generally cannot be used for syrup production.

Maple syrup is the primary product created from maple sap. Maple syrup may be converted into other products, including maple candy, maple cream (also referred to as maple butter or maple spread) and maple fudge. Basically, these are produced by concentrating finished syrup to a greater density and stirring the highly concentrated syrup. There is also some interest in using pure maple sap as a natural beverage.

Maple sugar stands were an important component of the Ojibwe seasonal migration and remain a culturally significant food crop for these communities.

Established markets exist for maple syrup, maple cream, maple candy and other confections prepared with maple sweeteners, such as coated nuts. It is believed that supply falls well short of demand.

To obtain the earliest runs of sap, tapping should be completed by mid-February in the more central and southern states in the region, and by the second week in March in the northern states. One longtime maple tapper says that

when the crows return to his sugar bush, he knows that his maples are running.

Sap does not flow from maple trees every day throughout the tapping season. It flows on days when a rapid warming trend in early to midmorning follows a night when the temperature has gone below freezing. Thus, the amount of sap produced varies from day to day. Normally, a single tap hole produces from one quart to one gallon of sap per flow period, with a seasonal accumulation of 10 to 12 gallons. Sap runs for a few hours to a day or more.

A tree suitable for tapping must have a trunk diameter no smaller than ten inches measured at four feet above ground level. This measurement is known as “DBH” or diameter at breast height. Use of one tap is typical and recent studies suggest that no more than two taps should be placed in any tree greater than 20 inches in diameter. For the best sap production, a tree should have a short bole topped with abundant foliage.

Maple sap is harvested by tapping the trunk of mature maple trees and collecting the sap in containers. Harvest technique has developed from the use of wooden spiles, often carved from sumac, and birch bark buckets to use of metal and, more recently, plastic spiles and food-grade plastic buckets and bags. Commercial operations sometimes employ vacuum tubing that allows for more efficient collection at a central location. Taps are set by drilling holes in the tree to reach the sapwood. New taps must be set each collection season as the wounds heal.

Sap is perishable and should be collected and boiled down as soon as possible to produce high quality syrup. When this is not possible, sap should be collected at least every two to three days. When temperatures are low and storage conditions are favorable, sap may be kept one to two days with minimal reduction in quality. If sap is allowed to become warm before boiling, a darker, off-flavor syrup of poor quality may result.

Maple syrup can be produced with minimal equipment. A few standard items, such as those listed below, will increase efficiency of the operation and quality of the product:

- Drill with 5/16” bit.
- Collection spouts (5/16” tree saver spiles, taps) for each tap hole.
- Collection container (bucket or plastic bag) or tubing line for each tap hole—use food grade material only!
- Metal cans with plastic liners (food grade) for sap storage.
- Large food grade stainless steel boiling container and heat source for boiling down the sap.
- Large-scale thermometer calibrated at least 15 degrees above the boiling point of water (candy thermometer).
- Wool, orlon or other type of filters for filtering finished syrup while it is hot.
- Storage facilities and containers for the finished syrup (use metal, glass or plastic food grade only).

The process of making maple syrup is essentially one of concentrating the sap to a pre-determined level by boiling it. The heat applied in the process develops the characteristic color and flavor that makes maple syrup highly desirable. The average sugar concentration of sap is two percent. At that concentration, 43 gallons of sap are required to produce one gallon of syrup. You will need less sap when the sugar concentration is high.

Fill the evaporating container with sap. A large pan (food grade stainless steel) with high sides is preferred. Begin heating the sap. As the level of sap in the pan is reduced through evaporation, add more sap. Occasionally skim the surface of the boiling liquid to remove surface foam and other materials. Boiling should be done outdoors or in a well-ventilated area to allow large amounts of steam to escape.

Continue the process until the sap changes color and the boiling point begins to rise above the boiling point of water. Finished syrup boils at seven degrees Fahrenheit above the boiling point of water. As the temperature of the boiling sap approaches this point, boiling should be carefully controlled to prevent burning and overheating. The process may take several hours to complete.

Once the desired boiling point has been reached, the syrup is ready for filtering and packaging. The hot syrup should be poured through a suitable pre-filter paper and a wool or orlon filter designed for maple syrup. Filtering will remove most suspended particles, some sugar sand, and will improve the appearance of the syrup. After filtering, the syrup should be packaged at a temperature above 185 degrees Fahrenheit so that the heat sterilizes the container. The preferred temperature is 190 degrees Fahrenheit. Lay filled and capped containers on one side so the hot syrup sterilizes the cap. After cooling, store in a cool, dry place.

Take necessary steps to minimize the time between sap collection and processing, and ensure that sap remains cold during delays.

There is a growing interest in specialization within the maple industry. Examples include specializing in sap collection or in the processing of large volumes of sap consolidated from various sap collectors within a network.

As with any natural-resource-based enterprise, the availability of raw materials, in this case sap, varies with annual weather and other conditions. Larger syrup operations tend to require substantial capital investments, and yearly profitability can be highly vulnerable to variations in annual sap runs.

Permits are required to tap maple on public lands. Check with the appropriate land manager (city, county, state, federal) for details.
You may have heard that natural gas has been replacing coal in many power plants, a shift which lowers carbon emissions from electricity generation. But there’s another form of energy that’s increasingly being used to replace coal: wood. Wood pellets are a renewable energy source and there are circumstances where wood energy can reduce net CO₂ emissions. Yet turning to biomass to generate electricity alters the economics of forestry and raises a number of sometimes-complex environmental questions.

Europe has created a market for large-scale pellet production by requiring all member countries to increase their use of renewable energy and reduce greenhouse gas emissions. Wood pellets are being used to reduce coal burning by co-firing with coal in some older plants. In addition, new pellet-only generating capacity has been added to the European grid. Forests in the southeast U.S. supplied nearly four million tons of wood pellets to European power generators in 2014. But can forests provide a fuel source for power generation, while also supplying existing paper industries? Is burning biomass better than burning coal? Are current U.S. and E.U. policies adequately addressing forest sustainability? To answer these questions, we have been researching how forests work, both ecologically and economically.

Is Wood Better Than Coal for Carbon Emissions?

On the one hand, burning wood for electricity generation produces between ten and 35 percent more carbon emissions per unit of power than coal. That is, to generate one kilowatt of electricity, you would produce more carbon emissions from wood than coal. On the other hand, when trees are harvested from land that is kept as a forest, the new trees sequester carbon as they grow (trees are roughly half water and half carbon), reducing net carbon emissions from the earlier harvest.

But calculating how much forests reduce emissions is complicated. There is a large and growing body of literature on the potential carbon consequences of growing and harvesting trees for various uses. The comparative advantage of one potential use over another comes from analyzing the net impact over the life cycle of the product. Tracking the carbon consequences of these different paths has become a branch of science called life cycle analysis (LCA).

Carbon Payback

When trees are harvested and then burned for energy, this creates what is sometimes called a carbon debt—carbon is removed from a sequestered state (trees) and emitted to the atmosphere. The regrowth of the forest determines the carbon payback period, or the amount of time until the forest has re-sequestered the same amount of carbon that was emitted when the wood was burned for energy.

Carbon payback periods are sensitive to alternative wood uses, forest growth rates, what fuel types are being replaced, and the efficiency of the supply chain, manufacturing, shipping and power generation activities. And it matters whether you evaluate the carbon debt for each acre that is harvested, or if you consider the forest landscape as a whole. That’s because responses to price increases could add timberland or change management of timberland that is not part of the acreage harvested.

So if we harvest trees to make pellets for electricity and consider all the carbon emissions in the production and use of these trees (including competing uses), then under certain conditions wood could have lower emissions than coal. The challenge is to develop scientifically based, equitable and...
reasonable methods to measure whether wood use is actually reducing net carbon emissions in practice.

The Economics of Forestry

From a technical perspective, there is certainly adequate timber area and timber growth to provide the raw material for both the existing paper industry and the emerging demand for power generators.

However, there is a price for adding a new use. Notably, the price of small timber, which is cut for paper and pellet production, will likely increase from the additional demand. This will be a good thing if you are a landowner. This will not be a good thing if you are a paper mill.

But regardless of how much increase there is in small timber prices, the revenues companies can get from sawtimber, or the timber cut for lumber, will continue to be the main driver of how much forest is harvested.

When the price of timber increases, both buyers and sellers could change their actions, depending on whether they see the increase as temporary or long-lasting. If it’s a temporary change, especially during a time when both sawtimber and biomass-for-energy prices are low, timber buyers might cut more intermediate sized trees, or they might buy wood further from their mill.

But buyers and sellers believe there will be a long-term increase in prices, then forest owners might manage their forests to favor small trees or they might plant trees on marginal agricultural land. Increased prices could also lead to shorter harvest cycles, especially if sawtimber, which comes from larger trees, prices stay low. And, higher small timber prices might make the southern paper industry less competitive with other regions and countries, which could lead wood industries to change the scale or location of their capital investments, develop more efficient technologies, or invest in reducing supply risk.

Southern forests have a history of utilization. Over the last 50 years both timber harvest and timber inventories have increased by more than 50 percent. And while the area of timberland in this period has remained fairly constant, urbanization in the South is threatening that stability.

Increasing harvest for pellets could lead to relatively more land in forests rather than agriculture. This is because when prices rise, landowners receive more for their timber, making them more likely to reforest after a harvest. Even as an increase in harvest for energy could lead to more timberland, however, it could also lead to younger forests and possibly different forest types as higher prices lead landowners to convert natural forests to plantations.

It’s worth noting that if wood is not used for biomass, there will still be land competition with agriculture and urban development, which would continue to reduce the amount of forested land in the United States.

Policy Questions

Do we have the policies in place, either here or in the E.U., to ensure that any use of wood for energy leaves us with healthy, sustainable forests?

This depends on who you ask, and mostly, it depends on how you define a healthy, sustainable forest. If the objective is to keep older but less timber-productive naturally regenerated forests, then the current market-based policies raise concerns.

If the objective is to keep, or even increase, the amount of land in productive and profitable forest management, then current market-based policies should provide the correct incentives.

New sustainability policies enacted by member E.U. countries are as yet untested for their impact on southeast U.S. forests. And the tradition and law of the U.S. that holds private control over private landholdings as sacred would make any new U.S. policies unlikely.

That means that for now as in the past, it is the economic demand for more forest products, including biomass—rather than land use or environmental policies—that dictates how our forests will change.
Guide Dog Career in Ruins, Oregon Dog Discovers Truffles

By Brandy Saffell*

Oregon State University Master Woodland Manager Marilyn Richen and her family own forestland in Columbia County. Her story about Gucci, her yellow lab, and the Joriad Truffle Hunting Competition, is a modern-day retelling of The Ugly Duckling.

Gucci was born into a training program for Guide Dogs for the Blind. Sadly, Gucci could not stay in the Guide Dog program because of scavenging behaviors (i.e. seeking out and nabbing food). The upside of this otherwise disappointing situation was that Marilyn and her partner, Tammy Jackson, could officially adopt Gucci. They decided, though, that they desperately needed to find some sort of activity or training to help focus Gucci’s excessive energy.

This is where truffles enter the tale. Truffles are fungi that develop underground in symbiotic association with the roots of trees; they are also a culinary delicacy. Marilyn has had an interest in truffles for many years and has attended several truffle classes including those offered by the OSU Extension Tree School and the Oregon Woodland Cooperative. She was also aware of truffle hunting with dogs but did not have a dog to train until Gucci came along. Could truffle hunting be a way to channel Gucci’s energy into something productive?

In 2013, Marilyn, Tammy, and Gucci began working with a truffle dog trainer, Jeannine May. The training regime involved weekly practice with Jeannine and then daily reinforcement of the skills that she taught.

Gucci found her first truffle in the wild in January 2014 and was finding them regularly by the end of the truffle season. Gucci: Failed guide dog but truffle finder extraordinaire!

