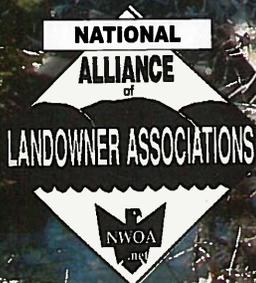


Summer 2016

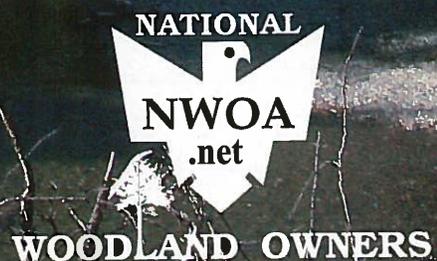
NATIONAL WOODLANDS

Magazine of the National Woodland Owners Association

- *Western BioRegion Focus on Water*
- *Redwood Summer—25 Years On*
- *Survey Profiles Western Landowners*
- *Western Landowner Alliance Reports*



**"LANDOWNER LED
PURPOSE-DRIVEN"**



This is! Our Annual Special Western Forest Zone Issue

We Invite the 6,000 members of NWOA's 10 Affiliated State Landowner Associations and Foresters to Join NWOA as a National Member and Receive NATIONAL WOODLANDS Every Quarter. For 20 good reasons, see page 51.

- 1. A Full 64-Page Magazine Packed with Useful Articles**
- 2. Woodland Report Insert, National and State Advocacy**
- 3. Top-Rated Woodland Liability and Hunt Club Insurance**
- 4. Latest Timber Tax Reports**



**Join the National Woodland Owners Association!
Use the application below, the card insert or call:**

**“4 (a perfect) 10, dial 00, ten”
800-410-0010
Do It Now!**

Credit Cards Accepted



National Woodland Owners Association... Your Friendly Voice in Washington, DC

NAME _____	Sustaining Membership*	Individual Membership
ADDRESS _____	1 Year	2 Year
STATE _____ ZIP _____	<input type="checkbox"/> \$45.00	<input type="checkbox"/> \$80.00
PHONE _____ FAX _____	<input type="checkbox"/> \$35.00	<input type="checkbox"/> \$60.00
EMAIL _____	* A sustaining membership provides additional funding to help NWOA grow and do more for you	
Number of Woodland Acres Owned _____ <small>(not a membership requirement)</small>	<input type="checkbox"/> Check here to receive American Forests for an extra \$10; \$20 for two years.	
<input type="checkbox"/> Check Enclosed <input type="checkbox"/> Visa/MC _____ Exp. Date _____ code _____		

Please mail this application to: NWOA, 374 Maple Ave E, Suite 310, Vienna, VA 22180, or Fax it to: NWOA at 703-281-9200, or Join over the telephone: 703-255-2700



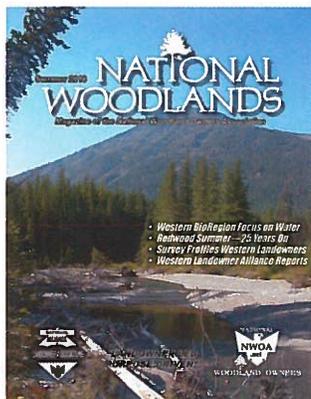
NATIONAL WOODLANDS

Volume 39, Number 3

Summer 2016



Contents



Publisher

Keith A. Argow, Ph.D.

Executive Editor

Eric A. Johnson

Wednesday Woodland Words Editor

Michael Burns

Business Manager

Connie Blair

Forest Tax Counsel

Linda Wang

Contributing Writers

Rita Hite

Rick Hamilton

William M. Ciesla

Redwood Summer, 25 Years Later	3
<i>Keith A. Argow</i>	
What is it About California Forest Practice Regulation?	8
<i>John A. Helms</i>	
California Forest Regulations: Good, Bad & Ugly	10
<i>Charl Stoneman</i>	
Riparian Forests Require Careful Management	12
<i>Bill Cook</i>	
Nevada Watershed Restoration Helps More than Trout	14
<i>Brett Prettyman</i>	
Water Quality Effects Following a Severe Fire	18
<i>Charles C. Rhoades, Deborah Entwistle and Dana Butler</i>	
Ducks Unlimited, Landowners, Team Up to Protect Wetlands	22
<i>Chris Sebastian</i>	
How to Minimize Forest Road Erosion	25
In Oregon, Bad Policy Trumps Science	26
<i>Jim James</i>	
Point/Counterpoint: Debating WOTUS	28
<i>Gregg Robertson and John McClaughry</i>	
Western Family Woodland Owners Face Different Challenges	30
<i>Family Forest Research Center</i>	
A Pine Sawfly Outbreak at Forest's Edge	41
<i>William Ciesla, Dan West and Meg Halford</i>	
Washington Woodland Watch	4
Family Forestry Commentary	7
Woodland Report	32
Yearly Reports from the Western Alliance of Landowner Associations	34
State Forestry UPDATE	38
The Greatest Good for the Greatest Number	44
Timber and Taxes	46
Women Owning Woodlands	48
National Historic Lookout Register	50
The Readers Respond	52
News from the Regions	53

NATIONAL WOODLANDS is published by the National Woodland Owners Association to promote the wise use of America's forest resources. Subscribers include landowners, professionals in the natural resources disciplines, companies and individuals associated with the forest products industry, libraries, government agencies, and other people who have an interest in forestry.

All rights reserved. Contents may be reproduced with proper attribution to *National Woodlands* (including the address). Opinions expressed by authors are their own and do not necessarily reflect the policy of the publisher or National Woodland Owners Association.

NATIONAL WOODLANDS (ISSN 0279-9812), Summer 2016, Volume 39, No. 3. Published quarterly, in Winter, Spring, Summer and Autumn by the National Woodland Owners Association, 374 Maple Ave. E., Suite 310, Vienna, VA 22180-4751; tel. (703) 255-2700. U.S. subscriptions: \$35 for one year or \$60 for two years, through membership in the National Woodland Owners Association; sustaining member rates are \$45 per year, \$80 for two years. For delivery to Canada, Europe, and most International addresses, add an additional \$10 for postage. Back issues, if available, are \$2 each, postage paid. Editorial offices: 41 Fountain St., Clinton, NY 13323.

On the Cover: Western forests are a critical part of the Earth's water cycle, and family-owned forestlands are an important part of the western forested landscape.

Photo by Eric Johnson



Washington Woodland Watch



Congressional Action Just Before the “Bell” Rings

As I'm writing this, Congress is taking its final actions before leaving for an extended seven-week recess, during which both parties will host their respective conventions and then members will spend time working and campaigning back home in their states and districts.

But before that bell for recess rang, Congress did move the ball forward on a number of important issues for family woodland owners. And it's up to all of us to ensure that while they are back home and we see them at the county fair or the forestry association event, that we ask our elected representatives to take action on issues important to forest landowners when they return in September, and again after the elections in November.

Congress did introduce important legislation to advance new markets for family woodland owners. We all know that to practice good stewardship and keep our land forested, markets for wood are essential.

Leaders in both the House and Senate, Senators Stabenow (D-MI), Crapo (R-ID), Klobuchar (D-MN), and Daines (R-MT), and Representatives Thompson (R-PA), Delbene (D-WA), Kilmer (D-WA), and McMorris-Rodgers (R-WA), introduced the Timber Innovation Action (TIA) (S 2892/HR 5628). You may be following the movement that is sweeping the building sector: building tall buildings, seven to ten stories and in some cases higher, out of wood. Builders and architects are keen on this idea because wood is both flexible and cost-effective and also as we all know, it has many environmental benefits as well. TIA will help provide more research, technology development, education and technology transfer to help grow this movement, which in turn, grows markets for our wood.

In addition to this important legislation, leaders in the Senate Interior Appropriations Committee included language in the latest Interior Appropriations bill to recognize the carbon benefits of biomass-based energy as long as we continue to renew our forests. This is a common-sense approach and recognizes that markets actually help us continue growing forests. The House also included language on biomass-based energy in its bill. Our hope is that when final action is taken on these funding bills this year, Congress will provide direction that allows markets, including these markets for biomass, to grow, removing restrictions that agencies, including the U.S. Environmental Protection Agency have placed on them.

But this isn't all that Congress worked on. On a slightly different topic, we have for a long time been working to fix how wildfire is funded in the U.S. Forest Service Anderson Department of the Interior. If you recall, the problem is with the growing cost of wildfires (in some cases we've seen a tenfold increase in wildfire fighting costs) we've seen funding for preventative wildfire management and non-fire work the agencies must do—shrink. And we've also seen significant disruption when the agencies run out of wildfire fighting funds and “borrow” from other accounts. The good news is that Congress is paying attention to this problem.

The House passed a bill earlier this year, Senate Agriculture Committee Chairman Roberts (R-KS) introduced a bill, and the Senate Energy and Natural Resources Committee released a discussion draft bill, all of which are designed to tackle this issue, along with the need for more management to reduce wildfire risks. Our goal is to ensure that any wildfire funding fix addresses both problems noted above, as fixes in the past have not been comprehensive. Additionally, we believe, based on analysis completed by the American Forest Foundation last fall, (see *Western Water Threatened by Wildfire* report on this page) that there's a need for tools and resources to help family woodland owners as part of this effort as well.

So, even as gridlock still dominates Washington, D.C., we did see some positive steps taken before Congress left for recess.

Please consider reaching out to your members of congress to discuss those issues important to family woodland owners as you see them around town this summer!

For more information on these issues visit <https://www.forestfoundation.org/government-policy-advocacy-for-forest-owners>

Rita Hite as Executive Vice President, ATFS, Woodlands and Policy, for the American Forest Foundation, a strong partner of the National Woodland Owners Association.



Redwood Summer, 25 Years Later

Twenty five years ago we ran our most popular cover ever: "the Angry Logger." In my "Forestry Commentary" column in that issue (reprinted on the next page) I described the feelings of the four faces in that compelling picture. The column was titled "Forestry by Frustration. Each person: the logger, the protester, the press and the landowner had a reason to be there. The logger and the landowner both had skin in the game. The protester was the face of growing public opposition to large-scale clearcutting of the remaining old-growth redwood trees of the northern California coast. The photographer was just doing his job, and still is.

Redwood Summer did not just happen. It was planned by citizen organizations including Earth First!, and Forests Forever. Students out of college for the summer were recruited to stage demonstrations. The first protest took place at the Louisiana Pacific export dock in Samoa. In response logging companies organized "Right To Work" rallies. The discords ballooned into the Timber Wars of the 1990s.

Emotions ran high. One of the organizers, Judi Bari, was severely injured with a bomb planted in her car. While the police and FBI alleged that she was carrying the explosives herself, no charges were ever filed. Some 20 years later she and her partner were awarded \$4.4 million for false arrest and violation of their First Amendment rights.

Last year I ran into a much admired friend, Dr. John Helms. He is a distinguished forestry professor emeritus from the University of California at Berkeley and an expert on forest policy. I asked if he would write an article for readers of *National Woodlands* on the background of forest regulation in California. His story of the events and the forestry regulations that followed appears on page 8.

How landowners are continuing to manage their forests today within these regulations is aptly described by Charll Stoneman, ACF and president of the Forest Landowners Association of California (NWOA affiliate). His article is revealing and encouraging. In spite of the many hurdles, landowners in California are continuing to manage their forests and woodlands. Stone recounts the efforts of the Board of Forestry to make easier their compliance with state

rules. The state landowner association has worked long and hard to achieve these positive changes. The impact of regulation remains evident, however, in a continuing reduction of timber sales from smaller tracts.

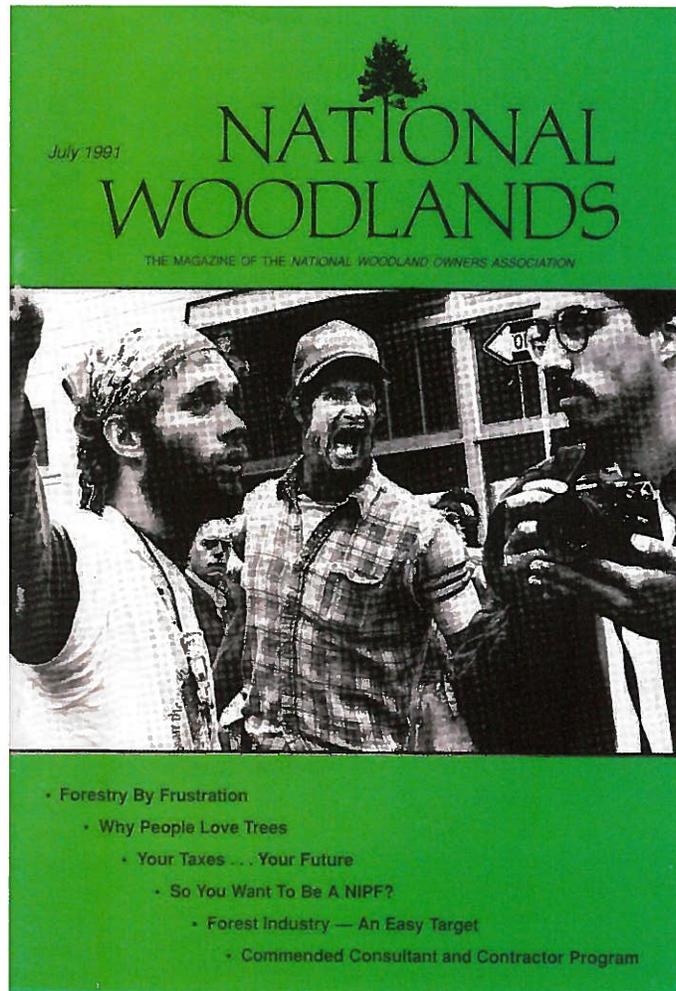
In a state like California, which provides voters the means to propose additional regulations by citizen initiative and ballot measures, it is obvious that wary landowners must stay engaged. A few weeks ago, on June 7, voters in Mendocino County passed a ballot measure dubbed the "hack and squirt" law. The initiative, (which passed by 60 percent) makes it illegal for private landowners to deaden and leave standing for more than 90 days any tree that is over 16 feet tall. The landowner can still kill the trees for silvicultural reasons (such as one to deaden tan oaks competing with growth of young conifers), but must return within three months and cut down those dead trees. The measure makes a person or agency liable for damages the practice may cause to structures, water sources and utility lines within 3,300 feet (more than half a mile) of the dead trees.

Meanwhile, in Oregon, three initiatives that

would restrict clear cutting and aerial spraying are being circulated for signatures this summer. One of the petitions, which would impose new limits on aerial pesticide applications, was able to obtain the Oregon Supreme Court's approval for the ballot title language. By then there was not enough time left for supporters to collect the 88,000 valid signatures needed to put it on the ballot by the July 8 deadline.

The high court has yet to rule on the wording for another petition that would restrict aerial spraying and logging in landslide-prone areas. The third petition was withdrawn because of legal complications involving forestland property value laws. None of the three is good forestry legislation.

How forest laws are written, and who writes them, is of huge importance to woodland owners nationwide. That is why since NWOA has recognized the Outstanding Forest Law in the U.S. since 1986. Other states have copied these outstanding laws. The 2016 winner will be announced in October. "We honor the best, and fight the rest." —KAA



Non-industrial Private
FORESTRY COMMENTARY

**FORESTRY BY FRUSTRATION:
The Environmental Imperative**

When I first saw the picture we used on this month's front cover, it made a lasting impression. The photographer captured a moment in time. For me, a woodland owner, he captured more than that.

The frustration, even anguish, expressed by the logger is real. His ability to earn a living—his very future—is at stake. His future and our futures as landowners are intertwined. Forest practices regulation, new definitions of wetlands, riparian zones, unrealistically high timber taxes, wide swings in stumpage prices—all lead to the uncertainty of our woodland investment. Now add to that a measure of public distrust of our motives, as expressed in a growing wave of landowner regulation, and we feel a sense of "forestry by frustration."

This compelling photo was taken in Ft. Bragg, California, on July 21, 1990, during the "Redwood Summer" campaign. The photographer, David Cross, is based in Berkeley. Perhaps his reasons for being in Ft. Bragg had as much to do with his concern with the environment as the chance that he might bring home meaningful photographs. "As I saw this confrontation heating up," he said, "I put the camera on rapid advance." Mr. Cross has provided a tangible record of the force of change that many of us are dealing with today.

There is something in each of the "four faces of Adam" worth noting. The face of the logger catches one's attention immediately. His job is on the line. His way of life is being threatened, or at least that is how it seems to him. There is some of all of us in that logger. His face is expressing the pain, the frustration, that many of us feel . . . or are beginning to wonder if we should be feeling.

The earthperson is a glimpse into the future. He is a harbinger of change. Much more than a flower

child of the 1970s, he is on the front line against tremendous odds. We may call this naiveté, but such a person cares about our forest resource and is willing to make a personal stand. He or she may put his or her life on the line before this all is over.

Next is the reporter, camera-in-hand, with a wary look lest he be pounded next. It is appropriate that the press should be a part of this picture for, without the media, many fewer people would have heard about "Redwood Summer." Nor would they know the underlying causes that led to the demonstration and last November's voter initiative.

Finally there is the "landowner" tucked in the background with a concerned look on his face. I have no idea if that person pictured is a landowner or not, but for purposes of this commentary we can let him stand in for one . . . or, more correctly, for us. As landowners we are a part of this picture, whether we want to be or not.

In reality, there is a part of us in every one of the four faces. In the logger is our right to practice forestry, our opportunity to convert part of our forestry investment into a profit through careful and responsible logging. The earthperson represents a commitment to care for the forests under our stewardship. We express that commitment through our use of Best Management Practices, our stand improvements, the protection from fire, insects, and disease that we provide, and our responsibility for a renewable and productive forest.

The photographer (reporter) is the essence of a free press. The expression of ideas without government censorship is one of the foundations of our free enterprise system. You might think that is easy for me to say because I publish a magazine, but both the editor



and I were landowners before we came to our current positions. Why belabor the obvious? Because, if there is one comment I keep hearing, it is that the "liberal press" is giving the environmentalists a platform they don't deserve. Yet, if we start regulating the press, where do we stop?

A free society, a free enterprise system, and free trade thrive best under a free exchange of ideas. All citizens should have the opportunity to make up their own minds and act accordingly. That has been the thinking of the National Woodland Owners Association from the very beginning as expressed in our motto: "Informed Woodland Owners . . . Are Our Best Protection."

FORESTRY BY FRUSTRATION is here. Our degree of frustration will be an indicator of how well we are able to adapt to the changes that are coming our way faster than before.

Non-industrial private forests already produce one-half of America's home-grown wood supply. In the 21st century that share is expected to increase to 60% according to the latest projections by the U.S. Forest Service. Our ability to meet that demand is not threatened by the environmental movement; it is challenged!

That logger is counting on us for a job, the earthperson is counting on us for a sustainable environment, and the press will tell it as they see it.

That's not threat; it is opportunity. It is knocking now.

— Keith A. Argow
Publisher





Family Forestry Commentary

Keith A. Argow, Publisher

Forestry by Purpose:

Why woodland owners must be better informed—willing to stand up for our rights—and committed to our responsibilities.



“Landowner Led—Purpose Driven” is the by-line of National Woodland Owners and appears on the cover of this magazine every month. It signifies that we are woodland owner-owned, woodland owner-led, and woodland owner purpose-driven. The subtitle confirms our purpose to follow those basic words with deeds of responsible forest stewardship.

The theme of this issue is water, along with our regular quarterly summer focus on the Western Forest Zone, with articles about the issues and updates from affiliated state landowner associations.

In the West, general recognition of the public trust involved in protecting our soil and water resource is higher than anywhere else. That is because the region has so little of it and the fast-growing western cities demand more of it. Generations of urbanized people do value forests, if for no other reason than to have abundant water supplies. Clearly they have standing to be involved in their publicly-owned forests (about 80 percent of the forested landscape). They also assert their interest in the other 20 percent, because they can. How? Read the lead stories about Redwood Summer 25 years ago beginning on page 5.

To date, forest practice regulation laws are primarily a western phenomenon, but the old saying of “how California goes, so goes the rest of the nation,” should not be forgotten. How do family woodland owners avoid future forest regulation? Three ways: 1.) Exemplary stewardship; 2.) Taking the initiative to reach out to woodland owners whose practices are likely to encourage regulatory action; and 3.) Leadership and involvement in local, state and national forestry organizations.

Remember NWOA's second by-line: “All Forestry is Local.” What is happening on the ground, on hillsides, or adjacent to public roads is how most of the American public perceives stewardship of private woodlands. When some landowners are poor stewards, they are inviting regulation for us all. The good efforts of the American Forest Foundation, National Alliance of Forest Owners, State Foresters, Forestry Extension and NWOA alone can't protect us. Stewardship is an inside job.

Our cover photo this quarter pretty well sums up many of the stories. It is clearly a western forest with a healthy riparian zone, the water is clear and woody debris remains to improve fish habitat. It could be private, public, or a mix of both. It appears to be well managed for everyone to see and appreciate. The

water—produced by private and public landowners for free—provides beauty, recreation, electricity, aquatic habitat and irrigation for food. The trees are providing the only real source of cash. Property taxes are paid by all private landowners, often having to make up in part for ongoing loss of the county's share of timber

sale income from public lands.

This issue introduces the first of a series of four regional reports produced for NWOA by the U.S. Forest Service's Family Forest Research

Center describing the latest information from ongoing studies of family woodland owners nationwide. Some of these reports will be available by state and may appear in the state landowner magazines. Collectively in the 17 western states there are 452,000 family woodland owners who manage 12 percent of the woodlands. However, 62 percent of those woodland owners own between one and nine acres. That leaves 172,000 families to manage and stand up for the remaining 70 percent of private woodlands. How are they doing? Some of them, quite well! A quick read of the articles provided by Charli Stoneman, President of Forest Landowners of California, and Jim James, Executive Director of Oregon Small Woodlands, plus the state Alliance reports, will confirm they are doing very well indeed!

The report from state forestry agencies this quarter comes from the Western Council of State Foresters providing an in-depth review of the many different programs underway within the 17 state zone. The state forestry issues that are described paint a clear picture of the significant overlap between NWOA's 2016 forestry issues and CWSG's issue areas. These include wildland fire, forest health, sustainability, water, and climate change.

Last but not least are this quarter's reports on the happenings here in Washington DC. While the election process rages on, legislation affecting forestry continues to move ahead. Check out Washington Woodland Watch (p. 4) by Rita Hite, vice president of the American Forest Foundation, the longtime NWOA partner in family forestry. Congress also appears primed to finally define “carbon neutrality” after 14 tries (each written into law). Follow their convoluted trail in *Woodland Report* (p. 32). Strange, but true!

—KAA
argow@nwoa.net



What is it About California Forest Practice Regulation?

by John A. Helms

Recently I met up again with my colleague Keith Argow and the conversation turned to the stringency of California's forest practice regulations. I made some comments that Keith suggested might be of interest to woodland owners. So, here's my take on how it is that California ended up with its particular set of regulations, commonly regarded as the most strict in the nation, and what lessons forest landowners might learn.

First, some background. The United States, like some other countries, developed its high standard of living by exploiting its inherent wealth of forests, fisheries, minerals and oil. We were fortunate to occupy a land with vast tracts of old-growth forests. Wood was critically important as a source of fuel, fencing, building and railroad ties. And land needed to be cleared to support agriculture—cleared land was often more valuable than forested land.

Because wood supply was regarded as unlimited, exploitative, high-grading forest practices in the 1800s and early 1900s were only constrained by technical capability and costs. Later, after the huge demands for forest products needed to support World War II, forestry in the 1950s began to be constrained by understandings of broad ecological interactions.

More recently, in the late 1960s and early 1970s, with the advent of the environmental movement and Earth Day, the disparity between historic forest practices and broad environmental values began to be recognized. The effects of timber harvesting in California were especially evident due to having exceptionally big trees requiring big logging equipment, and high visibility afforded by steep slopes. The impact was especially noticeable due to erodible soils, creation of abundant slash, soil disturbance and increase in stream sedimentation. Harvesting in these conditions was not pretty. Although many forestland owners were sensitive to diverse environmental concerns, others, including some small woodland owners, were still high-grading and focused on exploiting timber values.

Aggressive public activism arose in California in the 1970s and graphic images were distributed of destructive logging on private land. It was the period of the "Timber Wars." It became apparent that the rate of evolution of forest practices moving from exploitation to sustained yield management was not as rapid as the rate of evolution of society's concerns and expectations towards environmental protection. Society in California, which is mostly urban and not familiar with forestry, became impatient with the perceived reluctance of forest practices to change to reflect changes in societal values.

The existing forest practice regulations introduced in 1945 with standards and guidelines set by the industry were challenged as a case of the fox being in charge of the chickens. The five-member State Board of Forestry, composed of foresters, was criticized for being self-regulating.

There was a section in the state constitution allowing timber lands to be taken off the tax rolls for 40 years if more than 70 percent of the volume was removed. This encouraged clearcutting and became the standard "silviculture" on private land. As a result, in 1973, a new Forest Practice Act addressing forestry practices on private land was passed requiring new, enforceable rules and a nine-member Board of Forestry in which foresters made up the minority.

The development of new rules was dominated by the utter lack of trust between forest activists and foresters. Because of this, regulations became very prescriptive and detailed rather than goal-oriented. A Timber Harvesting Plan (THP) is required that must be prepared and supervised by a Registered Professional Forester. This plan is accepted as a substitute for the alternative requirement of an Environmental Impact Report required under the California Environmental Quality Act. The plan must not only demonstrate sustainable forestry practices but must also address issues of archeological protection and ensure no deterioration of water quality, wildlife and other forest resource values. To demonstrate compliance, field inspections are required. And penalties up to suspension of a forester's license can be invoked if details within the plan

**Registered Profession Forester 730, Prof. Emeritus, Univ. California Berkeley, President, Society of American Foresters in 2005.*

are not met. Additionally, there was lack of trust and sometimes conflicting views over regulatory mandates among the various state Departments of Forestry, Mines and Geology, Water Quality, and Fish and Wildlife regarding which should be the lead agency for the application of regulations.

To ensure that views of the various departments are represented, the Forest Practice Act requires that these state departments and agencies participate in reviewing plans jointly with the Department of Forestry serving as lead agency. These departments and agencies are also expected to participate in field inspections.

Currently, California spends about \$28 million annually in forest practice regulation, employs about 195 department and agency personnel to review and approve about 300 THPs, issue other permits, and inspect operations on active plans. Since 2012, funding for the program comes from a one percent assessment on the value of lumber and lumber products sold within the state. This recent fee circumvented consideration of an earlier funding proposal, which would have assessed submittal fees to cover costs to the state for harvest plan review. Landowners must still, however, cover their costs of plan preparation.

Despite this cumbersome process, I must emphasize that concerns about California's comprehensive forest practice regulations are typically not technical. Any individual regulation can be regarded as desirable for prudent stewardship of forest land. The problem is the administration of so many regulations. The major concern is the cost associated with development of plans and the many months needed for plan preparation, review, modification and final approval. Another factor is uncertainty and instability created by the frequency with which the rules are amended.

Costs to the landowner for preparation of a timber harvesting plan may vary from a few thousand dollars to many tens of thousands of dollars. For the small, private woodland owner this means that harvesting small volumes may be precluded as revenue may not cover the cost of plan preparation and administration. The many months needed for plan approval prevents a landowner from acting quickly to harvest timber if the need arises.

In total, the especially comprehensive and costly regulations tend to drive private landowners towards divesting forest lands for development and the diminishing of state forest acreage. Landowners who own fewer than 2,500 acres may now prepare a Non-Industrial Timber Management Plan (NTMP). While costs associated with preparation of this type of plan are typically higher than a THP due to inventory necessary to support sustained yield projections, once approved, timber operations can proceed through a notification process which allows operations to begin almost immediately. NTMPs also do not have a termination date. Currently, there are approximately 772 approved NTMPs covering approximately 320,000 acres. The Department of Forestry has received an average 114 notices per year over the past six years.

Complying with California Forest Practice Regulations has



As travelers emerged from the famed Avenue of the Giants (Redwood Highway) in 1966, they promptly came to this clearcut. The industry Tree Farm sign confirmed the land had been seeded four years earlier, an acknowledgement that it would be some time before those jobs grew back. That was 25 years before the Redwood Summer erupted in 1990.

been argued as being equivalent to third-party certification. This argument has not been accepted. However, having met state regulations, it has been relatively easy for California forest industries and private landowners to meet the very similar certification standards.

So, what's the bottom line for woodland owners?

Forest practices must always be consistent with societal values and expectations. If not, society can invoke regulation, require licensing, or encourage third-party certification. To keep up with societal expectations and avoid restrictions or forced shut-downs, forestry must demonstrate sustainable practices, avoid perceptions of high-grading, and accommodate diverse environmental needs and values. There is a big difference between careful logging and practicing credible, verifiable, sustainable forest resource management.

To build trust, forestry, like all professions such as engineering, medicine and law, must demonstrate high technical and ethical standards. Society must be well-informed. Credibility in forest management suggests the desirability of management plans developed by professional foresters that cover not only sustained timber growth and yield but also address broad environmental values. That is why the Society of American Foresters has an accreditation process verifying that university programs in forestry meet professional standards; SAF also has a Certified Forester program. It is why about 15 states have forest practice regulations and about 15 states have some form of forester credentialing through licensing or registration statutes. It is why other states have voluntary "Best Management Practices" and educational outreach programs. And why demonstrating progressive forest management often includes third-party certification and chain-of-custody of forest products. In particular, it's why it's important for small private owners to be active in forest woodland owner associations and the Tree Farm Program.

It must always be remembered that even though private property rights are recognized, forest management must be consistent with current societal expectations and values. Public trust is something that can only be earned. We need to recognize that, today, forest management is as much about people as it is trees.

The Good, the Bad and the Ugly Of California's Forest Practice Regulations

by Charll Stoneman*

Rural living, with its subsistence-based economies, simpler technologies and close-knit communities, demands of people a greater sense of deference to authority and duty to each other. Urbanization, on the other hand, generally comes with greater wealth and education, complex technology, broad-based commerce, and a greater sense of individualism. With adaptation to an urban environment, a different set of values becomes more important: personal choice, property accumulation and materialism with less, or no direct dependence on nature's natural surroundings and its resources. In our urbanized society public perception and opinions of what's going on in the forest is engendered by media: the television, newspaper, computer, laptop, tablet or phone. The disconnect from the day to day experiences in the rural environment can lead to misconceptions of the use and management of natural resources, and can result in over-regulation via public opinion.