*Education program assistant, Oregon State University Forestry & Natural Resources Extension.
season (roughly December through February). This past season, Gucci went out truffle hunting once or twice per week, gradually improving her ability to identify truffles and dig them up. The time had come to put Gucci’s sniffer to the test against other dogs.

Marilyn and Tammy entered Gucci in the Joriad, a North American Truffle Dog Competition event. Gucci passed with flying colors in the qualifying rounds, which took place in an arena filled with hidden truffle-scented objects. She proceeded with five other competitors to the final field round: a foggy, dense Christmas tree farm near Eugene. Each contender embarked on their own in the woods, searching for as many wild truffles as they could find in one hour. Gucci won, and although the results were not made public, she was rumored to have found more than twice the number of truffles as the second runner-up.

Our champion, Gucci, had undergone her transformation from the storybook ugly duckling into a truffle-hunting swan.

**Opportunities for Landowners**

When I consider this story about Gucci, I see an opportunity for landowners to embrace truffles as a non-timber forest product. Truffle hunting has been a tradition in southern Europe for centuries and truffles remain a highly esteemed product up there with foie gras and caviar. Although there are thousands of truffle varieties, the most widely known and prized are French black and white truffles. In Italy the use of pigs to hunt truffles has been prohibited since 1985 due to damage caused by the animals to truffle’s mycelia during digging.

The market value of European black and white truffles can be anywhere from $1,000 to $3,000 per pound. In the U.S., truffles grow especially well in the mild climate of the Pacific Northwest, primarily west of the Cascades. Oregon has its own native black and white truffles and peak production is found in dense, coastal Douglas-fir stands, around 15-25 years old. Despite the fact that these stands are common throughout our region, only a small percentage of the potential truffle crop is harvested each year (about 13,500 pounds). Part of the reason is that most commercially productive truffle habitat is on privately owned lands, but more importantly, the truffle market in Oregon is largely undeveloped.

In recent years, Oregon black and white truffles have been valued at around $320 and $220 per pound, respectively; much lower than their European relatives. Poor quality control has been suggested as one factor in the lower value of Oregon truffles. A large proportion of our truffles are harvested by raking the surface of the forest floor to uncover the hidden crop. Raking typically unearthed immature truffles, which lack the savory taste that develops with ripeness. In turn, Oregon truffles have earned a bad name as less potent than European varieties.

Marilyn has found both black and white truffles on her 450 acres, but only a few ounces here and there. “For now, it’s a hobby,” she says. But she and Tammy see the potential for profit from truffling in Oregon, which is still a very young science. They excitedly share with me that they have found truffles far outside peak season and sometimes even in atypical forest habitat. “This is where training dogs can be useful,” says Tammy. They only find mature truffles (so there is inherent quality control) and will tell you what is out there on your property throughout the year.

So what are some options for landowners to explore? You can look into training your own dog and explore the potential of your property. You could also lease your property to truffle hunters and take a share of the profits or agree upon a flat fee.

Consider using a harvest permit and products sale document with your hunters. Another interesting possibility is hosting truffle forays, which are high-end events where a small group will pay to be led on a truffle hunt with dogs on the property followed by a chef curated, truffle-themed dinner. You can also look into cultivating truffles, a process potentially yield large quantities.

For more information about Oregon truffles and other non-timber forest products: [http://gfntfpindex.html](http://gfntfpindex.html).
I’m always amused to see the pickup loads of green firewood being hauled through town right after the first cold snap of the fall or winter. These trucks are being driven by the victims of poor planning and procrastination; they put off getting their winter’s wood in until it was time to start burning it. As someone who always has a year or two worth of firewood put up (my Strategic Firewood Reserve), it’s hard not to gloat.

Attempting to burn green wood has never been a very good idea, but it’s certainly a bad idea that most people who heat with wood have found themselves involved with at some point in their woodburning careers. Since it takes a good year of air drying to adequately dry firewood, bad planning can lead to lots of frustration, while producing very little heat. But, given enough air, coaxing and kindling, it is possible to limp through the winter with wet wood.

Of course, not everyone is convinced. Spirited arguments can erupt over the issue. There’s always someone willing to insist that they’ve always burned green wood with fantastic results. “Once you get ‘er going,” they’ll say, “my fresh-cut oak burns just fine.” It’s not very nice to accuse people of lying, and why make enemies if you don’t have to? So, I chalk their adamant claims up to ignorance. I’m thinking they don’t know what burning dry wood is like, or they likely wouldn’t admit to trying to burn green wood.

But facts are facts, and the laws of Nature are directly at odds with the notion that burning green wood is somehow not a bad idea. I’m talking about the energy required to turn water into steam. Specifically, it takes 540 calories of heat to turn one gram of water into steam, which then exits the stove or boiler through the chimney. In other words, a large amount of energy is wasted when you try to burn water.

The table below compares the weight of a cord of green wood with the same volume and species when dry, along with the corresponding amount of heat each will produce, as measured in British Thermal Units (BTU). The difference between dry and green weight tells you which species carry more water when green. If you were going to burn green wood, you’d want to select a species with a lower number. White ash, for example, would be your best bet, since it’s pretty dry to begin with. Cottonwood, on the other hand, would be a very bad choice.

That’s strictly FYI. Don’t burn green wood, especially not in newer stoves and boilers, because they require very dry fuel to work properly.

<table>
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<tr>
<th>Species</th>
<th>Density (lbs/cubic ft)</th>
<th>Weight Green/ Cord (lbs)</th>
<th>Weight Dry/ Cord (lbs)</th>
<th>Difference (lbs)</th>
<th>BTU Value million/cord</th>
<th>BTU Recoverable</th>
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Relationship Between Species, Weight and Heat Output (BTU) When Burning Wood

Firewood Quality: It’s All About the Weight
by Eric Johnson, Editor
Since STAPLES opened our first store in Massachusetts in 1986 we have grown our business and operate in 26 countries worldwide. We know we have a large carbon footprint we are working hard to reduce it.

- We are proud to be ranked #7 on the EPAs Green Power List and purchase 100% renewable energy for our facilities in the US.
- We operate over 500 EPA Energy Star certified buildings in the US
- We operate high efficiency diesel, CNG and electric trucks in our fleets.
- We are a proud co-founder of CARBON CANOPY, an organization of top American corporations and stakeholders providing woodland owners with a reliable marketplace to sell their carbon credits and believe that well-managed forests are part of the carbon solution.

WHY? Because it is the right thing to do!
EPA’s Clean Water Rules Undergo A Thorough Review

In response to concerns by members of Congress, the EPA has completed an intensive review of the scientific foundations of the rules in the Clean Water Act. The agency evaluated some 1,200 peer-reviewed studies and confirmed that the water quality in the relatively small headwater streams and wetlands—often owned by family landowners—affects the water quality downstream. The role of landowners is important because 60 percent of stream miles in the U.S. flow only seasonally or after a rain, yet they have a considerable impact on water quality downstream.

Approximately 117 million people—that’s one in three Americans—get their drinking water from public systems fed by streams that are currently at risk of losing Clean Water Act protections. The quality and quantity of water is among NWOA’s Top Ten forestry priorities and rated by the leaders of NWOA’s 42 affiliated state landowner associations.

Congress Moves Forward With Waters of the U.S. Legislation

With the scientific criteria more transparent, Congress is moving to address the political considerations behind the Waters of the United States legislation (WOTUS). In April the House Transportation and Infrastructure Committee stated marking up the legislation. If passed, it would direct the EPA to withdraw its controversial WOTUS rulemaking and develop a new proposed rule that meets a number of criteria outlined in the bill, namely close consultation with state and local officials and incorporating public comments submitted. As NWOA has reported for years, the controversy is around what is and isn’t a Water of the United States. The Clean Water Act is clear that if one discharges to a navigable water, then a federal permit is required for that activity. The Act states too that if those waters have a “significant nexus” to a navigable water, they are also under the jurisdiction of the Clean Water Act and do require a permit.

There have been conflicting court rulings on what is considered to be a significant “nexus” and now EPA has put forth a proposal to do the same. This proposed rule is pending at the White House Office of Management and Budget for review. EPA Administrator Gina McCarthy recently indicated that the rule does incorporate a number of changes requested by the regulated community.

EPA Greenhouse Gas Rule “Threatened” by Forest Clearing

It is not often that the Washington Post addresses a forestry issue editorially, but on March 5 the newspaper stated that the “EPA needs to revise emissions rules that could endanger the nation’s forests.” The editors are responding the concerns expressed by a wide group of environmental scientists that the way the agency is writing the rules would significantly increase forest clearing to the extent that it would undermine EPA’s clean air goals.

The agency is still figuring out how to count electricity produced by burning wood in power plant boilers. While biomass is recognized by NWOA as an important new market, particularly for low value wood, it is important that the impacts be understood.

At issue is carbon neutrality. Is the amount of carbon dioxide released into the atmosphere fully offset by the amount of CO2 that is taken up again as the trees regrow?
Reports From State Affiliates
“All Forestry is Local”

CONNECTICUT CONSERVATION AGENDA
The Connecticut Forest & Parks Association (NWOA affiliate) has announced its 2015 Conservation Plan for the state legislature. The eight-point policy includes a request to fill state forestry staff vacancies as well as support for the Community Investment Act for open space, agricultural lands and trail conservation.

The priorities also seek a municipal option to provide a property tax credit for donation of conservation easements including trail corridors, and support for key federal programs in environmental education and forestry.

MAINE'S TREE GROWTH TAX LAW
As required by the legislature, the just-released 2014 audit finds that the “Tree Growth Tax Law” has stood the test of time and is one of the best examples in the nation of forest policy stability.” The governor’s sweeping changes in the budget to move the Division of Public Lands into the Maine Forest Service have drawn resistance because the budget process is not the format for government reorganization.

SWOAM, the Small Woodland Owners Association of Maine (NWOA affiliate) expressed concern that the agency merger would combine foresters who have different functions: serving private woodland owners and managing public lands. There is worry that foresters will help landowners less and spend more time on harvesting public lands. And, the number of service foresters would be reduced from 16 to ten.

An additional issue is a budget proposal to eliminate the $200 forest management tax credit landowners can claim every ten years toward the cost of a management plan.

In SWOAM news, Rich Merk is stepping down after six successful years as president!

NEW JERSEY WOODLAND STEWARDS
The New Jersey Forestry Association (NWOA affiliate) has reported a successful Woodland Stewards graduating class for 2015. The three-and-a-half-day academy was conducted at a YMCA camp with other sponsors. The graduates were recognized at the NJFA annual meeting.

The association has joined Rutgers Extension Forestry and the NJ Forestry Service in a four-part Backyard Forestry education program for homeowners.

MINNESOTA BOOTS ON THE GROUND
A top desire of many woodland owners is to have a knowledgeable forester walk their woods with them. The Minnesota Forestry Association (NWOA affiliate) has developed a new program now undergoing trials in four counties.

Here’s how it works: For $50 landowners get a two-hour visit from a professional forester. The two hours can be spent walking your woods, sitting down to discuss options, or a combination of the two.

IOWA INITIATES FORESTRY SCHOLARSHIP
The Iowa Woodland Owners Association (IWOA) (NWOA affiliate) has created a forestry scholarship for Iowa State forestry students. The $500 award, first available to juniors) is based on scholarship, leadership skills, and the ability to promote forestry to others. With good grades, the winners are eligible to receive it again in their senior year.

WASHINGTON LEGISLATIVE AGENDA
The Washington Farm Forestry Ass’n. (NWOA affiliate) is supporting 14 priority bills that affect landowners and tracking 11 more. These include a boundary paint posting law, wildfire suppression, ecology and land use, and geological hazard assessments (which can affect logging permits).
At a time when the overall economy seems to be improving, the State of Vermont again finds itself mired in debt. With lower than expected tax revenues, job stagnation, decreased federal reimbursements, an EPA-mandated cleanup of Lake Champlain, higher school costs and the additional costs of health care every state is facing, the legislature is confronted with a nearly $110 million budget deficit. This means that nothing is sacred, including programs that support working forests, which are more often part of the solution rather than the problem.