For good or bad and by all accounts California is considered the leader in the development of prescriptive forest practice regulations with the adoption of the Z'Berg-Nejedly Forest Practices Act (FPA) some 42 years ago, which took effect January 1, 1974. In this issue of *National Woodlands*, John Helms, Professor Emeritus UC Berkeley, provides a good synopsis on the state of California's forest regulation and how we got there. The Act requires that a Timber Harvest Plan (THP) be prepared by a licensed Registered Professional Forester (RPF) for timber harvest on virtually all non-federal land. The Board of Forestry is the policy arm for the California Department of Forestry and Fire Protection, also known as CAL FIRE, which is the enforcement and services branch.

The California Environmental Quality Act (CEQA) of 1970 is regarded as the foundation of environmental law and policy in California. Under CEQA, a permitted project requires the protection of all aspects of the public trust resources of the state and must address any public concerns prior to project

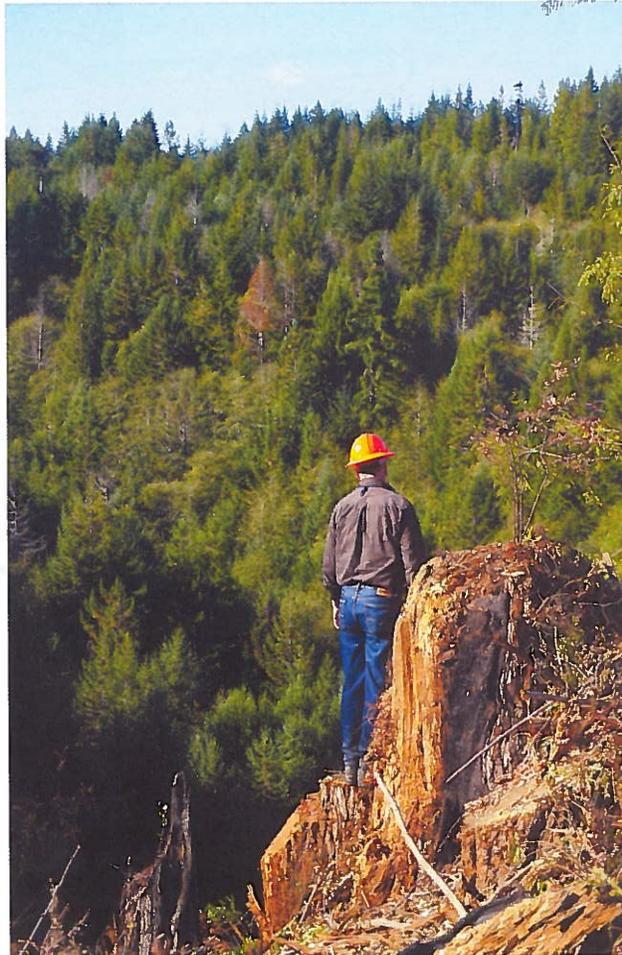
approval. State and local agencies require the project proponent to prepare environmental impacts analyses that are subsequently reviewed by a multidisciplinary agency review team, which makes its decisions based on study findings regarding the effects of the proposed action. Since its enactment, CEQA has been praised, criticized, amended and subject to litigation. In spite of all this it is the backbone of California's environmental legislation and protection.

Under the Z'Berg-Nejedly Forest Practices Act, timber harvesting in and of itself is not considered to create any significant adverse impact on the environment, but this declaration and distinction still must be documented and verified prior to harvest plan approval. In 1976 to ease the regulatory requirements in harvesting and subsequent THP approvals, the state declared the Forest Practice Act the functional equivalent of an Environmental Impact Report (EIR) under California's more stringent CEQA. However, given the litigious state of our society and court determinations in favor of more rigorous documentation, the THP has evolved over time to the point where presently the permitting requirements are virtually the same as those required under a full EIR.

What follows are some of the positive and negative consequences of California's forest practice regulations. A good deal of this content is from a poll of resource professionals conducted by Don Gasser, Department of Environmental Sciences, Policy, and Management, UC Berkeley, in late 1994. Much of what was said after 20 years into forest practice regulations and now over 40 years later is still applicable.

Some of the positive aspects of California's forest practice regulations:

- There is almost unanimous agreement that "public trust resources" of soil and water are much better protected than prior to implementation of the FPA. Both awareness and protection have substantially increased with an associated dramatic improvement in water quality with the evolution of rules related to (a) road location,



construction, and maintenance, (b) improved stream crossing design, and (c) the frequency and placement of erosion control structures to hydrologically disconnect roads from stream channels. The classification of streams by biological and physical features into four categories, and their attendant buffer strips and protection measures, is seen as a major positive step in environmental protection. Use of erosion hazard ratings (EHR), with site-specific elements of weather, slope, and soil determinations, has substantially reduced erosion problems. The requirement for maintenance of erosion control structures for at least



Emphasis on developing a Timber Harvest Plan has become one of documentation and process, diverting expertise from proper land management activity to paperwork and form filing.

three years following harvest has assured long term interest by landowners in rehabilitation of logged sites. Road classification into permanent, seasonal, or temporary, coupled with planning for hundred-year flood events has helped to ensure continuance of long term property access, while cross drain specifications and spacing determined by the EHR has assisted in keeping the internal access systems and their soils in place.

- Current rules have improved riparian habitat and preservation of forest fauna is much improved. A holistic approach that includes a cumulative impact assessment has geared projects to focus on resources that were previously getting short shrift in planning and operations.
- A feeling that the process is becoming more collaborative amongst project proponents, agencies, and the public.
- Sustained yield, replanting, and establishment of proper stocking is all part of the harvest process.
- A new emphasis on long term monitoring and evaluation of watershed scale effects of harvesting.

Some of the negative aspects are:

- Reliance on prescriptive rules, rather than performance based standards. Prescriptive regulations can greatly reduce management flexibility.
- There is concern that many fish bearing streams are being overly protected to their detriment. State regulations mandate a minimum 85 percent plus overstory canopy retention within the stream protection zone, or a recovery to that level if lacking, in order to maintain a deep, dark, and cold channel zone condition. Lack of sufficient sunlight entering the zone will lead to "nutrient theft" in the long run.
- Emphasis on developing a Timber Harvest Plan has become one of documentation and process, diverting expertise from proper land management activity to paperwork and form filing. The operational logging instruction section of the THP itself is now a minor part of the entire THP package. Substantial time and effort is now put into rule compliance rather than land management.
- Regulation has become a politically driven process, and there is little faith that the motivation for new regulations

will cease. Political forestry reduces the ability to practice good forestry, and often serves litigious environmental advocacy businesses, not forests.

- Substantial costs and time are incurred with little environmental benefit. Harvest plan preparation costs are now \$10,000 to \$50,000, with a few contentious projects swelling to over \$100,000. Plan approval from the start of fieldwork, with wildlife surveys, archaeological surveys, public notification to neighbors and downstream water users, preparation of the 100 to 250 page document, agency review time, etc., to plan approval is at minimum a nine-month to a year and a half process before the first tree may be cut.
- Turf battles between regulating agencies do occur. The departments within the state's Resources Agency do not always work together to foster attainment of a private forest landowner's forest management goals. Agency staff often neglect that the private forest landowner is part of the very public they are intended to serve.

The burden of regulation is not equitable, and the oppression is most onerous on the smaller non-industrial private forest landowner. This burden often drives owners of forest lands into one of two different directions.

With the extreme cost of THPs, landowners are cutting their lands harder than what would be silviculturally desirable in order to defray the cost of regulation as well as to reduce the need for harvest in future years; i.e., when the cost of a new THP needs to be borne again.

The other result of the regulatory burden is driving landowners out of timber production, and leads to conversion of forest land to other uses such as vineyards, grazing livestock, subdivisions for homes or clearing for other uses. More than one landowner has avoided the harvest permitting process, and thus regulation, by simply bulldozing the timber down and piling and burning it in place.

California's forests are extremely diverse and it is often difficult at best to apply a standard set of rules across all its timber types and conditions. That is why to address this prescriptive nightmare, the rules and regulation handbook that governs the state's private forests is 375 pages in total, all in fine print.



Riparian Forests Require Careful Management

by Bill Cook

A forest adjacent to open water is known as a riparian forest.

A riparian zone is an area that runs adjacent to open water: rivers, streams, ponds or lakes. If forested, then it is known as a riparian forest. Riparian forests do much to determine and maintain water quality. Many times, these water quality and aquatic habitat values drive the discussion about riparian forest management. But clean water and a healthy aquatic habitat are not the only values inherent to these forests.

Species diversity can be unusually high in riparian forests. A Wisconsin study indicated that 80 percent of threatened and endangered animals utilize riparian areas. Riparian forests are common travel corridors for many wildlife species, and they are heavily used as sources of food, nesting, shelter, loafing and other wildlife activity.

Soil hydrology can be complex and variable in riparian forests, leading to an increased richness in plant species diversity. From a human perspective, the visual quality of these areas is often high, as indicated by the many houses, cottages, campgrounds and other human uses that riparian forests see. Lakeshore or riverside real estate usually commands higher prices.

Riparian forests can also be more productive than upland forests, leading to more vigorous tree growth and potentially high timber values, especially if the forest is managed accordingly. And in fact, soil and other disturbance experienced during timber harvesting may be a key factor in maintaining such values as productivity, species diversity and water

quality. "Light tight" streams, where the adjacent forest has not been disturbed recently, may be less healthy.

The flip side is that riparian areas can also be more sensitive to soil damage than upland forests. Riparian forests are, indeed, special resources in many ways. Foresters need to work harder to assess riparian conditions and adjust management to be appropriate for each situation. As in other forests, management can enhance these values. Both abuse and benign neglect can degrade them.

In the Great Lakes region, riparian forests are not a small subset of the whole forest. Estimates in Minnesota show that 10-40 percent of forests are within 200 feet of open water. Simply locking-down this much forest, as has been proposed, poorly serves both humans and nature.

Riparian corridors are not uniform in their width, shape and structure. There are terraces, slopes, oxbows and benches. The alluvial soils are highly variable. The related forest cover is equally variable.

Simply assigning an arbitrary and standard distance from the water as a zone where forest management is prohibited, fails to recognize this variability. And it may potentially fail to protect the many values of a highly variable geographical set of features. Uniform management—or excluding management—fails to recognize the biological diversity and other values of riparian forests.

The landscape within which a riparian forest exists is another important consideration. Much of the research addressing riparian forests is from agricultural settings. Less research has occurred in forested landscapes. As a result, forest management effects on vegetation in riparian areas are not fully understood.

Active management can do several things to enhance

Bill Cook is an Upper Peninsula Extension Forester/Biologist with Michigan State University. His office is at the U.P. Forest Biomass Innovation Center, located near Escanaba. Cook has worked with regional private forest owners and within the natural resource and public education communities since 1997.

riparian values. Standing snags (dead trees) and large, downed logs can be retained and/or created. Conifer species should be maintained. Later successional forest types should be encouraged.

Foresters can establish multiple zones where management emphasis varies with riparian conditions. During a harvest, variable amounts of tree retention can be designed to enhance riparian values. However, increased light conditions may encourage exotic species. This threat, and all others, should be considered.

The bottom line is that riparian forests should be managed to enhance the resource, and timber management can be a great tool. However, because these forests are particularly important in many ways, and especially sensitive to soil damage, management practices should be adjusted accordingly. There is no one-size-fits-all solution to such a variable and valuable resource, which is just another reason it is a good idea to hire a consulting forester to help develop forest management plans for riparian forests.



How do Forests Provide Clean Water?

Forests capture rainfall and replenish and cleanse our water supply. Although these ecological services provided by forests are widely accepted in the scientific community, they have not really been translated into the language that most often drives planning and land use decisions at the local level: dollars. Local government officials often make tough decisions about growth at the expense of natural resource conservation, and they must make these decisions without the benefit of economic data that measures the true costs of development and values of natural resources.

For decades, technology has replaced, to some extent, the services provided by forests but at a high price. Billions of dollars are invested in the construction and upgrade of water treatment plants to clean our public water supply that has been degraded by pollution as a result of industrialization and urban development. In fact, water utilities spend 19 times more on water treatment chemicals every year than the federal government invests in protecting lakes and rivers from pollution in the first place, using techniques such as conservation of forestland.

The Forest Service estimates that nearly one million acres of forest were converted to developed uses each year in the 1990s, and by 2050, an additional 23 million acres of forests may be lost due to development. Areas experiencing the most forest loss are often suburban and urbanizing communities where municipal staff struggle to keep up with the growth and may not have adequate tools to manage it.

How does this loss of forest cover translate to costs incurred by communities for sustaining quality, long term water supply? The answer is largely unknown as few communities track increases in drinking water treatment costs with the loss of forest land or evaluate these possible impacts prior to approving new developments.

Research is needed to identify the specific economic connections between forests and drinking water based on the available science. This research can be used to: a.) put advance planning for water supply and forest conservation at the forefront of community issues, b.) make

the case for forest conservation to protect drinking water c.) encourage the use of incentives for forest conservation and tree planting that are more reflective of their true value, and d.) factor in the costs of drinking water supply and treatment when evaluating development alternatives.

Watershed Forestry Resource Guide

How Do Forests Affect our Drinking Water?

Clean water is one of life's basic necessities. Healthy forests help keep streams clean and water quality high by promoting soils that provide natural filtration and vegetative cover that minimizes soil erosion and sediment runoff. Most of Idaho's municipal water systems use water that originates from forestlands, including those managed for wood production. The quality of this source water is among the best in the nation.



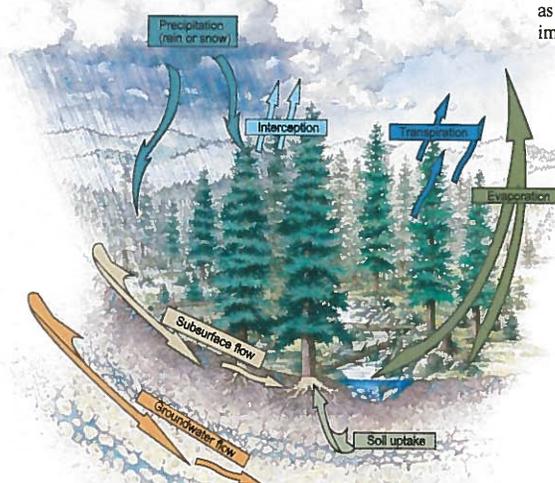
What is a Watershed?

A watershed is an area of land that absorbs rain and snow and drains it through a network of streams into a river or other major water body. All land in Idaho is within one watershed or another. Watershed boundaries can be generally identified by mountains and ridges that divide the drainage areas for different water bodies.

How Does the Water Cycle Work?

As the water reaches healthy forest soils, most is absorbed and, over time, is released to nearby streams or groundwater aquifers, filtering it in the process. Most communities in the United States get their water from watersheds where mixed land uses such as agriculture and development may impact source water quality.

The Forest Water Cycle



Forest soils act as a natural filtration system resulting in high-quality source water that requires minimal treatment.