- The successful Working Lands Enterprise Initiative passed by the legislature in 2012 and designed to strengthen the state’s commitment to the economic viability of agricultural, forestry and forest product-based businesses, is in jeopardy of losing funding. Grants for enterprises, technical assistance, and infrastructure occurred in 2012, 2013 and 2014 with budgeted funds of $1-$1.4 million. These investments are economic development at its best, creating new jobs in our forest economy and increasing gross revenues, while protecting our forest asset. This year, the governor’s recommended budget cut funding to just under $.5 million but with the growing deficit, the entire program has been put on the block for defunding. This would be a blow to forestry and wood products businesses that had seen so much benefit from long-overdue state support.

- The cleanup of Lake Champlain, now largely necessary because of polluted runoff that dumps phosphorous in the lake, is a must-confront problem for the 2015 legislature. The challenge is that too much pollution is reaching Lake Champlain from the streams and rivers draining into it and resulting in the growth of blue-green algae. After several years of discussion, it’s now time to answer to the EPA with not just a clean-up plan but a funding plan as well. Many solutions have been discussed, including programs that support working forests, which are more often part of the solution rather than the problem.

Maine
swoam.org

The Small Woodland Owners Association of Maine (SWOAM) was incorporated in 1975 as a non-profit organization under Maine law by a group of private non-industrial woodland owners. Their primary purpose was to design a program to assist each other in learning how to manage their own woodland. The informal slogan of the group was “Feet on the ground hands on the trees.” Meetings were often held on the woodlots of the members themselves. Practices which had proved successful, as well as those which had not, were pointed out and discussed on-site. Members learned through the experience of others.

As it grew, SWOAM broadened its membership to include not only small landowners but anyone who had an interest in Maine woodlands. To reach more people, regional chapters were formed in various parts of the state. Because of its educational function, SWOAM was classified as a 501(c)(3) organization by the Internal Revenue Service, so that dues, gifts, contributions, and bequests, became tax-deductible.

Today, SWOAM has a paid executive director, a deputy executive director and an office assistant—but remains primarily a volunteer organization of more than 2,500 active members. There are ten regional chapters, each with officers and each conducts its own local educational programs. In total the ten chapters conduct more than 50 workshops and events each year.

In addition to assisting its members, SWOAM is concerned with public awareness. The cumulative importance to Maine’s economy and ecology of a large number of managed forest units is stressed, particularly in areas experiencing development pressures.

Although a non-governmental organization, SWOAM works closely with the Maine Forest Service, University of Maine’s College of Natural Resources, Agriculture & Forestry, Resource Conservation and Development Areas (RC&Ds), the Cooperative Extension Service and other forestry-related organizations.

In 1990 SWOAM established a land trust program through which it accepts gifts of land and conservation easements on productive forest land. The Land Trust program currently has over 7,000 acres of fee and easement properties.
The state’s tax equity policy, Current Use, is once again in the crosshairs. In difficult economic times, Current Use is viewed as a source of additional revenue rather than a tax policy designed to protect our working landscape. The Current Use policy in Vermont is not a “subsidy” or “benefit” but a promise from the state not to overtax farmers and forest landowners for services (schools, water and sewer infrastructure, etc.) they do not use. Several proposals are on the table and include decreasing the property tax “benefit” to landowners with a cap, establishing new fees, raising the change tax penalty, instituting a moratorium on new enrollment—any of which could make it extremely difficult for landowners to pay property taxes on working farms and forests.

Other areas under scrutiny by the legislature that could have impacts on forestry (both negative and positive) include a report on forest fragmentation and how to limit it, amendments to the state’s endangered species act that have troublesome definitions and processes, species diversity in sugarbushes, and forester licensing. Vermont is the only New England state without any licensing requirement for foresters.

New Hampshire
nhtoa.org

In early May of 2014, Congresswoman Annie Kuster joined local and national leaders from the forestry community at Wagner Forest Management in Lyme to discuss challenges and opportunities facing the industry. Congresswoman Kuster is a member of the Agriculture Committee and earlier helped pass the Agriculture Act of 2014, or “Farm Bill,” which contains a number of provisions that directly relate to the timber industry.

During the event, Congresswoman Kuster had the opportunity to hear from many different stakeholders on a range of issues that impact the forest industry, including National Forest management, forest operations, renewable energy, and tax code revisions. The conversation also covered more specific issues and proposals, including the U.S. Army Corps of Engineers’ Regional Programmatic General Permit, wetlands definitions from the Environmental Protection Agency (EPA), and Cooperative Forestry Assistance Funding.

“As the first member of the Agriculture Committee from New Hampshire in 70 years, it is critical for me to hear from the forestry community here in New Hampshire. It was great to learn more about many of the issues facing the industry from people who have been doing this all their lives,” said Kuster. “New Hampshire is the second most forested state in the country, and this industry is very important to many Granite Staters. The more insight I have directly from the forestry community, the better I can represent their interests at the federal level.”

During the two hour meeting, Kuster talked with many members of the forestry community, including representatives of the NH Timberland Owners Association, Natural Resources Solutions, White Mountain National Forest, National Alliance of Forest Owners, University of New Hampshire, New Hampshire Division of Forests and Lands, Society for the Protection of NH Forests, Plum Creek Timber Company, Wagner Forest Management, the Biomass Power Association, and BBC Land.

“The New Hampshire Timberland Owners Association appreciates the time Congresswoman Kuster took to meet with us. She has and continues to support the state’s private timberland owners and forest products industry and most importantly she understands the relationships between landownership, timber markets and the state’s economy,” said Jasen Stock, NHTOA executive director. “We look forward to continuing to work with Congresswoman Kuster on issues important to our members.” The group discussed the impact of the Farm Bill and reviewed ways Kuster can advocate for New Hampshire’s forests on a the federal level.

Massachusetts
massforestalliance.org

The Massachusetts Forest Alliance advocates on behalf of our members for a strong, sustainable forest economy, responsible forest management practices, private land equity and the continuation of working forests on public and private lands.

Today Massachusetts is both the third most densely populated and the eighth most forested state in the country. Our forestlands provide the Commonwealth’s residents with an array of services: water quality protection; soil erosion control; habitat for many wildlife species; uptake and storage of atmospheric carbon. Forests support rural economies and provide a source of reliable, renewable forest products, such as high-quality timber, pulpwood for paper products,
biomass chips, fuel wood and many specialty products. All residents of Massachusetts, wherever they live, benefit from our state’s public and private forest resources. Yet, despite the fact that over 60 percent of our state is covered by forest, many citizens remain disconnected from local forest resource production. Massachusetts imports an alarming 98 percent of its forest products from around the world.

The Massachusetts Forest Alliance (MFA) was founded in 2012 for the purpose of representing and advocating for citizens and businesses who support a strong, sustainable forest economy. Three previously separate groups (the Massachusetts Wood Producers Association, the Massachusetts Association of Professional Foresters, and the Massachusetts Forest Landowners Association) voted to combine their resources into one organization, to provide a unified and consistent voice in matters of forest policy. In July of 2012, MFA’s board of directors began hiring a full-time staff to coordinate membership, policy, outreach, and educational efforts, develop a long-term strategic plan for the organization, and raise the funds necessary to accomplish MFA’s mission.

Our vision is a Massachusetts where:
- A strong forest economy is widely regarded as a vital component of social, economic, and environmental well-being.
- Forest management is recognized as a responsible and desirable approach to resource conservation.
- Native forest products are an integral part of the “Buy Local” movement.
- The legal and regulatory environment sustains forest land ownership and encourages the forest products economy to thrive.
- Landowners and the forest products industry participate in all phases of decisions about the state’s public and private forest resources.

To fulfill its mission, MFA will:
- Work with state, regional, and local officials to ensure a sensible legal and regulatory environment.
- Provide continuing education opportunities for landowners, foresters, timber harvesters, and public officials.
- Promote understanding of forest management and forest policy issues by providing high-quality information in a variety of formats.

Connecticut
cwoodlands.org

Founded in 1895, the CFPA was the first private, nonprofit, conservation organization to be established in Connecticut and dedicated to connecting people to the land in order to protect forests, parks, walking trails, and open spaces in Connecticut for future generations.

CFPA and its volunteers launched the Blue-Blazed Hiking Trail System in 1929 as a new way to explore and appreciate Connecticut’s forests. The trails are hosted on 825 miles of private, town, and state lands stretching across 96 towns, and now include the nation’s newest National Scenic Trail, the New England Trail (2009). The “Blue Trails” are widely viewed as CFPA’s most tangible, visible “asset” on the Connecticut landscape.

- Since the 1980s, CFPA has been a statewide land trust that owns land (436 acres), and also holds conservation restrictions on 1,824 acres of land and 6.8 miles of trails. CFPA has stewardship responsibilities associated with these properties that span 21 towns.
- Since the 1980s, CFPA has either been the leader or co-leader of the Project Learning Tree Connecticut (PLT CT) environmental education program in partnership with the American Forest Foundation.
- Since 1993, CFPA has been coordinating National Trails Day events across Connecticut. In 2014, there were 269 events in 143 towns on Connecticut Trails Weekend (the most in the nation ... again).
- Since 2008, CFPA has contracted with the Connecticut Department of Energy & Environmental Protection (CT DEEP) to ensure the Goodwin Forest Conservation Education Center in Hampton helps deliver a variety of forest-based environmental educational programs for all ages.

Since 2010, CFPA has served as the fiscal sponsor for the Connecticut Land Conservation Council (CLCC) and maintains a strong connection with all land trusts.

Rhode Island
rifco.org

The Rhode Island Forest Conservators Organization (RIFCO) held a Summer Twilight Walk at the Great Swamp Management Area recently to get a look at the wildlife habitat practices the RI Division of Fish and Wildlife has been implementing over the years, with Brian Tefft, F&W biologist and Catherine Sparks, associate director of natural resources.

The RI DEM sponsored this event in response to RIFCO’s efforts to promote a more aggressive deer population control program in the state. State fish & wildlife management agencies are trying to strike a balance between the needs of hunters who want to see lots of deer and the negative impacts of having lots of deer. The negative impacts require a more aggressive approach to give our forests a chance to recover from over-browsing. Since then, the RI DEM has begun developing a Deer Management Assistance Program (DMAP) that it plans to offer to forest landowners.

RIFCO has worked with the newly-formed RI Woodland Partnership over the past year to develop a position paper titled “The Importance of RI’s Forests in Mitigating and Adapting to Climate Change.”

The purpose is to encourage the state government to support the Resilient RI Act of 2014 by: Empowering the RI DEM with the resources needed to better steward its management areas, and identify an accepted carbon sequestration model;
Advance the role of forests and forest stewardship through increased funding of projects on private lands and restoring forestry extension to the URI Coop Extension Service; Encouraging the greater use of locally grown wood for fuels; and, launching a state climate communications campaign.

RIFCO is also working with the RI Woodland Partnership on a Woodland Summit scheduled for May 9, a day of workshops focusing on where we’ve come from and where we’re headed, on this the 25th anniversary of RIFCO. A Woodland Party is being scheduled for that same evening to celebrate that 25th Anniversary. Please go to www.rifco.org to read the entire position paper and to learn more about the Rhode Island Woodland Summit.