- Interception** Vegetation catches and deflects rain, snow & fog.
- Evaporation** Some water, in the form of vapor, returns to the atmosphere.
- Subsurface flow** Most water seeps into soil and streams.
- Groundwater** Some water seeps deeper, reaching underground aquifers.
- Soil uptake** Roots take in water from the soil.
- Transpiration** Water moves through the tree and evaporates from the surface of leaves or needles.

Illustration by Steve Katagiri



Learn more at www.idahoforests.org



Nevada Watershed Restoration Helps More than Trout

by Brett Prettyman

Susie Creek as seen from a BLM Stream Survey in May of 2015. Since implementation of rotational grazing practices in this area starting in 2008, Susie Creek is narrower and deeper and streambanks are stable and well vegetated. The floodplain is much wetter now and supports wetland plant species over a broad area. Note the area of new floodplain developing between the stream channel and the terrace slope to the right. Photo courtesy of the Bureau of Land Management.

Working to protect and restore the headwaters of North American streams and rivers benefits more than trout.

Myriad species rely on the environments in and around the top reaches of rivers across the country. Most of the animals are native to the American landscape, but some were introduced and have played a key role in the livelihoods of families for more than a century.

Ranchers in the West have realized waters capable of supporting trout are also good for their cattle and the surrounding landscape.

A watershed restoration project on Susie Creek on private and public land near Elko, Nevada, is making riparian habitat better and more resilient, as well as helping the Heguy family's cattle operation. The native Lahontan cutthroat trout were lost

in Susie Creek decades ago due to habitat degradation, but the restoration work is going so well, the project's partners are actually discussing reintroducing native cutthroat trout to the watershed.

The Susie Creek project was highlighted by the Nevada Cattlemen's Association and the Elko District of the Bureau of Land Management recently, showcasing ranching conservation projects on Lahontan cutthroat trout streams in Nevada.

"Anything that sustains agriculture in the environment is a good project as far as we are concerned. This project shows cooperation and collaboration from a lot of different agencies," Ron Torell, president of the Nevada Cattlemen's Association, told Trout Unlimited. "It is just a terrific project."

"Working with all the partners in the Susie Creek Basin over the course of almost 25 years and seeing these results has been the single most rewarding experience of my career," said Carol Evans, a BLM fisheries biologist. "I am amazed at the synergy that happens when people come together with a common vision of what they want the landscape to be."

Trout Unlimited participated in the Susie Creek project to evaluate habitat recovery. The TU science team used satellite imagery and aerial photos three decades old to track the progress. "The results," the piece reads, "are nothing short of amazing."

The Heguy family allotment includes 37,000 acres of public land and 13,000 private acres. Restoration work was done on the entire allotment and included help reseeding native vegetation from the U.S. Fish and Wildlife Service after a wildfire, water developments



Susie Creek as seen during a BLM Stream Survey in October of 1978. Stream and riparian habitat conditions are poor as shown by a poorly defined channel and a drying floodplain. Most of the riparian vegetation on the floodplain is comprised of Kentucky bluegrass and other shallow-rooted species typical of a lack of persistent soil moisture. BLM photo.

to draw cattle away from riparian areas and a pasture to manage timing and duration of grazing on the land.

The benefit for the watershed that may again one day hold native trout is colder water and more of it, as well as critical streamside vegetation. The evaluation showed riparian vegetation in the entire Susie Creek Basin increased by more than 100 acres. There had been no beaver dams in the system and there were 139 when the evaluation was done. More water was visible on the landscape and well monitoring showed an increase in shallow aquifers.

Matt Maples, a fisheries biologist and the president of the Sagebrush Chapter of Trout Unlimited in Reno, noted that both ranching and Nevada's famous Lahontan cutthroat trout are culturally vital to the region.

"Ranching and the Lahontan cutthroat are part of Nevada's outdoor heritage and Sagebrush TU is committed to conserving this heritage," Maples said. "Since 2010, the Sagebrush Chapter of Trout Unlimited has awarded more than \$189,000 in grants through our Kroening Endowment for education, habitat restoration and research. Many of these grants funded projects benefitting the Lahontan cutthroat trout, perhaps the best known of Nevada's native trout. We are pleased and proud that some of this investment has helped build partnerships with ranchers to improve habitat and water availability for both fish and human use."

Another project in the basin next door involves similar partnerships and success. The Maggie Creek Ranch has been a long time partner with Trout Unlimited, and the Maggie Creek watershed still holds native Lahontans.

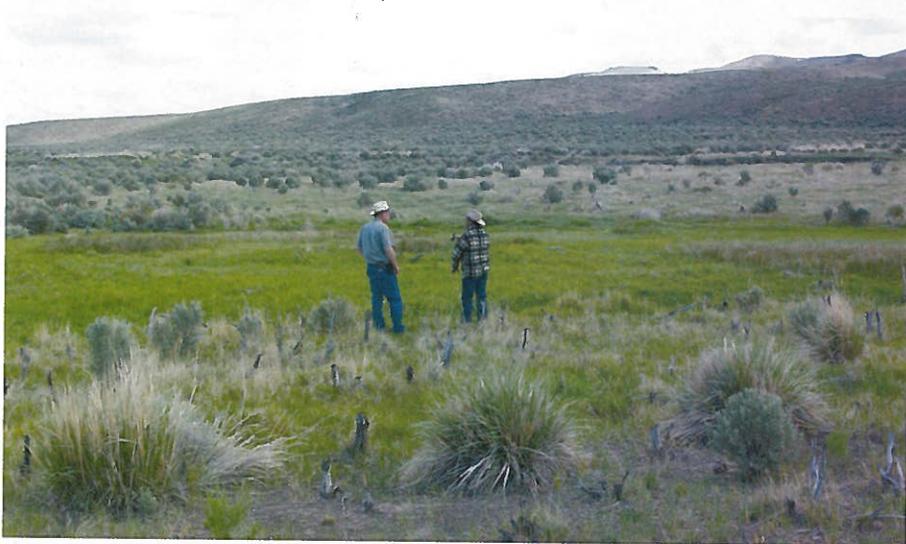
The Searle family and Maggie Creek Ranch manager Jon Griggs were presented the Environmental Stewardship Award during the Cattle Industry Convention in San Diego in February.

"One of the things we're most proud of is that we've had those collaborative projects with federal agencies and private partners," Griggs said after receiving the award. "It's so important to build those relationships and to showcase them when you can. We have common goals and we've figured out how to get things done, and that's probably the biggest reason why we're here today."

Maggie Creek Ranch is located near Elko, Nevada, and roughly one-third of the land used for cattle grazing is managed by the Bureau of Land Management. Lahontan cutthroat trout, designated as threatened on the Endangered Species List, swim in Maggie Creek and its tributaries, and the restoration work on the ranch has given the trout more waters to call home, and healthier overall habitat.



A spring complex adjacent to Susie Creek in October, 1978. High levels of trampling and compaction from concentrated livestock use limits infiltration and reduces the ability of this area to capture and store water. BLM photo



Ron Torell and Mitch Heguy standing at the same spring complex in May of 2015. After seven years of rotational grazing management, the spring complex is saturated at the surface and wetland plant species such as sedges and rushes are expanding into adjacent uplands. BLM photo.

"We have partnered with Trout Unlimited and some agencies to conserve (native trout) habitat," Griggs said. "We had a diversion structure that irrigated some hay meadows and it was a fish barrier. It blocked passage of the migrating trout. Trout Unlimited took the structure out and put in a fish friendly structure that also works better for us."

Restoration work on Maggie Creek has been going on since 1992 with the following partners: the Elko District of the Bureau of Land Management, Elko Land and Livestock Company, Newmont Mining Corp., Trout Unlimited, Nevada Department of Wildlife, Maggie Creek Ranch, 25 Ranch LLC and U.S. Fish and Wildlife Service.

"Fish monitoring by Trout Unlimited has shown benefits to Lahontan cutthroat trout from reconnecting previously isolated streams through culvert removal," said Helen Neville, director of research for Trout Unlimited's Science Team.

The partners were recently recognized by the American Fisheries Society Western Division with the Riparian Challenge award for management within the Maggie Creek Basin.

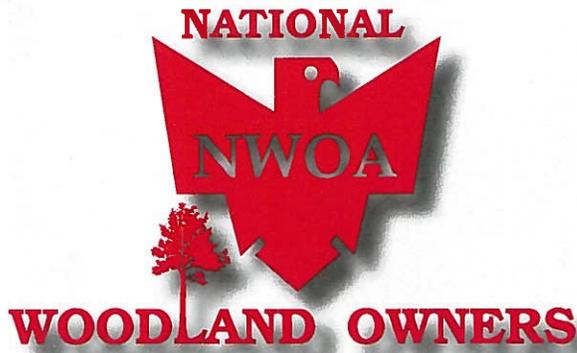
Brett Prettyman is the Intermountain Communications Director for Trout Unlimited. He is based in Salt Lake City.

PAPER because

so long as this well-managed forest is used to make paper,
this will always be a forest. And never a parking lot.

This is a picture of an FSC® certified forest, which helps protect plant species and wildlife,
not to mention millions of North American jobs. Learn more at PAPERbecause.com.





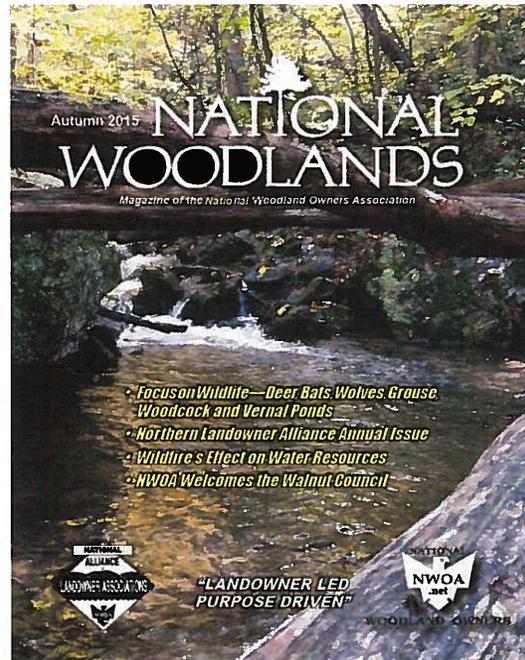
The National Woodland Owners Association:

Who We Are And What We Do

Organized in 1983, the National Woodland Owners Association is a nationwide organization of family woodland owners. Funded through landowner dues and donations, the group is entirely independent of government agencies and the forest industry, but works with both to promote effective legislation and open markets for a lasting Family Forest Legacy.

There are two classes of membership: 1) National Members are eligible for all the benefits of membership (see p. 49), including all four issues of *National Woodlands* magazine. 2) Affiliate Members belong to one of the 42 State Landowner Associations that are State Affiliates of NWOA. The state associations use NWOA as a Washington DC contact and as a partnership to exchange information and ideas. Members of the state affiliates receive an annual issue of *National Woodlands* as a benefit of belonging to their state association.

The leaders of the affiliated state associations perform two important roles in the national association: 1) Elect half of the NWOA Board of Directors (by regions). 2) Select and rank the Top Ten Family Forestry Issues. NWOA is the only national association to use annual voting of this scale to guide forest policy advocacy in Washington D.C. • Access to Forest Markets • Timber and Land Taxes • Right-to-Practice Forestry • Forestry Extension Education have consistently been issues of greatest concern.



BENEFITS OF MEMBERSHIP

- Four quarterly issues of *National Woodlands*, America's largest circulation forestry magazine. See p. 49 for 20 good reasons to subscribe.
- Optional top rated \$1 million Woodland Liability Insurance, only \$160 for up to 500 acres. Hunt Club liability insurance also available.
- Effective advocacy of the Top Ten Family Forestry Issues in Washington, D.C. and in 48 state capitals through affiliated state landowner associations.
- Free subscription to *Wednesday Woodland Word*, a weekly email with landowner advice and news.
- Optional subscription to *American Forests* magazine for \$10/year.

NWOA Board of Directors

Keith Argow – President & CEO
Washington, DC/Virginia
argow@nwoa.net

Dick Courter – Chairman and NW Director
Oregon
northwest@nwoa.net

Philip Gramelspacher – Vice Chair and Heartland Region Director
Indiana
ohiovalley@nwoa.net

Dale Zaug – Treas. & No. Central Dir.
Wisconsin
northcentral@nwoa.net

Jim Chapin – Southwest Director
California
southwest@nwoa.net

Linda L. Finley – Mid Atlantic Director
Pennsylvania
mid-atlantic@nwoa.net

Rick Hamilton – Southeast Director
North Carolina
southeast@nwoa.net

William Hubbard – Gulf States Director
Georgia
whubbard@uga.edu

Lyle Laverly – Rocky Mtn./Great Plains Dir.
Colorado
rockymountain@nwoa.net

Craig McKinley – South Central Director
Oklahoma
southcentral@nwoa.net

Al Robertson – Northeast Director
Vermont
northeast@nwoa.net

Jim Sitts – At Large Director
North Carolina
jsitts@cfpwood.com



Water Quality Effects Following a Severe Fire

Charles C. Rhoades, Deborah Entwistle and Dana Butler*

Front Range beardtongue, a Colorado Front Range native, blooms from the ashes five years after the Hayman Fire. P. Fornwalt photo.

On June 8, 2002, the Hayman Fire ignited in the Upper South Platte watershed of the Colorado Front Range. That year, total precipitation and the winter snowpack in the area were approximately half of long-term annual averages, and low fuel moisture, low relative humidity, and strong, gusty winds triggered rapid rates of fire spread and long-range spot fires. Coupled with these extreme climatic conditions, the dense, continuous horizontal and vertical fuel structure created by decades of fire exclusion allowed the fire to advance for 24 days and burn through 138,000 acres of ponderosa pine and Douglas-fir forests before being declared contained on July 2 and extinguished on October 30, 2002. It was the largest fire in recent Colorado history.

High-severity crown fire killed the overstory forest and consumed the forest floor across 40 percent of the Hayman burn. In first- to third-order watersheds within the burn perimeter, moderate- or high severity fire influenced 25 to 62 percent of upland areas, and up to 96 percent of riparian ecosystems. We don't fully appreciate how much high-severity wildfires alter forest watersheds and aquatic resources, or the longevity of those effects.

The fire's location, 47 miles from 2.7 million citizens in the Denver metropolitan area, created immediate public anxiety about protection of human safety and private property in the expanding residential areas of the Front Range foothills. The fire also generated concern for long-term protection of Denver's supply of clean water and focused attention on watershed response to the fire.

This article was extracted from Rhoades, C.C.; Entwistle, D.; Butler, D. 2011, The Influence of Wildfire Extent and Severity on Streamwater, and originally published in Fire Management Today.

Chuck Rhoades is a research biogeochemist at the Forest Service, Rocky Mountain Research Station in Fort Collins, CO. Deborah Entwistle is a hydrologist for the Canyon Lakes Ranger District on the Arapaho and Roosevelt National Forests in Fort Collins, CO. Dana Butler is a hydrologist for the Pikes Peak Ranger District on the Pike and San Isabel National Forests in Colorado Springs, CO.

Monitoring Critical Watersheds

As in many of the forested watersheds that supply 90 percent of Colorado's drinking water, water quality concerns in the upper South Platte watershed began long before the Hayman Fire ignited. Elevated stream temperature and sediment levels had been identified as specific problems for South Platte tributaries that supply water for the Denver metropolitan area and support popular sport fishing sites. Prefire streamwater nitrate, the form of nitrogen associated with surface water eutrophication and human health risks, was well below drinking water guidelines but exceeded the draft numeric standards proposed by the U.S. Environmental Protection Agency (EPA) for minimally disturbed streams in the Western Forested Mountains Ecoregion.