New York
nyfoa.org

The New York Forest Owners Association (NYFOA) had a busy year in 2014, accomplishing the following:

Educating the public
• Chapters held over a dozen woods walks specifically focused on threats to forest regeneration, reinforcing NYFOA’s Restore New York Woodlands Initiative. Over 250 people of diverse backgrounds and interests attended.
• Deer exclosures and informational signs were constructed in public areas across the state to demonstrate the devastation caused by browsing deer, and the harmful effects on regeneration and the forest of the future.
• Free seminars and informational displays promoting the benefits of intelligent, purposeful, sustainable woodlot management were available to the thousands of visitors attending the NYS Farm Show in February.
• County Envirothons, Ecology Clubs, and the 4H Forestry Bowl received support, financially and through volunteer efforts, to help educate high school age students in forestry skills, and our interconnection to the natural world.
• Scholarship support was provided to forestry students: one, to a high school student entering forestry school, and a second to a SUNY ESF student nearing graduation.
• Chapter members staffed booths at ten county fairs and similar gatherings to inform the public of the importance of properly tending our forests for sustainability.
• Wrote and published “Harvesting Timber Sustainably—Best Management Practices,” an educational brochure helping landowners understand the impact of their harvesting decisions on the future growth, value and health of their forests.

Serving our Members
• Initiated the Northeast Timber Growing Contest, a fun and friendly way to engage landowners and forestry professionals in growing the best possible timber their land can

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Delaware

delawareforest.com

The Delaware Forestry Association (DFA) is a nonprofit organization established in 1982 to promote the sustainable practice of forestry and related industries on the Delmarva Peninsula. DFA proudly supports the Delaware Tree Farm Committee, part of the American Tree Farm System.

In addition to its annual meeting in March, DFA holds a number of educational events throughout the year, and DFA also supports scholarships and grants to encourage young people to pursue careers and further educational opportunities in forestry, environmental science, and natural resources.

The Delaware Forestry Association supports educational opportunities for young people to learn about natural resources management. DFA has been a Silver Sponsor of the Delaware Enviro-thon competition, an annual contest where teams of high school students compete to demonstrate their knowledge of a wide range of environmental topics.

DFA also currently awards an annual $1000 scholarship to students pursuing post-secondary education in forestry.

Advocating for New York’s woodlands and landowners

• At meetings convened to revise the forest tax law, NYFOA emphasized to all stakeholders that sustainable forest management, improved forest health, and fair treatment of current 480a enrollees must be the guiding principles for all changes.
• NYFOA joined others on the NYS Invasive Species Advisory Committee, in establishing comprehensive education and outreach programs for the public, including Invasive Species Awareness Week (July 12-18, 2015). A key focus is to encourage residents to prevent the spread of invasive species into the forest and all parts of the landscape.
• NYFOA, as the inspiration behind a diverse coalition of eight groups, laid the groundwork for a symposium to address threats to the future of New York’s forests. The symposium, held on April 25 in Syracuse (SUNY ESF), has the potential to be a pivot point and/or focal point for future work to ensure the sustainability of New York forests.

Pennsylvania

paforestry.org

DCNR Advisory Council Meets

The Department of Conservation and Natural Resources Advisory Council met on March 25 at the Rachel Carson Building in Harrisburg. Several items on the agenda relate to PFA and its members including a briefing on the Ash Management Plan and the Hemlock Conservation Plan by members of the Bureau of Forestry’s Division of Forest Pest Management. The Council also received an update on status of changes to the Pennsylvania Natural Diversity Index. The Executive Director of DEP’s Citizens Advisory Council provided an update on current issues on the front burner for the DEP CAC.

Senator Hutchinson Introduces Resolution

Senator Scott Hutchinson has introduced a resolution recognizing April 14, 2015 as Forest and Paper Products Day in Pennsylvania. In introducing the resolution Senator Hutchinson stated that it is important to remind the citizens of the Commonwealth about the unique contributions the forest products industry has made.

PA Natural Resources Leadership Institute Workshop

Penn State University will hold a workshop on June 11-12, 2015, in State College to establish the Pennsylvania Natural Resources Leadership Institute. The goals are to assess the feasibility of a Natural Resources Leadership Institute, to identify the framework for the Institute, and to engage a core team of people and organizations willing to support its future development. Questions should be directed to Kathy Brasier, Associate Professor of Rural Sociology by email at kbrasier@psu.edu or by phone at (814) 865-7321.

DEP Publishes Two More Proposed Policies

The Department of Environmental Protection has published for public comment two more proposed policies to implement Act 162, Stream Buffer Law. The proposals focus on a “Riparian Buffer or Riparian Forest Buffer Equivalency Demonstration” and a “Riparian Buffer or Riparian Buffer Offsetting.” DEP has posted the documents on the Act 162 webpage. Public comments are due May 20.

PFA Board Member Participates

In Walk Across Pennsylvania

Richard Lewis, PFA board member, accompanied Admiral Joe Sestak, Pennsylvania candidate for the U.S. Senate,
for a short distance as Sestak was conducting his walk across Pennsylvania. Regardless of your politics, this type of involvement by PFA members with current and potential future political leaders enhances PFA’s reputation and ability to become the primary source of solid and accurate information regarding our natural resources.

Hunter Stauffer Recognized in Penn State News
Kudos to Pennsylvania Forestry Association member Hunter Stauffer who was featured recently for his achievements as a procurement forester in a Penn State College of Agricultural Sciences article. Hunter is also an active member of the PFA’s Board of Directors.

New Jersey
njforestry.org
The New Jersey Forestry Association was founded in 1975 and incorporated in 1983 to promote forestry and forest management on public and privately owned woodlands throughout New Jersey. There is a need for an organization which can act as a voice and advocate for woodland owners, conservationists and others interested in maintaining our forests. We welcome all people who share these values and concerns to join our Association and participate in our varied activities and programs.

The New Jersey Forestry Association is dedicated to the wise use and management of the state’s forest land resource in a manner which will provide many products and services for the benefits of all our citizens, now and for future generations. These include economic and environmental benefits such as wood products, wildlife habitat, recreational opportunities, watershed protection, air purification, soil stabilization, temperature amelioration, windbreaks, urban buffers and landscape beautification. We believe these values are most important to New Jersey in the face of its continued rapid growth and urbanization.

Our objectives are:
- To encourage scientific management and the perpetuation of woodlands for the continuous production of their many goods and services.
- To serve as a forum and to make recommendations for solving problems and improving forest management.
- To disseminate information on the establishment, growth, harvesting and marketing of forest crops produced on woodlands both large and small.
- To work toward an economic climate favorable to the preservation of woodlands and the protection of property and landowner’s rights.

The association publishes the New Jersey Woodlands newsletter annually with frequent electronic communication, conducts an annual business meeting and program, sponsors or co-sponsors a number of forestry field trips, seminars, workshops and tree planting projects during the year, is a co-sponsor of The New Jersey Tree Farm Program and works jointly with public and private conservation groups.

Maryland
mdforests.org
MFA’s Policy Committee strives to represent all of MFA’s diverse interests. The committee:
- Formulates the annual Legislative Handbook;
- Meets weekly throughout the legislative session to take positions on bills;
- Drafts position papers;
- Sends action alerts;
- Prepares testimony;
- Views FINAL STATUS Report of bills on MFA’s Bills to Watch list; and,
- Views copy of testimony submitted on MFA’s Archive page.

The policy committee generally takes the following positions:
- Support = Written or oral testimony in support.
- Monitor Favorable = Potential positive impact. Watch amendments to see if need for action occurs.
- FYI = No formal position, may be of interest to some MFA members.
- Monitor Unfavorable = Potential negative impact. Watch amendments to see if need for action.
- Oppose = Written or oral testimony in opposition.

MFA does not monitor federal bills. Every day, decisions are made that impact jobs and economic growth in forest products communities across the nation. MFA has partnered with the American Forests and Paper Association (AF&PA) to allow members to learn about federal issues impacting Maryland’s forest landowners.

West Virginia
The Woodland Owners Association of West Virginia, Inc., (WOA) is a nonprofit membership organization that was started and continues to be operated exclusively by independent West Virginia woodland owners. The association is open to anyone interested in improving privately owned West Virginia forest land. WOA’s primary goal is to help West Virginia forest landowners attain the best returns from their woodland ownership and maintain a healthy, productive and beautiful forest. We achieve this goal through:
- education
- lobbying
- cooperation
- communication
- assistance
Kentucky’s bourbon industry is experiencing tremendous growth, with many distilleries using homegrown commodities such as corn to give the spirit a real Kentucky flavor.

But there is another “crop” all producers must use to create true bourbon: white oak for the charred barrels used in the aging process. According to the Kentucky Distillers Assoc., 1.2 million barrels of bourbon were produced in the state in 2013, with inventories topping 5.3 million barrels, the highest since 1977.

With so many barrels being used, forestry experts are beginning to look at white oak stocking to ensure there will be plenty to go around not only for bourbon makers but for all the other wood products that come from this specific hardwood.

Jeff Stringer, a University of Kentucky (UK) College of Agriculture, Food and Environment professor and extension specialist in the Department of Forestry, said oak trees dominate Kentucky’s forests, with white oak having been an important part of the wood industry for some time.

“There is a wide range of uses for this wood for the production of veneer, lumber and stave logs (wood used to manufacture barrels or casks), while white oak is also used for lower-quality products, too, like a tie log for example. Our industry is very dependent on it, especially for the manufacturing of barrels. It’s critically important for that,” he explained.

The white oak population is stable for the most part, but the issue of keeping it that way has arisen with an increase in demand and signs of slight decreases in tree numbers.

“Fortunately, we do have a very good monitoring system that provides detailed information on our forest, and that includes information at the species level,” said Stringer.

“We in fact can make estimations of the number of white oak trees we have in the state, the timber volume of white oak, the different sizes and its different grades of quality.”

That massive amount of data come via the Kentucky Division of Forestry (KDF) and on the national level from the U.S Forest Service, which provides assistance to all states in keeping track of their forestlands. “KDF has crews that specifically do nothing but monitor the forests,” he said.

“They survey 20 percent of the state a year, so every five years we have a total update on our numbers. We are fortunate we have a tracking and monitoring mechanism that can indicate whether we are losing species or not, whether there are changes in the size of the trees and the volume of the trees.”

Knowing this information becomes invaluable in an industry that impacts the state’s economy to the tune of $12.8 billion annually. Because of that, Stringer said the importance of what the KDF does in monitoring and collecting this information cannot be overstated.

As with most state government agencies, however, budget cuts have been a concern and have decreased the number of people available to collect this data. While the division has been able to maintain this Forest Inventory Analysis, as it is known, continued budget adjustments could impact the ability to monitor.

“When I’m posed the question as to whether we need to be concerned about the white oak population in this state, in order for me to be able to answer that the KDF needs to remain viable,” said Stringer. “That’s critical as we move

*This article appeared on the National Association of State Foresters website, www.stateforesters.org.
forward with this issue.”

In keeping track of the different tree species in the state for timber purposes, Stringer said it's more important to know the “stocking level” of a specific species as opposed to an exact number—in other words, how much space in the woods a particular kind of tree is taking up. Larger trees, even if smaller in numbers, would represent more volume and take more growing space.

“Woods cover roughly half of the land in the state and the majority of that, 88 percent, is owned privately and the majority of that, 78 percent, is owned by non-industrial private landowners,” he said. “We are currently growing between 1.5 and 2 times the amount of wood that is being removed, in terms of volume.”

While that is good news, Stringer said there are a couple of questions to answer: Is this volume increasing or decreasing, and what is the grade or quality of what is growing? Stave logs, for example, are of a higher quality so white oak trees that are hollow or crooked cannot be used for wood that would go into barrel production.

The concern for the industry lies in the fact the percentage of white oaks that are the right size to harvest and—Grade 1, high quality—is relatively small compared to the total volume of this species.

“We may have a lot of volume out there but only 14 percent of it is the grade that could be utilized for stave logs,” said Stringer. “That's what we really watch—our ability to grow high quality timber.”

Through analysis, it was determined that from 1988-2005 white oak had slipped and lost ground in terms of volume. This was in contrast to an earlier analysis examining the years from 1975-88, when the white oak volumes had increased slightly.

Stringer noted these were not major changes, but increased demand for quality white oak timber coupled with a slight decrease in volumes is cause enough to open a conversation about the situation.

“It's not alarming ... our issue with white oak is not in the immediate future, but there is an issue long-term because we’re not seeing enough white oak regeneration as we did at one time,” he explained.

Combating the issue starts with good land management by landowners, something the KDF can help with.

“The way to ensure good supplies in the future for the forest industry is good management and that the forest is being protected and managed well,” he said. “That means you don’t burn the woods, you harvest sustainably and you conduct rudimentary good forest management. If landowners are doing this, we’ll not only be able to maintain levels of white oak, but other trees, as well.”

Stringer said in addition to the work the KDF has been doing to keep data coming, the bourbon industry has been a helpful partner in discussing solutions today about an issue that could become a problem in the future.
Forest Service Researchers Map Seasonal Greening In U.S. Forests, Fields, and Urban Areas

by Stephanie Worley Firley, Eastern Forest Environmental Threat Assessment Center

Using the assessment tool ForWarn, U.S. Forest Service researchers can monitor the growth and development of vegetation that signals winter’s end and the awakening of a new growing season. Now these researchers have devised a way to more precisely characterize the beginning of seasonal greenup, or “greenup,” and compare its timing with that of the 14 previous years. Such information helps land managers anticipate and plan for the impacts of disturbances such as weather events and insect pests.

Three maps detailing greenup in forests and grasslands, agricultural lands, and urban areas are now available online via ForWarn, which delivers weekly Land Surface Phenology (LSP) maps of seasonal vegetation growth and development detected by satellites, as well as national maps showing vegetation disturbances.

“In contrast to field observations that track leaf emergence for particular species of trees or herbaceous plants, ForWarn’s LSP maps capture the response of the mixture of vegetation that can be seen from space,” explains William Hargrove, research ecologist from the Forest Service’s Eastern Forest Environmental Threat Assessment Center.

The researchers used nationwide satellite imagery collected between 2000 and 2013 to quantify the seasonal progression from dormancy to peak greenness using a common scale from 0 to 100 percent. They picked the median date associated with 20 percent greenup at each location as a common reference point signaling a clear launch of the growing season. The maps’ median greenup dates are particularly useful for managers of mainly deciduous forests, grasslands, and crops.

“The start of the annual growing season is among the most important climate-sensitive measures that ForWarn can provide,” says Eastern Threat Center research ecologist Steve Norman. “Just as gardeners look to climate data to determine the typical last frost date, the typical greenup dates provides a baseline for land managers to establish expectations for seasonal duration and productivity.”

Managers who know more precisely when the growing season begins can better anticipate the risks and impacts of disturbances such as those from wind, hail, frost, and fire, and can more efficiently monitor for pests such as defoliating insects that become active when leaves appear.

ForWarn was among the top 25 tools selected for inclusion in the White House’s U.S. Climate Resilience Toolkit in 2014. ForWarn’s weekly map products compare current landscape phenology with that of previous years to reveal changes in growth and mortality, year-to-year climate variation, effects of disturbance, and recovery following disturbance. Users can see and share the maps via ForWarn’s Forest Change Assessment Viewer, which can also be viewed on smart phones and tablets. For more detail, see the facing page.
ForWarn: A Sophisticated Environmental Analysis Tool That You can Use

ForWarn is a vegetation change recognition and tracking system, accessible at http://forwarn.forestthreats.org/ that uses high-frequency, moderate resolution satellite data. It provides near real-time change maps for the continental United States that are updated every eight days. These maps show the effects of disturbances such as wildfires, wind storms, insects, diseases, and human-induced disturbances in addition to departures from normal seasonal greenness caused by weather.

Using this state-of-the-art tracking system, it is also possible to monitor post-disturbance recovery and the cumulative effects of multiple disturbances over time.

This technology supports a broader cooperative management initiative known as the National Early Warning System (EWS). The EWS network brings together various organizations involved in mapping disturbances, climate stress, aerial and ground monitoring, and predictive efforts to achieve more efficient landscape planning and management across jurisdictions.

ForWarn consists of a set of inter-related products including near real time forest change maps, an archive of past change maps, an archive of seasonal vegetation phenology maps, and derived map products from these efforts. For a detailed discussion of these products, or to access these map products in the project’s Assessment Viewer or to explore these data using other GIS services, look through Data Access under the Products header.

- ForWarn relies on daily eMODIS and MODIS satellite data.
- It tracks change in the Normalized Difference Vegetation Index (NDVI).
- Coverage extends to all lands of the continental U.S.
- Products are at 232 meter resolution (13.3 acres or 5.4 hectares).
- It has NDVI values for 46 periods per year (at 8-day intervals).
- It uses a 24-day window with 8-day time steps to avoid clouds, etc.
- Historical NDVI database exists from 2000 to the present.

ForWarn provides an overview of potential forest disturbances. The program produces national maps (lower 48 states) every eight days, using NASA MODIS (Moderate Resolution Imaging Spectroradiometer) satellite imagery to recognize and track changes in vegetation health and condition. Current satellite “greenness,” as seen in the image below, is compared with expected or maximum greenness seen over a historical baseline period.

Maps in the form of percent of expected greenness (percent difference in Normalized Difference Vegetation Index or NDVI) are delivered through a suite of three products, using the web-based Forest Change Assessment Viewer. A users’ guide is provided to help interpret these maps and values for changes in seasonal greenness. Maps from outside sources detailing specific disturbances, such as wildfire locations) are also provided.

ForWarn is intended to complement existing forest monitoring programs, helping to direct attention and resources to locations where forest behavior seems unusual or abnormal. Many forest disturbances are expected to increase with climate change, including insects, diseases, wildfires, and extreme weather. Maps generated by ForWarn can provide an overview of potential forest disturbances.

For more advanced GIS users, data can also be accessed through a Web Map Service (WMS). This allows ForWarn data to be viewed apart from the Assessment Viewer, such as on a desktop GIS.

ForWarn was developed by the U.S. Forest Service Eastern Forest and Western Wildland Environmental Threat Assessment Centers in partnership with NASA Stennis Space Center, U.S. Geological Survey, the U.S. Department of Energy, and the University of North Carolina Asheville’s National Environmental Modeling and Analysis Center. The prototype version of ForWarn has been operating successfully since January 2010. The tool was officially released online and to the public in March of 2012.
Quick Cost Share Guide for Landowners

by Dr. Linda Wang

You may receive financial assistance through cost-share programs or other payments when you undertake forest management or conservation practices on your woodlands. The cost-share payments are reported on Form 1099-G, which is also sent to the IRS with your annual tax returns. You must also account for the payments in your tax return. Here is a general guide for when and how to report these payments.

Payments That Must Be Reported

Generally, cost-share payments are taxable income unless they qualify for the income exclusion. Here is how to treat payments, depending on your property classification.

• Forestry cost-share payments that are not used for capital expenditure (such as reforestation) must always be included in gross income.
• For a timber business, report the cost-share payment that must be included in your income on Form 1040 Schedule C.
• For timber investment property, the cost-share payment must be treated as income under “other income” on the front page of Form 1040.

Example: In 2011, you received a $2,000 cost-share payment to improve the timber stands in your woodland, which you hold as an investment. Your own out-of-pocket cost for the improvement was $5,500. Because the cost-share was used for tree stand improvement (a deductible expense rather than a capital expenditure), you report $2,000 under “other income” on the front page of Form 1040. The expenses may then be deducted, subject to the passive activity rules for business and the 2 percent gross adjusted income floor rule for investment timber.

• An annual rental payment or the one-time incentive payment under the Conservation Reserve Program must be reported as income. These payments may not be excluded from gross income (as explained below).

Payments That May Be Excluded from Income

A qualified cost-share payment may be partially or entirely excluded from your gross income if the payment meets two criteria:

• The cost-share payment comes from approved federal or state programs, such as the Forest Health Protection Program, the Conservation Reserve Program, Conservation Security Program, Environmental Quality Incentives Program, Wildlife Habitat Incentives Program, and Wetlands Reserve Program. Several state programs also qualify.
• The cost-share payment is used for a capital expenditure. You cannot exclude a payment for an expense you can deduct in the year you incur it.

If your cost-share payment meets both criteria, use the following steps to determine the excludable amount:

Example: In 2011, you received a $3,000 cost-share payment for a capital expenditure in your woodland from a qualified federal program. Such a cost-share payment qualifies for income exclusion:

• If you had no income from the property in the last three years. You can exclude $3,876 ($2.50 x 100 acres)/6.45 percent. The interest rate (6.45 percent) was from the Farm Credit System Bank (see Rev. Rul. 2011-17 for interest rates at timbertax.org). The $2.50 is fixed by the tax regulation.

• If you had income from the property in the last three years. If you had $9,600 in income from the timber property, for example, use the greater of these two calculations to derive the excludable amount: $320 (10 percent of $9,600/3) or $250 ($2.50 x 100 acres). The 10 percent and division by three years and $2.50 are fixed by the tax regulation. Because $320 is greater than $250, the excludable amount is $320/6.45 percent = $4,961 (see above for the interest rate). Because the $4,000 cost-share is less than the excludable amount of $4,961, your entire cost-share of $4,000 may be excluded.

Attach a statement to your return that specifically describes the qualified cost-share program, the management activity, and the calculation of the excludable portion. You may not deduct an expense reimbursed with a cost-share payment and at the same time exclude the cost-share from your income. More information can be found in the Forest Service’s new tax publication, Federal Income Tax on Timber: A Key to Your Most Frequently Asked Questions (2011), available free online at fs.fed.us/spf/coop/programs/loa/tax.shtml.

Linda Wang is the U.S. Forest Service national timber tax specialist, author and coauthor of numerous articles. For more information, visit the National Timber Tax website, www.timbertax.org.
Growing up in Sudbury, Massachusetts I found much of my life was shaped by the town’s water district, a patch of public land located just behind my house. Aside from a few trails, most of the land was left alone, a small patch of woodland ecosystem nestled in suburbia. In fall as the colors turned I would walk through these woods, stepping over logs, and seeing the occasional dead snag standing among all the living trees.

It was only years later that I learned just how vital these pieces of dead wood are to the continued health of a woodlands ecosystem. Those seemingly dead snags can serve as “condos” to more than 80 different species of North American birds. At larger sizes the hollows in these trees are even potential hosts for bears. As for the logs on the ground, their slow decomposition enriches the soil around them and offers a den for mammals like foxes or bobcats. Salamanders and other amphibians also love the damper spots a log can afford.

In fact conservationists estimate that up to 20 percent of forested wildlife depends on dead wood like this for food, habitat, or cover. Within normal healthy woodland they are essential features, but they are often missing from more regularly maintained forests. It is just too easy to dismiss that log as potential firewood, rather than giving it the chance to live up to another potential simply by leaving the log where it lies.

Incorporating these snags and logs into a management plan, as well as building the occasional brush pile out of old wood trimmings can be a great way to attract wildlife to your land and to provide a home for countless species. Given that nearly 282 million acres of forestland are owned by 22 million family forest owners, there is a lot of potential habitat out there. That is why the American Forest Foundation created wildlife habitat content for My Land Plan, our site for woodland owners. There you can find all the tips and resources you need to incorporate dead wood into your land and management plan. Before too long you may see signs of life peeking out from a gnarled old snag.