Stream monitoring that began prior to the fire made it possible to assess fire effects and changes in streamwater

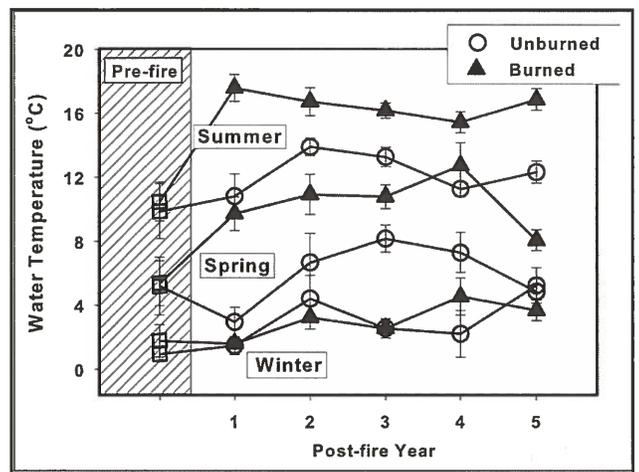


Figure 1: Streamwater temperature of the three burned and three unburned watersheds in the Upper South Platte watershed. Bars show means and standard errors for 4-month periods during the year preceding and the 5 years following the fire. Winter: November-February; Spring: March-June; Summer: July-October.

properties, including changes in streamwater chemistry, temperature, and turbidity (an index of sediment loss) in burned and unburned catchments for a range of burn severities and watershed characteristics.

We monitored stream water before the fire and at monthly intervals for five years afterward—beginning in the month the fire was contained—and compared the measured values. The Hayman Fire affected half of the original monitoring sites, so our assessment compared prefire and postfire flow-weighted streamwater concentrations in three burned and three unburned watersheds. We established four additional sample locations following the fire to allow comparisons of the unburned drainages with drainages affected by varying fire extents.



Ponderosa pine stand burned by the Hayman fire. Photo USFS Rocky Mountain Research Station.

Study Results

Wildfires such as the Hayman Fire periodically disturb watersheds in Colorado's montane forest zone, yet we don't fully appreciate how much high-severity wildfires alter forest watersheds and aquatic resources or the longevity of those effects.

Streamwater temperature (Fig. 1), nitrate concentrations and turbidity all increased following the Hayman Fire and remained above prefire levels for five years. The year following the Hayman Fire, average water temperatures in burned catchments were 5 °C higher in the spring and 6 °C higher in the summer compared with the seasonal averages for unburned streams. Streamwater warmed earlier in burned basins, and aquatic ecosystems were warmer for a prolonged period. Nitrate concentrations and turbidity both increased in proportion to the extent of burned forest area, up to four times prefire levels. Streamwater nitrate concentrations fluctuated seasonally, with the highest peaks coinciding with spring snowmelt (Fig. 2). Extensively burned basins had

higher nitrate peaks than both unburned basins and basins burned to a lower extent.

Nitrate concentrations remained elevated between seasonal peaks, especially during the third and fourth postfire years. In extensively burned basins, streamwater nitrate concentrations did not decline over the course of the study.

As with nitrate concentrations, turbidity increased during spring snowmelt in unburned streams (Fig. 3). Where severe fire occurred on greater than 45 percent of a basin, turbidity responded more often and to a greater degree, compared with either unburned or lesser burned basins. Higher turbidity samples were as likely to occur during the summer as the spring snowmelt season. Stream turbidity showed no sign of decline in consecutive postfire years. Unlike stream nitrate concentrations, the highest mean and maximum turbidity measurements occurred during the summer seasons of 2005 and 2006 in response to storm events.

Immediate and Persistent Effects

Five years following the Hayman Fire, streamwater temperature, nitrate concentrations, and turbidity had not returned

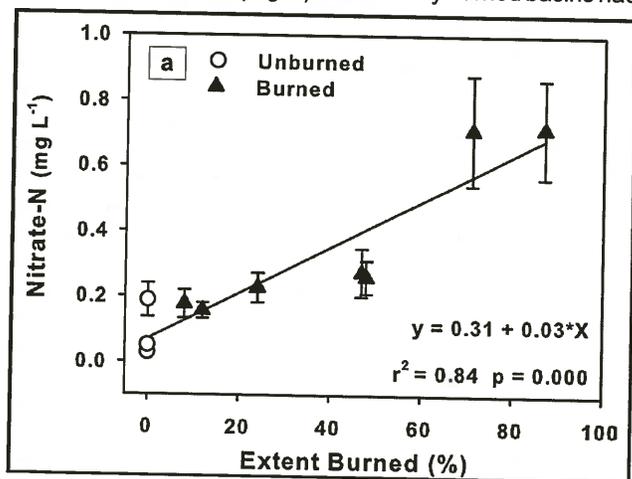


Figure 2: Linear relationship between mean streamwater nitrate for individual basins during post-fire years and (a) the extent of each watershed burned and (b) the area affected by high severity combustion during the 2002 Hayman Fire.

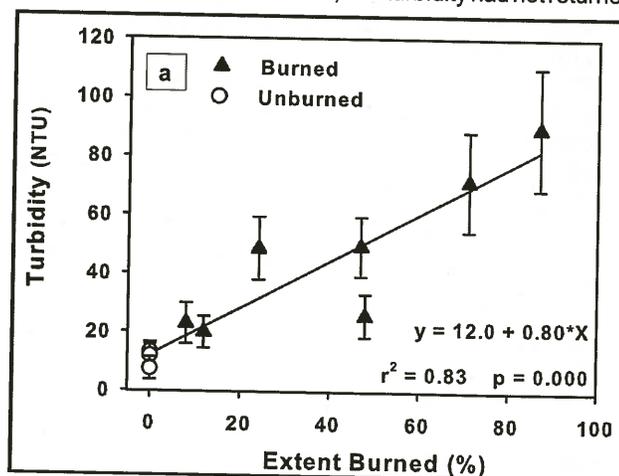
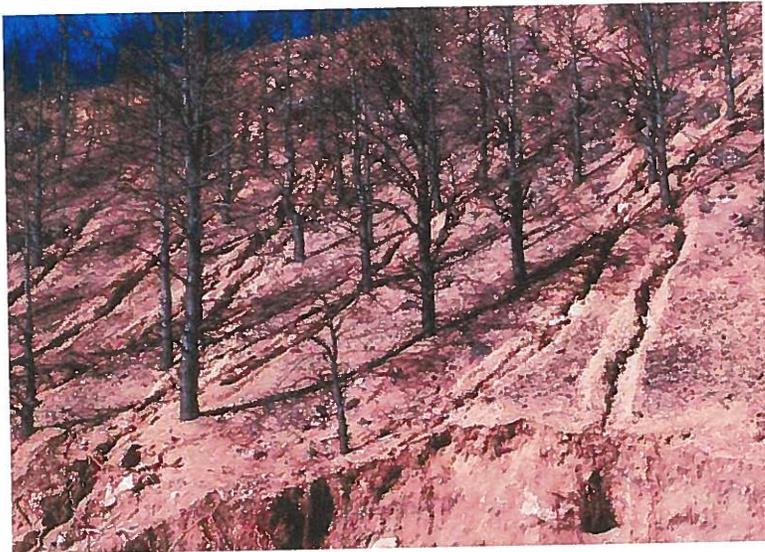


Figure 3: Linear relationship between mean streamwater turbidity for individual basins during post-fire years and (a) the extent of each watershed burned and (b) the area affected by high severity combustion during the 2002 Hayman Fire.



Runoff and Erosion Following a Wildfire

Overland water flow is usually trivial and soils are generally stable in mature, undisturbed forests. After a severe wildfire, however, increased surface runoff during storms can cause substantial surface erosion and shallow landslides, especially within areas in which roots and other organic structures that hold loose material on slopes are consumed or killed. On slopes with little protective vegetation or debris, soil can erode even without heavy rains, due to the sheer force of gravity. Eroded soil often winds up as sediment in nearby bodies of water and streams.

The risk of soil loss from erosion after a forest fire depends on both the size and severity of the fire, as well as the amount of precipitation that falls in the recently burned area. Computer models designed for northern Idaho forests dominated by Douglas-fir suggest that stands receiving less than 20 inches of rainfall per year are likely to have little or no increase in runoff after a severe burn. Stands receiving more than 20 inches of annual rainfall, however, could yield 29 percent more runoff in the first year post-fire.

In general, erosion risk wanes with increasing cover of post-fire vegetation, litter, and debris, all of which help protect and stabilize forest soil. When more than 75 percent of the ground is covered by vegetation or plant litter only about two percent of the precipitation from a given storm event is apt to become runoff, and the potential for erosion is low. In contrast, when less than ten percent of the soil surface is covered by plants and litter, which can be the case shortly after a severe wildfire, more than 70 percent of any precipitation may spill off the soil surface, increasing the erosion potential by up to three orders of magnitude. Some areas, like steep slopes, are simply more erosive than others. Some storms, too, are more likely to enhance surface runoff and erosion than others. Summer storms, for example, are much more erosive than is the overland flow from snowmelt. Of summer storms, heavy, enduring rainfall events are particularly erosive.

Any increase in runoff tends to fully wane within the first one to two years after severe fire, as fire-induced water-repellency diminishes, soil pores are rid of ash and other fine sediments by overland flow, and plant cover rebounds. Yet because the roots of fire-killed trees and shrubs that so effectively anchor soil onto slopes may deteriorate very slowly, a severe burn may compromise the mechanical cohesion of soil in some forest stands for up to ten years. In other words, fire-induced landslides may occur long after the potential for runoff-initiated erosion events has subsided.

NorthernRockiesFire.org

to preburn levels or levels measured in unburned basins. Fire effects associated with the loss of forest vegetation and altered soil processes typically reach a peak a few years after a wildfire before declining towards preburn. Severe and extensive wildfires, however, initiate changes in terrestrial nutrient cycling that endure for decades before forest composition and soil processes return to prefire conditions.

The slow recovery of forest vegetation after the Hayman Fire helps explain the slow return of streamwater temperature, nitrate, and turbidity to prefire levels. The extent of exposed soil declined with time since the fire but remained more than double the prefire condition after four years, and the loss of seed reserves and barriers to colonization of extensive high-severity burn areas is expected to delay forest establishment. In spite of the rapid recovery of understory vegetation in some areas, the extent of litter loss and the slow recolonization by forest vegetation may influence for decades the uptake, turnover, and export of nitrogen, as well as sediment delivery from watersheds burned by the Hayman Fire.

As a point of comparison, following the Yellowstone fires, streamwater nitrate concentrations remained higher than background levels for five years. Higher radiation inputs to streams caused by the combustion of forest overstory and riparian vegetation increased stream temperatures for two to six years before shade from regenerating shrub and tree canopies returned them to prefire levels.

Water Quality Implications

Sustained postfire changes in streamwater may threaten aquatic resources in the Upper South Platte. For example, in basins burned extensively by the Hayman Fire, peak nitrate concentrations remained more than 100-fold above nitrate concentrations typically found in minimally disturbed western forested mountain streams throughout the study area and occasionally more than ten-fold higher than EPA-proposed total nitrogen concentrations (U.S. EPA 2000). The highest postfire nitrate concentration did not exceed 25 percent of the EPA's drinking water standard, though intense summer rainstorms occurring between monthly sample dates may have increased discharge and nitrate above drinking water thresholds in extensively burned areas. Based on findings from a study of the temperature sensitivity of salmonid populations in southern Wyoming, the measured 4 °C increase in summer streamwater temperature

NATIONAL WOODLANDS SUMMER 2016

measured after the Hayman fire could be expected to reduce fish habitat by about half.

Postfire Management Response

Owing to the slow pace of tree colonization and forest regrowth, recovery of the watersheds burned by the Hayman Fire will continue for the decades. Similar to the streamwater responses we document here, postfire forest succession will likely vary among basins according to the extent and degree of disturbance.

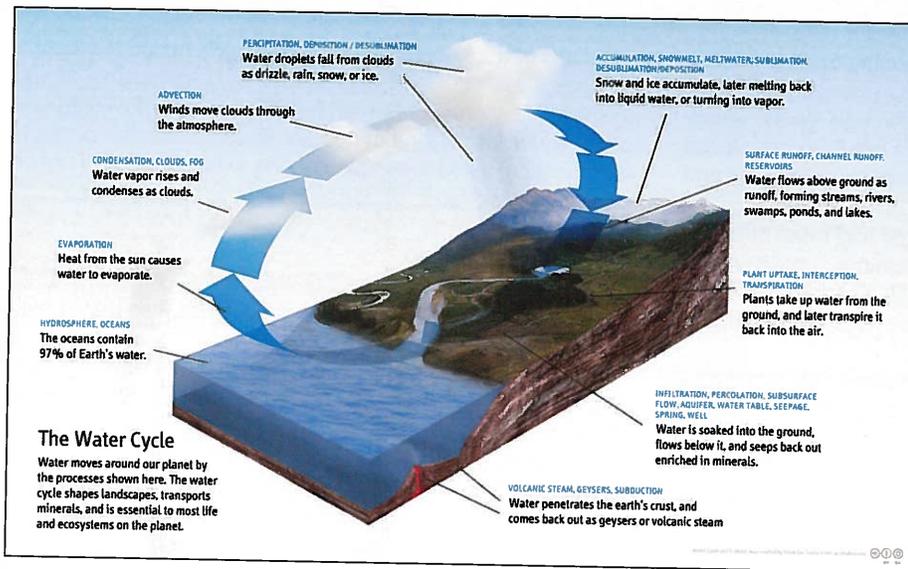
In the lower montane ponderosa pine forests of the Rocky Mountain West, the impressive effects of the Hayman Fire and other large wildfires have become synonymous with the consequences of historic fire exclusion coupled with recent climatic conditions. Use of mechanical treatments

and prescribed fire to reduce hazardous fuel loads, such as those that contributed to the Hayman Fire, are being widely implemented on Forest Service lands under the auspices of the Healthy Forest Restoration Act.

Compared with wildfire effects, these management activities typically create relatively minor changes in water quality by extensive, high-severity wildfire. Public support for hazardous fuel treatments—active management of national forest lands—remains controversial. The large extent of forest area designated for fuel-reduction treatments, projections for longer fire seasons, increasing frequency of large, severe fires, and the slow pace of watershed recovery from high-severity wildfire all underscore the need for comprehensive, long-term monitoring of watershed and aquatic conditions and appropriate management strategies.



The Earth's Water Cycle Explained



rain and snow can sublime directly into water vapor. Evapotranspiration is water transpired from plants and evaporated from the soil. Water vapor molecule H₂O, has less density compared to the major components of the atmosphere, nitrogen and oxygen, N₂ and O₂. Due to the significant difference in molecular mass, water vapor in gas form gains height in open air as a result of buoyancy. However, as altitude increases, air pressure decreases and the temperature drops. The lowered temperature causes water vapor to condense into a tiny liquid water droplet which is heavier than the air, such that it falls unless supported by an updraft.