**Woodpeckers help create dens for other creatures.**

**Mission Statement**

The Women Owning Woodlands web project strives to bring topical, accessible, and current forestry information to woodland owners and forest practitioners through news articles, blogs, events, resources, and personal stories. We support women in forest leadership, women who manage their own woodlands, and all who facilitate the stewardship of forests. The web address is: [www.womenowningwoodlands.net](http://www.womenowningwoodlands.net)

Guest post by Daniel Hubbell, communications intern for the American Forest Foundation.
NWOA and ALC: Working Together for Common Goals

American Loggers Council Members Meet in Washington, D.C.: Loggers Take Their Issues to the Hill

The National Woodland Owners Association (NWOA) recently became an Associate Member of the American Loggers Council, a national organization representing logging contractors from around the country. It is NWOA’s only associate membership.

“Besides myself,” said NWOA President Keith Argow, a forester, “the logger is the most important person who comes onto my woodlands. What he does—and how he does it—lasts a rotation or longer.”

On March 19-21, members of the American Loggers Council met in Washington, D.C. in a coordinated effort to present issues of importance to the timber harvesting industry, to lawmakers up on Capitol Hill. More than 60 ALC members were in attendance, including representatives from Caterpillar Forest Products, John Deere, Forestry Mutual Insurance and the Southern Loggers Cooperative.

More than 100 hill visits included discussion on major issues such as youth careers in logging, truck weight reform, comprehensive Forest Service timber management reform, and wildland fire suppression funding on federal lands.

On Thursday morning, ALC members were briefed on these four issues by ALC staff and heard a presentation about possible reform of the USFS Small Business Administration (SBA) set-aside program for timber sales.

Thursday visits included a face-to-face with Senator John McCain (R-AZ) to discuss the merits of his Flame Act Amendment, recently introduced in the Senate. The bill would help eliminate the practice of “fire-borrowing” by the Forest Service—taking dollars from other budget line items to cover catastrophic fire events. This does not leave the Forest Service the dollars that it needs to perform land management activities that would help to alleviate catastrophic fires.

Other issues brought to the attention of the policymakers include the reintroduction of the “Right to Haul Act” which would allow state legal weight tolerances for travel on the federal Interstate highway system, as well as garnering support for the Youth Careers in Logging Act, which has been reintroduced in both the House and Senate.

Following all day Thursday and Friday morning visits to the Hill, members gathered at a Friday afternoon briefing session where presentations were made from Congressman Tom McClintock (R-CA) who chairs the all-important House Resources Committee Subcommittee on Public lands and the Environment. Members also heard from Bryan Rice, director of land management for the Forest Service, and Bill Imbergamo, director of the Federal Forest Resource Coalition.

Both Caitlin Rayman, director of the Office of Freight Management and Operations with the Federal Highway Weight Administration and Luke Loy, senior engineer for the Federal Motor Carrier Safety Administration’s (CSA) Vehicle and Roadside Operations Division, were on hand to discuss the latest in CSA issues as well as the release of the long-awaited comprehensive truck size and weight study due out later this spring.

The discussions were rounded out by Candace Schnoor from John Deere, giving some insight into the economic outlook for the forestry sector in coming years, and Kevin Thieman, president of Caterpillar, who laid out a challenge to the ALC to work with partners to improve the image of the timber harvesting industry and its ability to attract and retain new workers.

On Saturday morning, the ALC Board of Directors held its Spring Meeting, where committee reports were presented and plans for pursuing further action strategies on all legislative priorities, were discussed.

ALC President Myles Anderson remarked that “this is probably the best Fly-In that I have attended yet. Every year, our members return to the Hill better prepared to discuss the priorities, and more organized than the previous years.” ALC Legislative Committee Chair Jim Geisinger also commented on the progress of the group and the recognition that the American Loggers Council now receives as an important resource for legislators who need to become better informed about the issues and needs impacting the timber harvesting industry.
Work with us and we’ll work for your grandchildren.

For today’s timberland owner, there is much to consider. Balancing short-term gains against long-term values is complicated. As North America’s largest manufacturer of hardwood veneer and plywood, Columbia Forest Products believes helping timberland owners properly manage their forest is important. For this reason, we’re proud of our commitment to forest certification. As FSC®-certified resource managers through Rainforest Alliance, we support forest certification by promoting and rewarding responsible forest management for generations to come.
FIRE LOOKOUTS = EARLY DETECTION = SMALLER FIRES

Check www.nhlr.net for a complete listing of the more than 1000 fire lookouts in the United States and around the world that are listed on the NHLR. There are pictures, descriptions, a map on how to get there and even the current weather at the site! If the lookout appears to need some maintenance, check www.ffia.org to see how you can help!

Keep Them Standing

Fire towers and lookouts are the most recognizable symbol of forestry and the importance of forests to all Americans, rural or urban. Keep them standing!

This quarter: The second 1,000 listings begins with a nod to old Kettlefoot, a legendary bear in the remote Watauga Mountains of east Tennessee. There are 11 additions representing six states.

US# 1001, TN #15
Built by the Tennessee Div. of Forestry in 1948, Kettlefoot Lookout Tower is located in a new State Recreation Area in the NE corner of Tennessee. It was named for a large bear that caught his foot in a kettle.

US# 1002, ID # 103
The first Twin Peaks Lookout on the Challis National Forest was a log cabin built in 1913. In 1920 a 7’x7’ cab was added. A new L-4 ground house was built in 1932 and replaced with this 15’x15’ R6 flattop in 1964.

US# 1003, TN# 16
Black Creek Fire Tower, also known as Grassy Knob Tower was built in 1951. It is located in Scott County at a Tennessee Div. of Forestry Center.

US# 1004, SC# 27
The 80’ Barnwell Lookout Tower was built by the SC Forestry Commission in 1935. No longer used for detection since 1935, it still hosts forestry radio repeaters.

US# 1005, SC# 28
The Varnville Lookout Tower is 100’ tall with a 7’x7’ cab built in 1926. It is now used by the SC Forestry Commission to house radio repeaters.

US# 1006, GA# 17
Located at the Thomasville office of the Georgia Forestry Commission, the Thomas Lookout Tower is 90’ tall with a 7’x7’ cab.

US# 1007, SC# 29
The 100’ Bamberg Lookout Tower was constructed by the SC Forestry Commission in 1936. Both the lower and the ground residence are now privately owned.

US# 1008, SC# 30
Originally built by the SC Forestry Commission in 1934 at Olanta, the 100’ Moore Farms Fire Tower was moved in 2004 to the Moore Farms Botanical Garden in Lake City, SC. It is the only fire tower in the U.S. known to have permanent flower planters along the staircases and at each landing.

US# 1009, CA# 98
Located on the Klamath National Forest in northern California, the Orr Mountain Lookout was built in 1934. It is on a 20’ K brace metal tower with a 14’x14’ wood R5 C3 cab with catwalk. It is currently staffed.

US# 1010, NM# 30
The site of a fire lookout since 1913, Dead Man’s Peak is one of the last lookouts remaining on the Santa Fe National Forest. It is a 14’x14’ cab on a metal tower with a ground house.

US# 1011, ID# 104
Built on the Challis National Forest in 1935, Butts Point Creek Lookout is a historic L-4 cab with catwalk sitting on an 8’ log cribbing. Last staffed in the 1960s, it is open and closed each season by a retired and committed USFS forester.
National Park Proposal Meets Opposition in Maine

A proposal to establish a new national park in northern Maine is an emerging controversy that could affect the fortunes of forest landowners in the area, especially if the proposed park impacts markets for wood.

As proposed by Lucas St. Clair, the son of wealthy entrepreneur Roxanne Quimby, a 75,000-acre national park and a 75,000-acre recreation area would be created on land east of Baxter State Park donated to the National Park Service.

Proponents have said a park would generate 400 to 1,000 jobs, be maintained by $40 million in private endowments, diversify a Katahdin region economy devastated by the closure of two paper mills and coexist with existing industries.

Park opponents have said they fear a park would bring federal authority into Maine, cramp the state’s forest products industries with tighter air-quality restrictions, generate only low-paying jobs and morph into something resembling the 3.2 million-acre park plan offered in the 1990s.

“We’re not introducing a national park to take the place of industry that once was there. This is an additional economic driver in the region … and I hope those economic drivers like the forest industries come back. They need to,” St. Clair said at a recent meeting of the Bangor City Council.

St. Clair also said the purpose of the proposed park was to conserve the land for future generations.

Only Councilor Pauline Civiello voiced dissent on the issue, saying she preferred to wait until voters in East Millinocket decide a referendum on the issue in June.

“I feel it’s the citizens of that area that need to weigh in on whether or not they want that park there, not me as a Bangor city councillor,” she said.

Vermont Woodlands Assoc. Receives Educational Grant

NWOA affiliate member Vermont Woodlands, which represents the owners of Vermont woodlands, is getting a $10,000 grant from Tom’s of Maine for educational programs.

The Vermont Woodlands Association says the grant is part of the sixth annual Tom’s of Maine “50 States for Good” community giving program.

The landowner group will use the money to fund community projects and services that will expand educational programs for woodland owners.

The Vermont Woodlands Association, which has about 1,000 members, will offer programs to meet the needs of woodland owners; succession planning workshops, and tree farm program support.

Southern Pine Beetles Found in Connecticut

The highly destructive southern pine beetle, which has devastated thousands of acres of pines in New Jersey’s Pine Barrens region, has been found in multiple locations in Connecticut.

The pine beetles, which are native to southeastern states, lay eggs under the bark of red pines and pitch pines, and result in the death of pines within a couple years of infestation. The beetles have slowly been moving northward in the past decade, appearing on Long Island last fall, and are now found in four locations near New Haven as well as in single sightings near Hartford and in northwestern Connecticut.

Connecticut officials told NBC News that their primary concern is the survival of pitch pines which, while not common, are ecologically important to provide habitat for rare and endangered species on pine/oak barrens.

In Massachusetts, the state has tried to restore such pitch pine—scrub oak habitats on the Montague Plains and also in Myles Standish State Forest in Plymouth County by using forest management and prescribed fire. Species dependent upon such habitats include Canada warblers and whippoorwills.

NY State Budget Forest Friendly Says Industry Group

The forest products industry was generally pleased with New York State’s fifth consecutive on-time budget, which funded some programs important to the industry and the state’s timber base.

“When our programs and projects are supported by our lawmakers, it tells us a great deal about our leaders,” said Eric Carlson, president & CEO of the Empire State Forest Products Association (ESFPA).

“This support tells us that our lawmakers recognize the importance of the vast forest resource in New York State and the quality by which it is cared for by the forest products community,” Carlson said. “However, there is still room for further support that would encourage new business and foster current businesses in New York through adequate funding.”

The plan includes funding for a Northern Logger Training Center, dedicated funding for habitat development and increased funding to the Environmental Protection Fund—all of which focuses on important needs within our industry and to ensure a continued healthy forest for our future, he noted.

Carlson pointed to some notable omissions to this budget plan as well. “We truly wanted to see some property tax relief included in this plan. It is something we have worked hard for,”

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News from the Regions
Carlson said. “We also hoped that the Water and Air Quality permit costs would be reduced, and unfortunately, that was not included either.”

WV Spring Forest Fire Season In Effect Through May 31
The West Virginia Division of Forestry reminds residents that the state’s spring forest fire season started March 1, and runs through May 31. During these three months, daytime burning is prohibited from the hours of 7:00 a.m. to 5:00 p.m. Outdoor burning is permitted only between the hours of 5:00 p.m. and 7:00 a.m.

State law requires a ring or safety strip around outdoor fires to keep the fire from spreading into the woods. This safety strip must be cleared of all burnable material and be at least ten feet wide completely around the debris pile.

Additional requirements of the state’s fire laws include staying on-site until the fire is completely extinguished, and only burning vegetative materials like leaves, brush and yard clippings. If you allow a fire you have started to escape and it causes a wildfire or forest fire, you will be subject to fines ranging from $100 to $1,000. An additional civil penalty of $200 also will be assessed.

Pennsylvania to Survey Commonwealth’s Timber Markets
Using recently compiled data as a baseline, a survey of timber harvested and processed in the state will be conducted by the Pennsylvania Department of Conservation and Natural Resources, according to acting secretary Cindy Adams Dunn. She said the survey will be conducted every two to three years “to better understand market dynamics important to sustaining forests and the forest products industry.”

“The forest products industry provides jobs that pay in every county in the commonwealth with an overall total impact of $19 billion contributed annually to the state’s economy,” Dunn said. “Our continued survey efforts will identify trends important to DCNR’s sustainable forestry efforts, as well to the industry for business and procurement planning, and private landowners related to market opportunities for timber.”

The recently completed “Pennsylvania Timber Product Output Survey” is available on the DCNR website at http://dcnr.state.pa.us/forestry/ForestryInformation/index.htm. The last survey conducted by the Bureau of Forestry was in the mid-1990s.

A total of 312 facilities participated in the survey. Almost a quarter of the mills had been in business less than ten years; four facilities have operated for more than 100 years.

The total volume processed at the participating facilities in 2012 is equivalent to 1.2 billion board feet. Red oak, red maple, black cherry, and white oak were among the top species harvested by volume statewide.

Dunn noted that conducting the surveys helps strengthen relationships between government and forest industry partners through communication on common interests.

Heartland Region

Federal Grant Helps Rural Ohio Firefighters
With a focus on making improvements that will help better protect Ohioans, the Ohio Department of Natural Resources (ODNR) recently approved federal grant funding for 26 projects statewide for fire departments and fire associations serving communities with populations under 10,000.

“It is imperative that we offer these grants to local fire departments so they can continue their fire protection efforts in Ohio’s wildlands and rural areas,” said Robert Boyles, deputy director, state forester and chief of the ODNR Division of Forestry. “We are committed to helping keep our local firefighters safe as they risk their lives to protect their neighbors and communities.”

Out of nearly 1,300 fire departments statewide, approximately 900 are classified as rural and are primarily staffed by volunteers. The average annual budget for an Ohio rural fire department is $35,000 per year, with many fire departments operating on $10,000 or less annually. These Federal Volunteer Fire Assistance (VFA) grants are used to upgrade equipment at existing fire departments and to assist new departments with organizational, training and equipment costs.

Administered by the ODNR Division of Forestry, VFA grants provide up to $10,000 to communities with populations that are smaller than 10,000 residents. A local match is required. More than 1,500 rural Ohio fire departments have received assistance since the VFA program was established in 1978.

Arson Investigating Dog Cracks Kentucky Fire Case
It wasn’t slight of hand but more a matter of following the nose. Magic, a K-9 wildfire arson dog, and his Kentucky Department of Corrections handlers, Adam Sloan and Josh Brock, were called to help investigate a fire on Warrior’s Path in Knox County, near Stinking Creek.

Division of Forestry (KDF) personnel knew where the wildfire started, but were uncertain who started it.

While the KDF Knox County fire crew worked at the head of the fire trying to keep it away from homes, the K-9 unit started its investigation at the fire’s point of origin—a fence that had been cleared below the black top road.

Investigators found barbed wire rolls and a fencing tool present at the origin. Magic immediately traced the scent back down the road to a black Mazda truck parked in a shed at a nearby home. The Kentucky State Police were notified and responded quickly.

Troopers arrived and questioned several individuals in the area, including a person of interest who had driven the truck.

The driver admitted to settling the fire trying to burn out a fence row. KDF did not issue a citation for burning and allowing the fire to escape. The division did notify the driver that he will receive a
Wisconsin Budget Cuts Funding For Timber Harvest Review

Tens of thousands of acres of tax-subsidized private forest would be logged without state forester oversight of cutting plans under a proposal in Gov. Scott Walker's budget.

The budget provision was requested by loggers who say state regulation is costly and unneeded because private foresters usually design cutting operations that adequately protect forests, streams and wildlife.

The change would affect the 3.2 million acres of privately held land—one-third of it open for public recreation—that owners have enrolled in the state managed forest program in exchange for lower property taxes.

Walker’s plan would provide owners with automatic state approval when they file timber-cutting notices if they hire a contractor who participates in the Department of Natural Resources cooperating forester program, which mandates minimum educational requirements and an agreement to use sound practices.

Critics of the proposal said it moves the DNR another step away from the resources it is supposed to foster, while leaving landowners who lack technical expertise in forestry practices legally responsible for actions of private foresters and loggers they hire.

Chief state forester Paul DeLong said DNR review of cutting plans helps ensure that loggers leave behind a forest that will regenerate a strong crop of timber while preventing erosion that fouls streams and lakes, and protecting both wildlife habitat and places suitable for hunting, hiking and fishing.

DeLong said eliminating DNR review of cutting notices wasn’t recommended by the agency and he didn’t feel comfortable attempting to predict how significant the change would be. “Although the vast majority of cutting notices are approved the first time they are submitted, there is a percentage of them that may not be appropriate,” he said.

Michigan’s Forests Underused: Forest Biomaterials Initiative

Michigan could be getting a lot more out of its forests.

Most of the state’s harvested timber is sold as logs, but more jobs and dollars could be generated by turning to those forests for products such as maple syrup, furniture and ethanol, according to the Michigan Forest Biomaterials Initiative.

“Right now we are shipping logs out of the state, and losing a lot of potential value,” said Mark Rudnicki, a professor at Michigan Technological University and executive director of the initiative.

The forest initiative is a group of experts in industry, academia and state government looking to grow Michigan’s economy by promoting better use of the state’s forest resources, Rudnicki said.

Michigan has 20 million acres of forest land, including 13 million privately or corporately owned, said Debbie Begalle, assistant chief of the Department of Natural Resources Forest Resources Division.

Because the Upper Peninsula has most of these forest assets, products could be created in communities close to the timber’s source, bringing job growth to those areas.
strength of soil in some hollows,” says Jim Vose, research ecologist and project leader of the SRS Coweeta Hydrologic Laboratory located near Otto, North Carolina.

“Since debris flows usually start in the hollows, those dominated by rhododendron could represent a heightened hazard for landslides,” he said. Landslides present a significant danger in the steep landscapes of the southern Appalachians.

In 2004, rains from Hurricanes Frances and Ivan caused a large landslide at Peeks Creek in Macon County, NC, where 15 homes were destroyed, two people injured, and five people killed. With accelerating land use change and more frequent storms predicted for the area under climate change scenarios, concern about landslides has grown. “Roots of trees and shrubs can represent up to 100 percent of what’s holding soil together and keeping mountain slopes from sliding,” says Vose.

“For this study, we measured the root distribution and tensile strength—roughly, the force required to pull a root to the point where it breaks apart—of 15 southern Appalachian species in relation to topography and position on slopes.” The researchers dug pits down slope from 15 individual trees on the Coweeta site. The locations of trees varied from noses—convex topographic positions—to hollows.

The trees included native species of oak, eastern hemlock, birch, tulip poplar, hickory, and others. The researchers tested one woody shrub, *Rhododendron maximum*, a native species which has come to dominate the forest understory in some areas of the Southern Appalachians.

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“Landslide events during 2004 commonly started in rhododendron thickets, including the only landslide to occur in the Coweeta drainage basin,” says Vose. “The largest landslide from 2004 at Peeks Creek also formed in a rhododendron thicket.”
Emerald Ash Borer Traps To Be Set Up in Louisiana Again

Louisiana Department of Agriculture and Forestry (LDAF) Commissioner Mike Strain, D.V.M., said the USDA and LDAF are once again conducting trap surveys across Louisiana following detection of emerald ash borer (EAB) in Webster Parish.

The EAB is an invasive beetle that attacks and kills ash trees. Louisiana’s native ash trees are primarily located along the Atchafalaya Basin and the Mississippi River Delta. However, there are ash trees in urban areas, as well.

“Over the summer, approximately 300 traps will be placed along high risk areas such as along the interstate, welcome center areas and the Mississippi River Delta. Please do not remove

Georgia Forestry Assoc. Lobbies Agency on Bat Listing

The Georgia Forestry Association’s (GFA) Environmental Committee recently sent a letter to the U.S. Fish & Wildlife Service (FWS) to advise the agency on certain silvicultural exemptions that should be considered in the “threatened” listing of Northern Long Eared Bat (NLEB) under the Endangered Species Act (ESA).

The NLEB’s range is enormous, encompassing 39 states. The FWS has acknowledged that the primary threat to the NLEB is not loss of suitable forest habitat, but rather “white nose syndrome,” a fungal disease which affects cave hibernating bats.

FWS released a statement on April 1, listing the northern long-eared Bat as “threatened.” In addition, FWS proposed a section 4(d) interim rule, which would lighten the regulatory burden on lands under “forest management,” essentially permitting “incidental take” of the NLEB except within 128-acre zone containing NLEB hibernacula or occupied NLEB roost trees during the pup-rearing season.

On March 17, the Georgia Forestry Association submitted comments on the supplemental 4(d) rule, which the FWS will respond to during the review of the comments on the final rule. GFA supported FWS exempting forest management from take and advised the agency on the issue of pine plantation establishment and other proposed management restrictions that would severely limit the ability of private forest landowners to effectively manage their timber.

“We are encouraged that the Service is considering 4(d) rule exemptions for forest management. The best available science points to the benefits of active forest management in maintaining habitat for forest dwelling bats,” GFA Environmental Committee Chair Kyla Cheynet, Plum Creek, said. “However, we are very concerned about the Service’s exclusion of certain silvicultural techniques.”

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these traps if you come across one,” said Strain. The traps are large, purple sticky boxes that hang from trees in areas that are being monitored for EAB. The beetle is often transported into an area by infested firewood, but it is not known how the EAB entered Louisiana. Officials say the best way to prevent the spread of EAB is to not move firewood.

California Cities Vote To Ban Clearcutting

In April, Menlo Park’s City Council passed a resolution to call on the state legislature and governor to ban clearcut logging in California, making it the fifth California municipality to pass a resolution. Other cities to pass such a resolution are Daly City, San Francisco, Davis, and Monte Sereno. Saratoga and Sunnyvale have taken other supportive actions.

Why are a growing number of cities, where no clearcutting occurs, speaking out against clearcutting?

“Given how critical water is to all Californians and how important healthy forest ecosystems are to California’s water production, we need to do what we can to protect water at its source,” stated City Council member Ray Mueller who initiated the action.

Logging operations on private lands are regulated by the governor and the state legislature. Passing resolutions to ban clearcutting is an effective means of letting them know their constituency wants them to take action, Mueller said.

Thanks to the wide application of best management practices (BMPs) protecting watersheds has become an important part of logging operations across the country, and especially in California. With water quality assured and the connection between clearcutting and water supply tenuous at best, it is unlikely that California’s elected officials would vote to cripple such an important industry.

Arizona Landowners Asked to Help Species Conservation Effort

USDA’s Natural Resources Conservation Service (NRCS) and the U.S. Fish and Wildlife Service (FWS) recently unveiled an ecosystem-wide model to aid the southwestern willow flycatcher and help western landowners. The model will enhance or restore habitat for at-risk, threatened and endangered species, while supporting working lands in Arizona, California, Colorado, Nevada, New Mexico and Utah, the agency said.

The program builds on existing partnerships with landowners in the Southwest to support habitat improvement for the southwestern willow flycatcher, along with 83 other species that depend on the same riparian ecosystem. This action will result in healthier ranges, more productive ranches, and more robust rural economies.

“By focusing on predictability on an ecosystem level, we will bring together an even larger group of agricultural producers in the Southwest to create habitat for the flycatcher and other wildlife,” said NRCS Chief Jason Weller. “These efforts will not only support the many species that depend on this riparian ecosystem, but also help ranchers move to more sustainable grazing systems and give them the support they need to keep their lands working.”