The water cycle, also known as the hydrological cycle or the H₂O cycle, describes the continuous movement of water on, above and below the surface of the Earth. The mass of water on Earth remains fairly constant over time but the partitioning of the water into the major reservoirs of ice, fresh water, saline water and atmospheric water is variable depending on a wide range of climatic variables. The water moves from one reservoir to another, such as from river to ocean, or from the ocean to the atmosphere, by the physical processes of evaporation, condensation, precipitation, infiltration, runoff and subsurface flow. In doing so, the water goes through different phases: liquid, solid (ice), and gas (vapor).

The water cycle involves the exchange of energy, which leads to temperature changes. For instance, when water evaporates, it takes up energy from its surroundings and cools the environment. When it condenses, it releases energy and warms the environment. These heat exchanges influence climate.

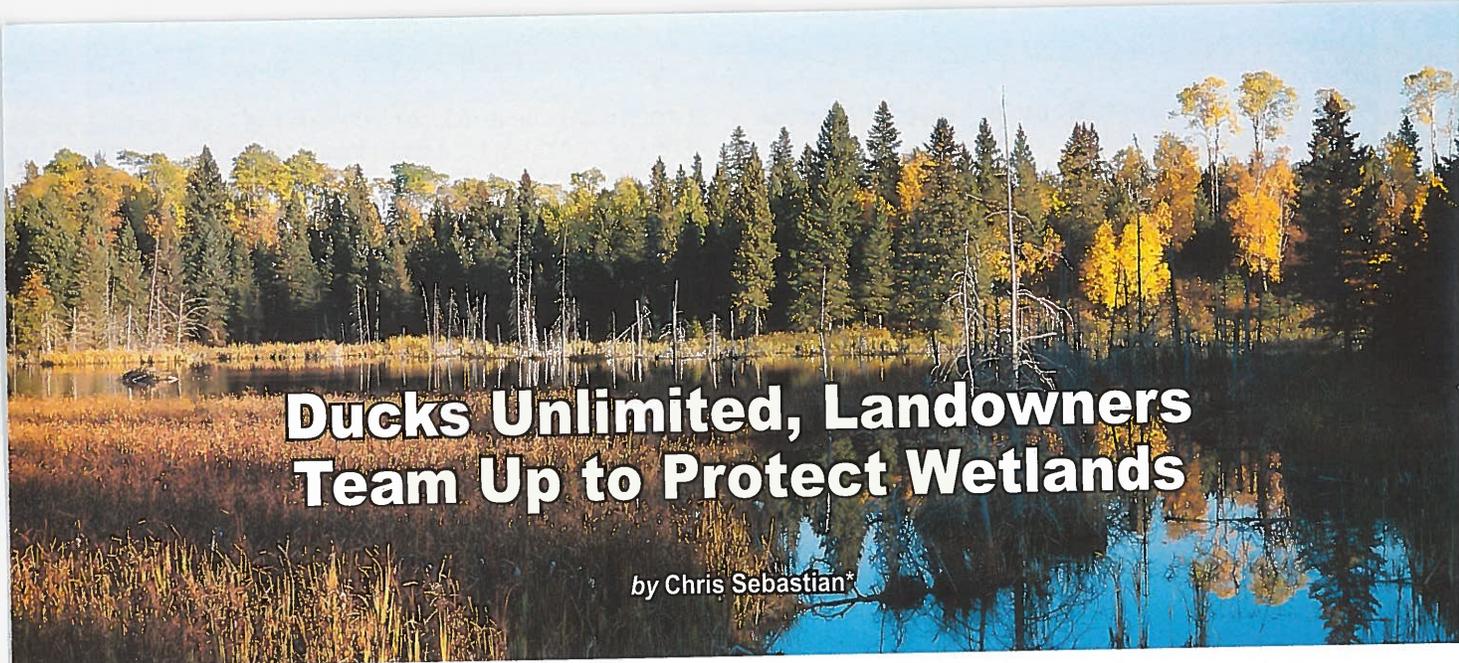
The evaporative phase of the cycle purifies water which then replenishes the land with fresh water. The flow of liquid water and ice transports minerals across the globe. It is also involved in reshaping the geological features of the Earth, through processes including erosion and sedimentation. The water cycle is also essential for the maintenance of most life and ecosystems on the planet.

The sun, which drives the water cycle, heats water in oceans and seas. Water evaporates as water vapor into the air. Ice,

droplets over a large space up in the atmosphere become visible as clouds. Fog is formed if the water vapor condenses near ground level, as a result of moist air and cool air collision or an abrupt reduction in air pressure. Air currents move water vapor around the globe, cloud particles collide, grow, and fall out of the upper atmospheric layers as precipitation. Some precipitation falls as snow or hail, sleet and can accumulate as ice caps and glaciers, which can store frozen water for thousands of years. Most water falls back into the oceans or onto land as rain, where the water flows over the ground as surface runoff.

A portion of runoff enters rivers in valleys in the landscape, with stream flow moving water towards the oceans. Runoff and water emerging from the ground (groundwater) may be stored as fresh water in lakes. Not all runoff flows into rivers; much of it soaks into the ground as infiltration. Some water infiltrates deep into the ground and replenishes aquifers, which can store freshwater for long periods of time. Some infiltration stays close to the land surface and can seep back into surface-water bodies (and the ocean) as groundwater discharge. Some groundwater finds openings in the land surface and comes out as freshwater springs. In river valleys and flood-plains there is often continuous water exchange between surface water and ground water in the hyporheic zone. Over time, the water returns to the ocean, to continue the water cycle.

Wikipedia.org



Ducks Unlimited, Landowners Team Up to Protect Wetlands

by Chris Sebastian*

Much of North America's boreal forest is composed of wetlands, and millions of ducks breed in this vast, largely unspoiled region.

From Alaska and Canada, south through nearly every habitat in the United States and down into Mexico, Ducks Unlimited has charged forward as the leader in wetlands and waterfowl conservation since 1937.

Ducks Unlimited is the world's largest and most effective private, nonprofit, waterfowl and wetlands conservation organization. It delivers its work through a series of partnerships with private individuals, landowners, agencies, scientific communities and other entities.

DU got its start during the Dust Bowl when North America's drought-plagued waterfowl populations plunged to unprecedented lows. Determined not to sit idly by as the continent's waterfowl dwindled beyond recovery, a small group of sportsmen formed the organization that became known as Ducks Unlimited.

The result of nearly 80 years of focused conservation is more than 13.6 million acres of wetlands conserved in North America. That's equal to the states of Maryland, Vermont and Delaware combined.

Wetlands are a cradle for wildlife and act as nature's filtration

system. They provide habitat for 900 species of wildlife and clean water for millions of people. Ducks Unlimited protects these critical landscapes by working with private and public partners on wetlands in dense forests to open prairies.

Forested Protection

Wetlands are as varied as the wildlife that call them home. Like ponds and marshes, forested wetlands also play a critical role in the life cycle of waterfowl.

The boreal forest is the world's largest land-based ecosystem. In Canada, it covers two-thirds of the country. At least 20 percent of the boreal forest is composed of wetlands, and millions of ducks breed in this vast, largely unspoiled region. In some years, this amounts to about 40 percent of the continental duck population.

Millions of other migratory waterbirds and billions of landbirds use the western boreal forest. However, human impact on this area is increasing. Environmental pressures include forest management, agriculture, climate change, hydroelectric development and oil, gas and mineral extraction.

In 1997, Ducks Unlimited founded the Western Boreal Forest Initiative, dedicated to identifying and conserving wetland and waterfowl habitats in the region. Ducks Unlimited and its partners work closely with public and private natural resource managers to ensure development activities have minimal impact on wetlands, watersheds and waterfowl populations.

In Alaska, Ducks Unlimited recently partnered with the U.S. Forest Service to map the 400,000-acre Yakutat Foreland area of Alaska's south-central coast. This large mosaic of wetlands, forests and shrublands is one of three key coastal wetlands identified by the forest service as critical stopover points in Alaska for waterfowl and shorebirds migrating along the



A scaup hen nests in the boreal forest.

Pacific Flyway. The wetlands of the Yakutat Foreland are tied to the health of a world-class fishery supporting commercial and sport fishing. Five species of salmon utilize these watersheds as well as a world-renowned steelhead run on the Situk River.

In the United States, Ducks Unlimited's work on bottomland hardwood forests earned it the 2016 U.S. Forest Service's Wings Across the Americas Award for Habitat Management and Partnership.

The award recognizes 30 years of conservation on the Mississippi River floodplain in southern Illinois. Since 2009, the project has conserved more than 4,000 acres of bottomland wetland habitat using nearly \$1.8 million in Ducks Unlimited, partner, grant and U.S. Forest Service funding.

The Mississippi River corridor is the main spring and fall migration route for millions of waterfowl, shorebirds, marshbirds and songbirds. The wetlands also provide important wintering habitat for a variety of wildlife species. The destruction of bottomland wetland habitats along this floodplain has occurred at an alarming rate in the past 100 years, leaving only a fraction of seasonally flooded bottomland habitat that once existed in this wetland landscape.

"Restoration efforts like this show what happens when organizations work together," said DU Regional Biologist Michael Sertle. "It's provided us with terrific opportunities to work in these areas and bring back a fraction of the glory the areas enjoyed before human disturbance."

Ducks Unlimited was also awarded the Forest Lands Leadership Award by the Arbor Day Foundation. The honor is presented to an organization or individual whose outstanding work provides leadership in advancing sustainable forestry efforts on public forest land.

Work is continuing this summer with the Arbor Day Foundation. The organization awarded Ducks Unlimited a grant to plant 19,500 trees on the Patoka River National Wildlife Refuge in Indiana, a critical wetland habitat that directly influences water quality as far away as the Gulf of Mexico. The \$6,823 grant is allowing Ducks Unlimited to plant 500 trees per acre on 39 acres.

This reforestation project will benefit a wide range of wildlife, including the federally endangered Indiana bat and gray bat, the federally threatened copperbelly water snake and the federally en-



The bottomland hardwoods of Indiana are vital habitat to many species, some of which are threatened or endangered.

dangered rabbitsfoot freshwater mussel.

Waterfowl also benefit, as new forests provide habitat and food for mallards and other ducks.

These project sites historically were bottomland hardwood forests, but were cleared for agriculture. The hardwood seedlings will come from the Indiana Department of Natural Resources' Vallonia Nursery and include burr oak, cherrybark oak, pin oak, shellbark hickory and bald cypress.

Private Landowner Assistance

Because nearly three quarters of our nation's wetlands are on private land, working with landowners is an integral part of Ducks Unlimited's mission.



Ducks Unlimited volunteers learn about duck banding in New York. Science and research on all types of wetlands drives the organization's conservation work.

"Stewardship of private lands is critical to sustaining our conservation legacy, our landscapes and our wildlife for future generations," said Paul Schmidt, Ducks Unlimited chief conservation officer. "Without conservation practices on private land, wildlife won't thrive. Ducks Unlimited and other conservation organizations rely on good public policy that encourages and incentivizes sustainable management of private land, along with the enthusiasm of private landowners, to help us reach our goals."

Numerous federal and state programs give financial support to landowners wanting to protect or restore wetlands. Ducks Unlimited often connects property owners to these programs. The results are impactful conservation in crucial areas.

In 2015, Ducks Unlimited received a \$4 million award from the National Fish and Wildlife Foundation and the Natural Resources Conservation Service through the Gulf Coast Conservation Grants Program to support wetland restoration on private lands in southern Louisiana. The grant will be matched with more than \$650,000 from Ducks Unlimited and partners.

Ducks Unlimited is conserving private lands in northwest Ohio by administering a \$560,000 grant on behalf of the U.S. Fish and Wildlife Service, Ohio Division of Wildlife, Ottawa Soil & Water Conservation District and others.

Ducks Unlimited helps administer conservation easements which protect private lands and are tailored to meet the needs and interests of the individual landowner, allowing for the protection of key natural habitats while continuing to use the land for economic gain or recreation.

Such protection assures that large areas of riparian wetland

habitats and important uplands will be preserved in perpetuity, for the benefit of waterfowl and other wildlife, and for future generations.

Ducks Unlimited also provides wetland mitigation assistance for businesses. Mitigation is a wetland enhancement, restoration, creation or preservation project that offsets unavoidable wetland impacts. It may also be referred to as compensatory mitigation.

These mostly unavoidable impacts occur when agencies such as state departments of transportation and private developers severely alter or destroy wetlands during construction. Under the Clean Water Act, development and construction projects that impact a wetland are required to mitigate the damage by creating a wetland of equal or greater functioning capacity.

Ducks Unlimited will continue its mission through the support of landowners and public organizations. A big part of that support is the Rescue Our Wetlands campaign, a \$2 billion continental campaign launched last year. To date, the campaign has raised \$1.45 billion toward its goal of protecting and restoring North America's most important wetland resources for future generations.

Contact the Ducks Unlimited representative in your region for advice or support on wetlands conservation. Information about all the programs mentioned here can be found at www.ducks.org.

**Chris Sebastian is public affairs coordinator for Ducks Unlimited, located in An Arbor, Michigan.*



Supporting Scouts and teaching future generations about sustainable forestry



Working with Habitat for Humanity



Improving forest habitat management with Conservation Grant Program partnerships

Choose SFI

There's a simple way you can ensure healthy forests for generations to come while supporting the people and communities in North America who depend on them.

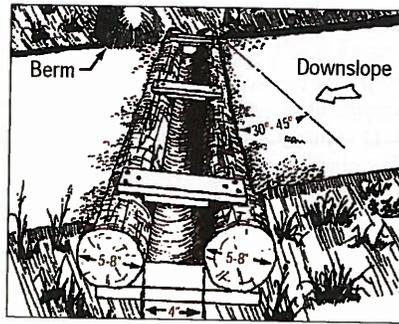
Choose the Sustainable Forestry Initiative® (SFI®) Standard for your working forests. It's a symbol of responsible forestry.

Learn more at sfiprogram.org





Pipe Culvert



Open-Top Culvert



Rubber Deflector

How to Minimize Forest Road Erosion

There are many types of water control features for forest roads (and skid trails):

Broad based dip: A broad-based dip is a wide depression in the road designed to divert water off a sloping roadway. It is broad enough to accommodate hauling equipment easily, yet move water off the road to disperse in the forest. They are constructed as the forest roadway is being built, not dug in afterwards. Cull logs can be embedded in the mound, perpendicular to the roadway, reinforcing the berm. A broad based dip should be placed on forest roads with long, continuous slopes. The idea is to collect water running down or near the road and redirect it off the road, to soil where it will slowly soak in.

Pipe culverts: A pipe culvert is a permanent conduit for water that must travel under a forest road, rather than over. It collects water from small streams, intermittent waterways, and roadside ditches and drains it on the downhill side. Although they can be expensive to install, pipe culverts are very effective in controlling erosion. The decision to place one under a new road should be based on expected traffic, and how many acres are being drained. Make sure the sides of the culvert are compacted. During heavy rains, a culvert will make the difference between a stable or washed-out road.

Open-top culverts: Where a forest

road needs surface drainage, an open-topped culvert provides good water control at low cost. These stabilized "mini-ditches" cross the road, but are narrow enough to allow vehicles to cross over. When built, they should be angled down slope, not straight across the road. Because they are shallow and unprotected, they need to be cleaned out periodically to keep water flowing through, not around.

Rubber deflectors: Rubber belting, attached to and reinforced by timbers, can help divert water off a gently sloping forest road. Like open-top culverts, they are angled downslope so water can move off the road quickly. Rubber deflectors allow equipment to pass over without interference. These structures work better on forest roads that are not maintained and have a low volume of traffic. The area receiving water from a rubber deflector should be stabilized with cobblestone to prevent erosion at the lower tip of the deflector.

Diversion ditches/Turn outs/Turn ups: Smaller forest roads and skid trails can be stabilized by redirecting water toward a vegetated area, rather than down the track of a forest road. With a combination of easily-installed ditches, turnouts, and turn-ups, a forest road controls water flow and prevents erosion. In a sense, the forest road appears

to "wiggle" through the woods, shedding water at each small slope and turn. A turn-out directs the water off the side of the skid road; a sloping turn up sheds water at its base.

Rolling dips: Rolling dips are broad, angled portions of a forest road that shed water off to the side, rather than down the length of the road. With rolling dips, a forest road appears to pitch gently from side to side, while maintaining a straight course through the woods. This technique is also called out-sloping. Use the proper cross-section. The location and position of the road will help determine which cross section will be most effective in controlling erosion. Grade the road to create good drainage. Direct water that drains to flow without force off to more stable ground. The insloped road should include a catch ditch and a culvert designed to move the water back underneath the road.

Shut down log skidding and hauling when the soil is saturated and unable to support the equipment. In a good logging job, skidders and bulldozers should be supported by soil, not slogging through it. Logging crews lose thousands of hours of work time trying to pull out stuck equipment and repairing deep ruts. There is a point where skidding costs exceed site damage and are not worthwhile.

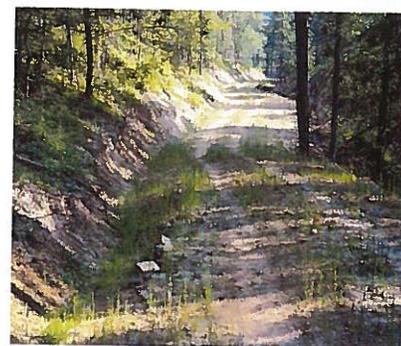
Text and graphics, Cornell University



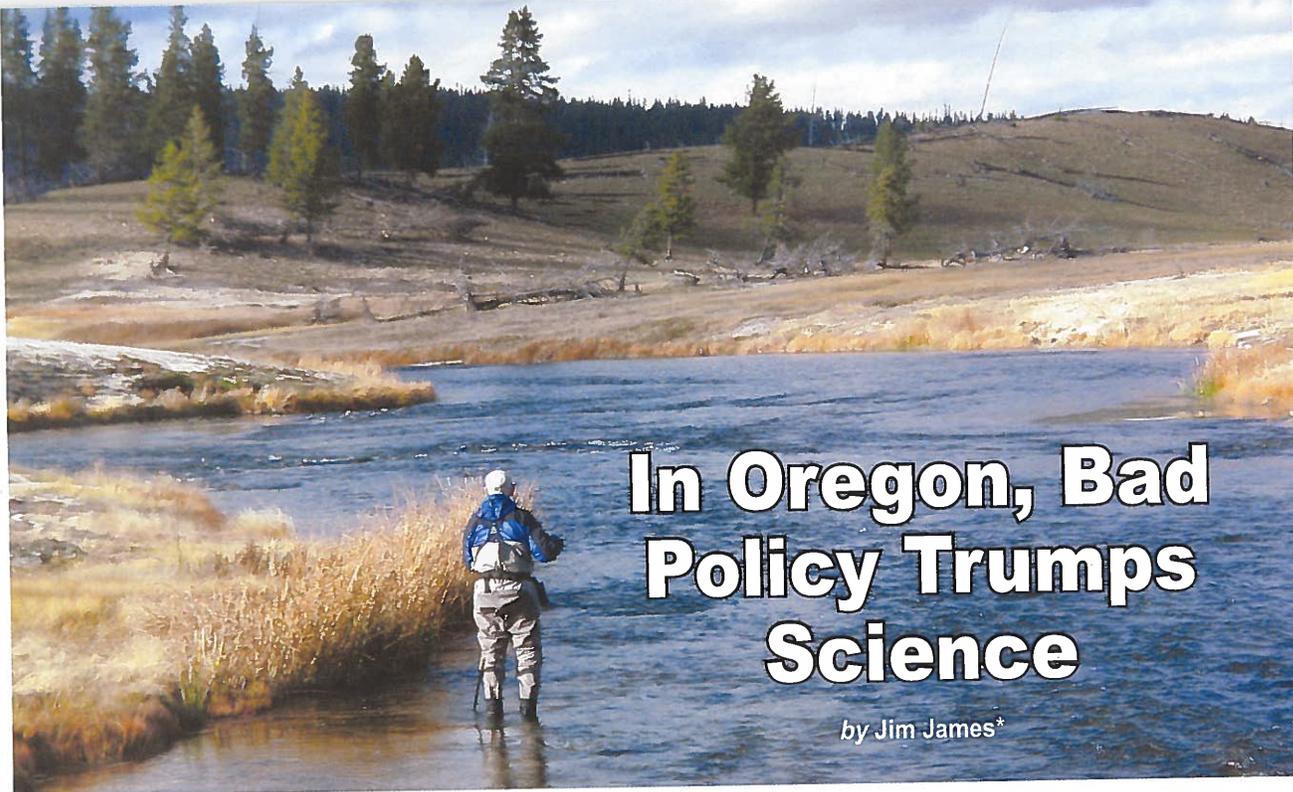
Diversion Ditches/Turn Out/Turn Up



Broad-Based Dip



Rolling Dip



In Oregon, Bad Policy Trumps Science

by Jim James*

Background

Oregon has had a regulatory Forest Practices Act (FPA) in place since 1972. It is fully supported by private forest owners in Oregon because the rules are based on science and the defined purpose of a forest is to grow and harvest trees. The FPA is regulated by the Oregon Department of Forestry (ODF) which is directed by the Oregon Board of Forestry, a seven-member citizen board appointed by the governor and confirmed by the state senate. In Oregon, the legislature gave the Board of Forestry absolute control over all regulatory private forest issues on land zoned as forestland.

The Oregon Department of Environment Quality (DEQ) has regulatory responsibility to set state water quality standards as required in the federal Clean Water Act. Like ODF, DEQ has a governing five-member citizen board called the Environmental Quality Commission (EQC). In 2002, the EQC set new state water standards under guidance from the Environmental Protection Agency (EPA). The new cold water standards included a Numeric Criteria that is needed to protect salmon, steelhead and bull trout. It also includes a Protecting Cold Water (PCW) criteria that requires that all streams with salmon, steelhead or bull trout, with temperatures under the Numeric Criteria, can have no human-caused temperature increases above 0.3 degrees Celsius. At the time the PCW was developed, EPA guidance to the EQC was that any increase in temperature in streams with these three fish species would be harmful, regardless of the circumstances. The EPA provided no evidence that this guidance was scientifically justified, but it passed the EQC by a three to two vote.

The Board of Forestry and the Environment Quality Commission have a Memorandum of Understanding (MOU) that the Forest Practices Act, administered by the Board of Forestry, will meet state water quality standards administered by EQC and that any operation following the FPA is in compliance with state water quality standards. The EQC has the sole authority to regulate state water quality standards and the Board of Forestry has the sole authority to regulate forest practices.

RipStream

In 2002, there was a question about whether the existing FPA riparian rules would meet the new water quality standards. In collaboration with forest landowners, the Oregon Department of Forestry invested in a research study, called RipStream, to measure stream temperatures before and after timber harvest and to measure compliance with state water quality standards. For private forest harvests in the study, the minimum basal area required in the Forest Practices Act (FPA) was retained within the 50-foot buffer required on small fish-bearing streams and the 70-foot buffer required on medium fish-bearing streams. For state forests in the study, stream buffer widths found in the state's forest management plan, 100+ foot buffers, were retained.

The RipStream study design was a good one, but during its ten-year duration, it was challenged by budget shortfalls and some of the data intended to be collected was either not collected or what was collected had some data gaps. Stream temperatures naturally and regularly vary up and down throughout the year, so modeling was used to determine the temperature variances caused by removing trees from the riparian area. The results of RipStream were:

- Forest streams after harvest remain below the Numeric Criteria needed for salmon, steelhead and bull trout;
- There was no increase in temperature when using buffers on state forests;
- On private forests, following the minimum requirements in the FPA, there is a 40 percent probability that post-harvest stream temperatures will exceed pre-harvest temperatures by more than 0.3 degree Celsius; and
- The mean temperature increase on private forests was 0.7 degrees Celsius. RipStream demonstrated that the FPA might violate the new PCW criteria in its strictest of interpretations. The Board of Forestry therefore began a Riparian Rulemaking Process in January 2012.

The RipStream study focused entirely on changes in stream temperature, and ignored any impact of that temperature

*Executive Director, Oregon Small Woodlands Association

change on riparian habitat or fish populations. The beneficial use of forest streams in the FPA as is fish habitat and Rip-Stream did not measure impacts to fish. However, there have been several paired watershed studies in Oregon designed specifically to measure the impact of the FPA's riparian protections on fish health. There have also been several studies on the benefits to fish when there are openings in stream riparian areas. These studies show:

- Increases in stream temperatures following a harvest operation, in compliance with the FPA, are very minor, temporary, and dissipate in a relatively short distance downstream;
- Increases in stream temperatures following harvests, in compliance with FPA, have no negative impact on fish. In the Hinkle Creek study, openings caused by harvest created conditions generating more food for fish and the fish were more abundant and larger in the harvested areas than in the reserve areas; and
- There are many studies that show fish biomass increases significantly when openings are made in the riparian areas.

A thorough review of the guidance provided by the EPA to the EQC when the agency was developing the PCW criteria was done. The EPA recommended a strict "no man caused" temperature increase, but failed to provide any scientific support for such a strict standard. A search for such studies that could be used to address forest streams in Oregon have been fruitless. EPA did propose a strict standard as if it had scientific support, but in reality it does not. It is based on a presumption that nature knows best and man can do nothing positive for the environment.

There is no science to support the 0.3 degree Celsius PCW criteria or the EPA guidance on PCW to the EQC. The paired watershed studies in Oregon dispel the EPA assumption. These studies clearly show that the minor and temporary temperature increases resulting from a timber harvest on private land does not harm fish and can actually be beneficial to fish populations.

The dilemma facing the Board of Forestry was how to balance the PCW requirements with a potential unintended consequence of harming the beneficial use of forest streams the FPA is designed to protect which is fish habitat, not an arbitrary temperature. There was adequate scientific evidence that no changes were needed in the riparian rules to protect fish.

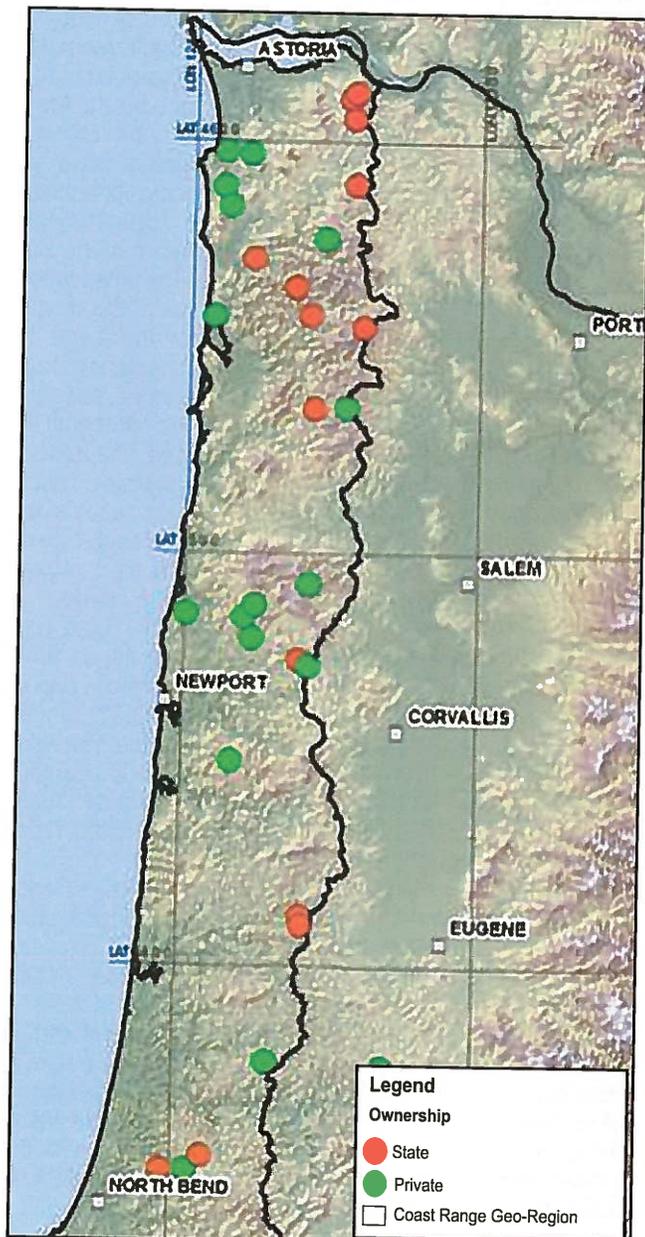
On November 5, 2015, the Oregon Board of Forestry voted four to three to increase the buffer widths on riparian areas for small and medium streams with salmon, steelhead and bull trout. The basal area requirements for small streams roughly tripled and for medium streams roughly doubled even though fish science did not support these changes. Poor public policy directed by the federal government trumped common sense and the best available science on fish needs in Oregon's forested streams.

There will be a significant cost to private forestland owners to implement these new rules, particularly the family forest owner whose property is lower on the landscape where salmon, steelhead, and bull trout can be found and whose riparian areas can make up a larger proportion of their property. The rules are being written for these new standards, with an expected implementation date of June 2017. Science must drive public policy, not federal agency overreach. Science should not be ignored when making public policy.



**Riparian Function and Stream Temperature:
Effectiveness of Oregon Department of Forestry's
Protection Rules and Strategies**

ODF Forest Practices and State Forests
Study Approach
Version 2.2: February 2003



POINT

WOTUS Needs to be Reined In

by John McClaughry*

John Poszgai, a Hungarian truck mechanic, was conscripted into the Soviet Army in the 1950s. When Hungarians rebelled against Soviet tanks in 1956, he fought for his country's freedom. When the Red Army suppressed that gallant uprising, he escaped to the land of freedom and opportunity, America. He found work as a mechanic for International Harvester in Morristown, Pennsylvania, and proudly became an American citizen. He opened a truck repair service, bought a home, and in due course bought a 14-acre parcel across the street.

Thirty years earlier the municipality had dug a ditch diagonally across the property to drain off stormwater from the city street. Over the years other parties illegally used the lot to dump commercial scrap, and filled the drainage ditch with 7,000 old tires. The blocked ditch caused stormwater to back up on Poszgai's repair shop. He decided to buy the lot, remove the junk and tires, and put up a new truck repair building on the property. That decision ruined his life.

The Army Corps of Engineers, charged with regulating discharges into navigable waterways, found out that Poszgai had removed the thousands of tires from the drainage ditch and had brought in fill to make the lot usable for building. It sprang into action, and brought along the Environmental Protection Agency and the Department of Justice. EPA charged Poszgai with 41 counts of violating the 1977 Clean Water Act.