Coloradans Warned: Prepare for Fire Season

With Colorado’s snowpack at only 65 percent of average and Red Flag Warnings again in effect throughout much of the state the Colorado State Forest Service recently reminded landowners that there’s no better time than now to prepare homes and communities for wildfire.

“Sometimes the best defense is a good offense,” said Mike Lester, state forester and director of the Colorado State Forest Service (CSFS). “Long before a fire arrives, landowners should be taking preemptive actions to reduce wildfire potential.”
The CSFS offers free guides for protecting property from wildfire, including those that cover FireWise building construction and tips for protecting homes by maintaining wildfire-defensible zones. The agency also offers site visits with homeowners to discuss concerns, and works with communities to address mitigation and wildfire threats on a larger scale through the development of Community Wildfire Protection Plans (CWPPs).

“Homeowners and communities bear the ultimate responsibility to help protect themselves and their property from the threat of wildfire,” said Courtney Peterson, Colorado’s wildfire mitigation education coordinator. “Taking simple steps now can help make homes more defensible and help protect residents and firefighters.”

Peterson said some of the critical concerns to reduce the risks presented by early season, wind-driven wildfires include cutting and removing dead grasses and weeds; raking up thick beds of pine needles; and keeping gutters, decks and roofs free of pine needles and other combustibles. State publications, guidelines and other information on wildfire mitigation and developing CWPPs are available at CSFS district offices or on the agency’s website.

Kansas Receives Federal Water Grant

Concern about the loss of 40 percent of water-storage capacity in federal reservoirs in Kansas and Oklahoma has led the USDA to award the Kansas Forest Service a $13 million grant. Nearly 80 percent of the five-year grant will help reestablish and improve streamside forests.

The Kansas Forest Service’s partner-supported grant proposal, “Improving Water Quality Through the Implementation of Forestry Practices and the Assessment of Riparian Systems in Kansas Priority Watersheds,” was one of 115 successful projects nationwide.

For Kansas and Oklahoma, the grant award is exceptionally timely as water storage capacity, many Kansas and Oklahoma federal reservoirs are experiencing frequent algal blooms.

New Idaho Website Aims To Improve BMP Compliance

A new website is taking root to help forest owners and others comply with Idaho forestry best management practices designed to protect water quality and the environment.

University of Idaho Extension Forestry and the Idaho Department of Lands developed the website, www.idahoforestrybmps.org. It explains the importance of best management practices, (BMPs) in protecting watersheds and water quality.

BMPs are defined as practices that are the most effective and practicable means of preventing or reducing the amount of erosion resulting from forest practices.

Providing links to key state and federal forestry agencies, the website also offers primers on filling out notifications of forest practices and stream channel alteration permits, key documents required for most forestry operations.

Readily available, easily understood information for forest owners and managers is the goal of the new website, said Randy Brooks, UI Extension forestry specialist at Moscow. Yvonne Barkley, associate extension forestry specialist at Moscow, led the production of information for the website.

“We want people to look at this and say this is the shining example of providing good information about forest Best Management Practices to the public,” Brooks said.

The website and a new BMP handbook and videos due in two years aim to translate the Idaho Forest Practices Act and regulations into easily understood, useful information.

“The hope is that anyone who wants to learn about forestry and why we protect water quality and other environmental values will benefit from this project,” Brooks added.
The decision whether or not to buy additional woodland liability insurance is a personal choice. Many landowners have not given it much thought, believing that any liability that may occur on their woodlands is already covered by their homeowners or other insurance. You should think about this.

Check to be sure you are in fact covered. Get it in writing if you can. With the low cost ($150/year for up to 535 acres) with no deductible, many agents recommend this group policy as well.

WHAT DOES THE NWOA WOODLAND LIABILITY INSURANCE COVER?

We cover the liability of the landowner(s) in whose name the land is listed for any acts of negligence for which you are found to be legally responsible, whether you knew it or not.

• NWOA is not in the insurance sales business, but we do have a national woodland liability insurance policy as an optional benefit. The risks covered are spread across a nationwide base, which is much cheaper than individual policies. This makes possible the low group rate.

• NWOA researched and approved this master policy because of the excellent service record of Outdoor Underwriters, Inc. and the depth of their experience in the London Insurance Market.

• Participating NWOA members receive a one year Certificate of Insurance within three weeks.

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TWO INSURANCE OPTIONS ARE AVAILABLE:

Woodland Liability Insurance—our most popular (includes incidental hunting—trespassers or guests)

Hunt Lease Liability Insurance—the necessary option if you lease your property. Includes falling out of a tree or harm caused to other hunters or other people, even on adjacent land. A “Best Buy” at only 16 cents/acre.

Or the two policies can be combined. See www.NWOA.net and click “Land Insurance”

WOODLAND LIABILITY INSURANCE

INSURANCE APPLICATION: FOR LANDOWNERS ONLY

Woodland Liability Coverage provides legal liability coverage for woodland owners. This coverage is designed to provide general liability protection for owners of woodland who do not lease their land to a hunting club.

coverage for the Landowner does not provide protection for owned timber.

Did you find us through a state affiliate promotion?

If so, please staple your ad coupon to your application to ensure credit to your association.

Owners, Landlord & Tenant - Liability Limit to $1,000,000 per occurrence

Special Master policy rating basis. A certificate will be issued to each landowner

Liability coverage for the Landowner does not provide protection for owned timber.

Please answer the following questions.

What is the property used for?

Signature of Landowner

Premium Calculation - Woodland Liability Insurance

Number of acres to be covered x .28 cents per acre = Subtotal: Total Payment Due:

For your convenience, you may add your NWOA membership ($35/year $45/year sustaining)

Please Specify Effective Dates:

Return this form completed and signed along with your check to:

National Woodland Owners Association
374 Maple Ave E, Suite 310; Vienna, VA 22180

Coverage is subject to approval by Outdoor Underwriters, Inc. Applications received will be effective upon approval and expired according to policy terms.
WILDFIRE COVERAGE
Now Available

Protecting an investment that takes 25 years to mature, and just 25 minutes to destroy, deserves your attention. Give us 25 seconds.

Minimum premiums starting at $15
Insurable timber value limits from $2,500 - $25,000 (Higher limits available)

Insurance programs also available from NWOA/Outdoor Underwriters:
- Hunt Lease Liability
- Woodland Liability
- Tractor & Farm Implements
- Standing Timber
- Consulting Forester
- Prescribed Burn Liability

NWOA.net/wildfire (703) 255-2700 info@nwoa.net

Outdoor UNDERWRITERS, INC.
140 Stoneridge Drive, Suite 265 Columbia, SC 29210

 семейственное LANDOWNER
NATIONAL WOODLAND OWNERS

374 Maple Ave. Suite 310 Vienna, VA 22180
The new National Woodland Owners Association's Wildfire Insurance program took three years to develop, working with a direct contact at Lloyds of London and Outdoor Underwriters, our carrier. It is much less expensive than existing fire insurance programs because: Risk is spread nationwide.

NWOA is proud to offer this program to our members in all 50 states. When you participate, you receive a certificate of insurance covering your woodlands at the level you selected. The biggest difference from conventional fire insurance is that a per-acre limit has been established to avoid the need for a comprehensive timber valuation.

Just $15 per year gives a NWOA member $2,500 of insurance of up to $500 per acre of fire damage. The amount of acreage insured at that rate is 200 contiguous acres (eight cents per acre). Do the math. At $15 per year, it will take 167 years before you spend a total of $2,500 for this insurance.

What are your chances of having a wildfire in the next century and a half? With more people moving to rural areas, the Wildland/Urban Interface is spreading closer to your land every year. The risk of wildfire keeps increasing. Is having no fire insurance still worth the gamble? That is entirely up to you.

The most popular coverage for NWOA members so far is $25,000 at $110/year for up to 200 acres. That is enough acreage for two thirds of our members. You can insure additional acreage—including multiple tracts—at additional cost.

At These Prices....

Why Would You Not Buy Wildfire Insurance?

The choice is yours. This is your opportunity to protect your land and investment for a fraction of what you would pay elsewhere.

Keith A. Argow
Woodland Owner and President
NWOA WILDFIRE INSURANCE APPLICATION

This policy is intended to cover direct physical loss to your trees and associated reforestation expense.

Eligibility: Active membership with NWOA, 200 acres or less, and all acreage must be contiguous. If you own more than 200 acres or have land in multiple tracts please indicate that by checking the box on bottom of the application. An underwriter will contact you to discuss the various options available to you. Please do not remit premium if you are not certain you meet the eligibility requirements for this product.

Name:_____________________________ NWOA Member #_____________
(Print clearly) (See the label on this magazine)

Mailing address:

City, State & ZIP Code:

Email address:________________________ Daytime Phone # (______) ____________

Location of Woodland, (200 acre limit): County, City, State and zip code or gis coordinates:

Type of Trees (Hardwood, Pine, etc) ____________________________________________

Continue:

Age of Trees (per stand) and Acres (per stand) ___________________________________

Continue:

Effective: [ ] Jan 1st to Jan 1st [ ] April 1st to April 1st [ ] July 1st to July 1st [ ] Oct 1st to Oct 1st

Fire Damage Limit Per Acre Limit Deductible Premium
[ ] $2,500 $500 $500 $15 $______________
[ ] $5,000 $500 $500 $30 $______________
[ ] $25,000 $750 $1,000 $110 $______________

Application fee: $__________

Total due: (payable to Outdoor Underwriters): $______________

NWOA Member? If not, please add $35/year or $45/year sustaining

(Separate check, payable to NWOA)

[ ] I own more than 200 acres or have land in multiple tracts (send no payment).

Applicant’s signature:________________________ Date:________________

All applications will be subject to a 30 day underwriting review period from the date the application was received and payment processed.

TIPS FOR COMPLETING THE ABOVE FORM

1. Your name and NWOA number (if you have it).
2. Complete your address, email and phone # clearly.
3. Include ZIP Code (nearest city) when land is located or “Coordinates”
   (Coordinates are easily found on a GPS. We do not need your boundary, Just a spot on your land).
4. Include Type, Species, and Acreage per Stand. Use additional sheet if necessary.
5. Select from four “Effective” dates.
6. Check off level of coverage and include check for Premium payable to: Outdoor Underwriters.
7. If not already a NWOA member (see your label on this magazine), include a second check ($35 or $45) payable to: NWOA.
Add American Forests For $10/Year
Joint Subscription Partnership Announced
—Special NWOA Subscription Price—

Published by the 140-year old American Forestry Association since 1894, American Forests magazine is the recognized champion of forestry in North America. Now it its 121st year, the publication is widely recognized for its in-depth coverage and celebration of the nature of forests. As such, American Forests is an excellent companion to National Woodlands with its focus on the stewardship of our forest resource.

We are pleased to be able to offer NWOA members a subscription to American Forests for just $10 per year. This gives NWOA members three issues of American Forests with articles on forests and forestry, and four issues of National Woodlands annually.

Having said that, we don’t expect you to buy something you haven’t seen. We’ve arranged for you to receive the next issue. Look for this complimentary copy of the 140th anniversary issue of American Forests in your mail soon. We think you will like it and want to continue receiving American Forests as a good way to stay informed about issues important to you, one of America’s private forestland owners.

This is a limited time offer, and enrollment is as easy as making a phone call or sending an email or letter, as explained below.

Keith A. Argow
NWOA President

Here’s how to continue to receive American Forests magazine for the special subscription rate of $10/year. Just let NWOA know by:
1.) email (argow@nwoa.net)
2.) regular mail (374 Maple Ave. E., Suite 310, Vienna, VA 22180-4751)
3.) phone (703) 255-2700

Your first issue is free. If you like it, just tell us you want to add this optional benefit. You will receive an invoice unless your renewal rate is within the next six months. In that case we will just include it with your membership dues. It is as easy as 1, 2, or 3!