What then ensued is a long and shocking story. In 1991, freedom fighter John Poszgai was convicted of environmental felonies and sentenced to three years in prison and a fine of \$202,000. He lost his business, filed

for bankruptcy, and his daughter lost her job as a local reporter because her name was Poszgai. He served a year and a half in prison, but a judge, highly skeptical of the government's assault, reduced the fine to \$5,000.

The point of this narrative is that for decades the Army Corps of Engineers and the Environmental Protection Agency have stretched beyond all recognition their constitutional power to "regulate discharges into navigable waters of the United States."

The prosecution of John Poszgai was one of the most shocking examples, but there are hundreds more—not enforcements against big polluting industries, but against ordinary citizens who innocently filled in tiny ditches or soggy depressions to improve their properties. Despite a string of federal court cases slapping down the EPA's overreach, the assault has gone on unabated, regardless of who is in the White House.

This issue is highly relevant now, because on June 29 the Obama EPA finalized a rule called WOTUS—Waters Of The United States. EPA argues that the new rule clears up uncertainties and complies with adverse court decisions. Critics say it codifies every imaginable federal regulatory overreach.

M. Reed Hopper, the Pacific Legal Foundations chief lawyer opposing the WOTUS rule, says "The new WOTUS definition...defines the waters of the United States so generally that federal regulators will have power over almost all of the nation's waters and much of the nation's land around those waters. "Navigable waters" and the lands associated with those waters will now fall under EPA regulatory control and will include all tributaries" (no matter

how small and remote), "adjacent water bodies," 100-year floodplains, and, on a case by case basis, any water within 4,000 feet of a "tributary or other covered water."

Hopper points out that the expressed intent of Congress in passing the Clean Water Act was "to recognize, preserve and protect the primary responsibilities and rights of states" to control local land and water use. The CWA was enacted to allow the federal government to regulate discharges into navigable interstate waterways, plus by extension marshes and wetlands adjacent and connected to such waterways. It was not enacted to put EPA in charge of drainage ditches, farm ponds, and (in Vermont, "vernal pools").

On October 9, 2015, the 6th Circuit Court of Appeals acted favorably on a petition from 31 states and state agencies asking that the WOTUS rule be suspended pending a full trial on its constitutionality.

Long ago Thomas Jefferson presciently observed, "As government advances, freedom gives way." That maxim was never more evident than in the persecution and jailing of John Poszgai and the many other victims of federal environmental regulators and prosecutors eager to rack up criminal convictions against legally outmanned defendants. If the courts and/or Congress can defeat this latest regulatory power grab, over the well-funded howls of the entire "environmental movement," Americans will have won a major victory over a powerful and perennial threat to their rights, liberties, and peaceful use of their property.

John McClaughry is vice president of the Vermont-based Ethan Allen Institute.

COUNTERPOINT

Reaction is Simply Overblown

by Gregg Robertson*

The reaction to the recent announcement by the U.S. Environmental Protection Agency (EPA) that it would publish as final the controversial "Waters of the U.S." (WOTUS) regulations has been immediate and negative. The regulations are opposed by green industry groups, such as the National Association of Landscape Professionals (NALP) and AmericanHort.

Some of this reaction is simply overblown, such as the assertion by NALP that the new regulations could require homeowners and landscape contractors to obtain a federal permit to plant a tree or clean debris from a ditch. Neither of these is a requirement of the new regulation, nor are they implied by what new regulation says.

My opinion is the new WOTUS regulations are a logical and necessary approach to protecting the quality of the nation's streams, rivers, lakes and groundwater.

Water Resources are an Integrated System

The new WOTUS regulation recognizes that this country's water resources are an integrated system that must be managed as system. You cannot protect the water quality of a river if you cannot protect the streams that feed it. What happens in the headwaters of our rivers and streams greatly influences water quality downstream in those rivers and streams. You may have heard the saying, "We all live downstream." Pollution that happens upstream is inevitably carried downstream.

The Importance of Groundwater

In many areas of the country, groundwater is an essential source of drinking and irrigation water. In

Pennsylvania, for example, half of our drinking water comes from groundwater sources via wells.

Rivers and streams depend on groundwater for about 40 percent of their flow, according to the U.S. Geological Survey. During times of drought, many streams depend upon groundwater for all of their flow.

Land and Water Quality

We're beginning to understand the complex relationship between the land and water quality. We've long known about the negative impacts that poorly managed agricultural operations can have on both ground and stream water quality. We're now beginning to understand how land uses in our urban areas affect stormwater runoff and stormwater's impact on stream and river water quality.

Just a Ditch

For nearly nine years of my career, I worked for the Pennsylvania Department of Environmental Resources (now the Department of Environmental Protection). My last four years at the department were spent as deputy secretary for field operations, which put me in charge of the implementation and enforcement of all environmental regulatory programs in the state: air, water, solid waste and more.

Many of the enforcement cases we handled during that time involved the dumping of pollutants in what someone thought was "just a ditch." Those pollutants would poison fish in adjacent streams and contaminate surrounding drinking water wells. To me, this example underscores the fact that our water resources are all interconnected. Pollution that happens on the land, in a wetland, in the

stream or in groundwater will spread to other parts of the system.

Pennsylvania's WOTUS

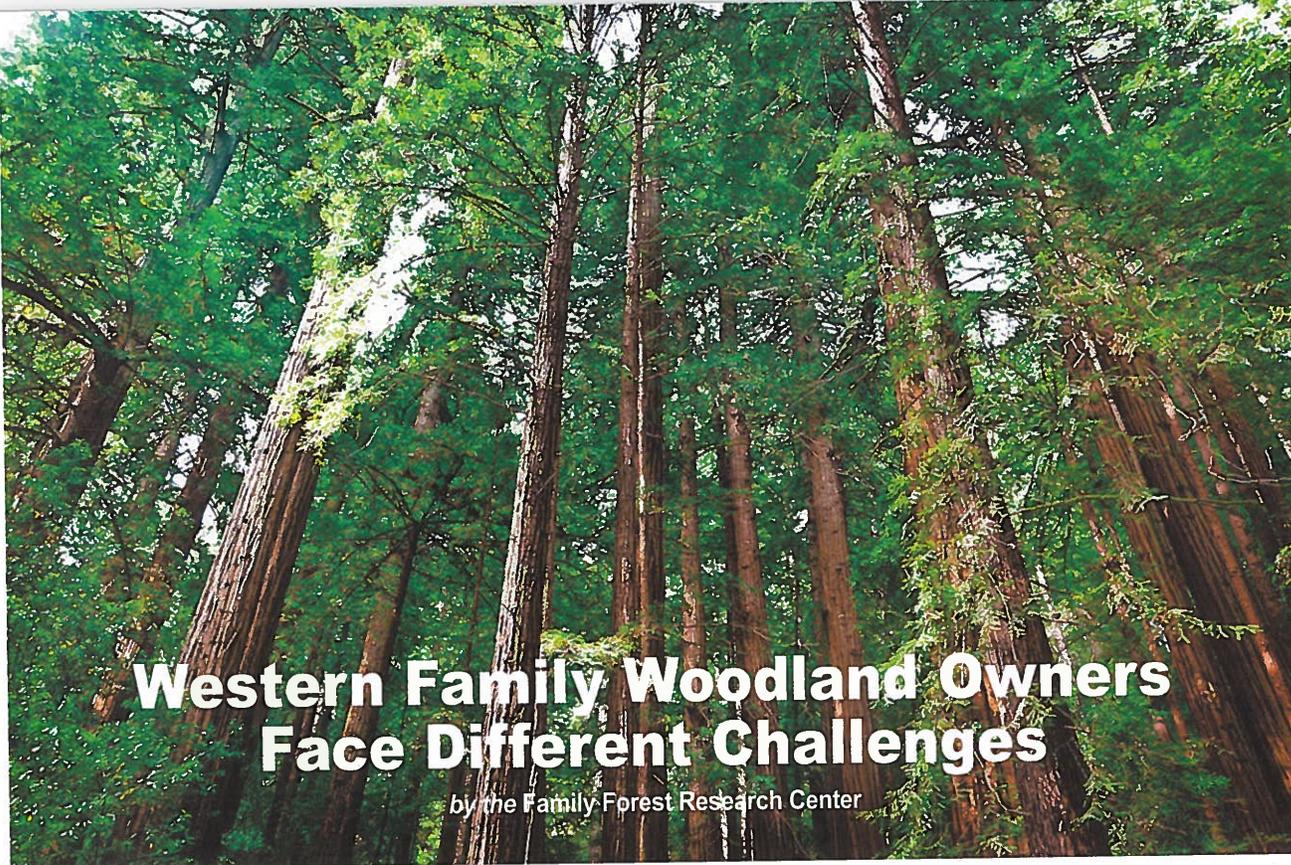
Since 1937 Pennsylvania has had a legal system similar to the Waters of the U.S. regulation for protecting its water resources. Our pioneering Clean Streams Law defines the term "Waters of the Commonwealth as:"

"Waters of the Commonwealth" shall be construed to include any and all rivers, streams, creeks, rivulets, impoundments, ditches, water courses, storm sewers, lakes, dammed water, ponds, springs and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth. (Article I, Section 1, Pennsylvania Clean Streams Law, 1937, as amended.)

This law has allowed Pennsylvania to clean up and protect its water resources for the past 78 years. But even though the law explicitly defines ditches as "Waters of the Commonwealth," we can still plant trees and clean ditches without a permit!

I consider our industry stewards of the managed landscape. As such, our positions should be considered in the context of the broader environment, based on reason and backed by science. I urge our green industry associations to take another look at WOTUS from the perspective of states that have had experience with similar definitions of their waters.

**Gregg Robertson is Landscape Management magazine's government relations blogger and is a government relations consultant for the Pennsylvania Landscape & Nursery Association (PLNA).*



Western Family Woodland Owners Face Different Challenges

by the Family Forest Research Center

Preface from NWOA

In most of the U.S. family landowners own and manage 60 percent to 90 percent of the woodlands in their state. In the western states however, they own only 12 percent of the woodlands or forests. The majority are in public ownership. Many times family lands are adjacent to or near federal forests which presents challenges. Prominent among these is that after years of lawsuits, timber harvests and stewardship of National Forests has declined dramatically. Without forest management, trees are left to grow without periodic reduction of fuel loading. In much of the West, especially in the Rocky Mountains, pine beetles have killed millions of acres of timber resulting in tinderbox conditions.

Wildfires are inevitable and catastrophic, presenting more risk to western family woodland owners than anywhere else in the country. In spite of their best efforts, many western families have few ways to control the risk of wildfire from adjacent land. The loss of available federally-owned timber has also taken a toll on sawmills and wood markets, leaving landowners with fewer markets for their trees. Even when prices are good, more landowner profit is lost to trucking expenses to get the logs to mills 50 to 100 miles away.

The following article (see postscript) describes the results of a long range effort to better describe and understand the characteristics of family woodland owners in the U.S.

What Defines a Typical Western Family Woodland Owner?

An estimated 38 million acres of woodlands one acre and larger in the West are owned by 452,000 families, individuals, trusts, estates, and woodland partnerships, collectively referred to as woodland ownerships. Even when including the size of woodlands down to one acre, woodland ownerships account for only 12 percent of the woodlands in the 17 western states.

Size of Holdings Makes a Big Difference

The average family woodland ownership (see postscript below) in the west has 80 acres of wooded land. Sixty-two percent of the ownerships have relatively small holdings between 1-9 acres. However, 69 percent of the woodland area in the West is owned by ownerships with ten acres or more. This is important because size of holdings constrains what an ownership can do with his/her land, such as timber harvesting, wildfire protection, or control of invasive species. This is also important because the size of holdings is a strong predictor of many ownership characteristics, such as woodland management practices.

Beauty, Wildlife, and Nature are What Matter

The most commonly cited reasons for owning woodland in the West are related to beauty and protecting wildlife, as well as nature protection and the privacy the wooded land provides. This is not surprising since 62 percent of the owners surveyed owned fewer than ten acres. Protecting water resources is also highly regarded as an important reason for owning woodland in the west, as is the goal of passing land onto future generations. Financial objectives, such as land investment and timber production, are important to larger woodland owners.

They Love Their Land, But They Are Not Engaging

Most woodland owners in the West have a deep, deep love of their land—"they're not making any more of it." The vast majority of owners, 85 percent, agreed or strongly agreed with the statement "I want my wooded land to stay wooded." But most are not involved in traditional woodland management practices—only 13 percent of woodland ownerships (family woodland owners) have a written management plan and only 28 percent have received woodland management advice in the previous five years.

They are Old(er)

The average age of woodland owners in the west is 64 years,

NATIONAL WOODLANDS SUMMER 2016



These areas are public land, while these areas are private.

with 51 percent of the woodland owned by people who are at least 65 years of age. Many acres of woodland will soon pass on to the next generation, and 66 percent of these ownerships are worried about keeping the land intact for future generations.

Conclusions

People interested in woodland conservation must also be interested in those who own the woodland. Across the West, families and individuals own a significant number of acres, and this land has great potential for conservation. Owners are engaged with their land, but not in many of the traditional “forestry” activities—there is a general disconnect between forestry and woodland owners that, if bridged, could have a major impact on the woodlands of these states and the people

Postscript on Definitions Used in the Survey

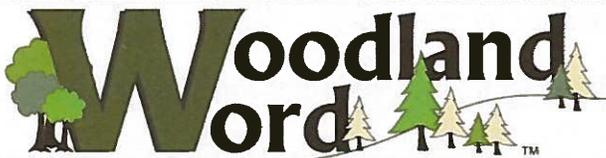
The US Forest Service, Forest Inventory and Analysis program, through the Family Forest Research Center (FFRC; www.familyforestresearchcenter.org), conducts the National Woodland Owner Survey (NWOS; www.fia.fs.fed.us/nwos/) to better understand: who owns woodlands, why they own them, what they have done with them, and what plans they have. The results presented here are based on responses from 898 randomly selected woodland ownerships in the 17 western states that participated in the NWOS between 2011 and 2013 with more than one acre of land.

The forestry community often gets tangled up in definitions, and different groups use different terms to refer to the same thing. The Family Forest Research Center defines wooded land or woodlands as woods, woodlots, timberland, and forests. Families includes individuals, joint ownerships, such as a husband and wife or other family members or friends, family partnerships, family LLCs or LLPs, and family trusts or estates. Because this definition can include more than just individuals, we refer to these as woodland ownerships instead of owners. In this article, we discuss “family forest owners” as “woodland ownerships.”

who own them. Be it wildfire, inter-generational transfer of land, or invasive species, understanding the threats to the land and the concerns of those who own and influence this resource is critical for woodland conservation efforts. Using a common language and designing policies and programs that meet the needs of owners and practitioners will have a major impact on the current and future owners and the vital lands that they own.



Wednesday



Online Weekly Newsletter

Published by

The National Woodland Owners' Association

Editor: Mike Burns, happystumpy@gmail.com

Volume 4, Numbers 14-28

Here's what was featured in the Spring Quarter of 2016:

“HOW TO” SERIES:

- Apr. 20 Eco-Friendly Actions You Can Take Home
- Apr. 27 How to Recognize and Prevent Hazard Trees
- May 4 How to Track Wildfire Condition in Your Area
- May 18 How to Use Family Forestry Video Series
- May 25 How to Make Your Neighborhood Safer from Wildfire
- June 1 How to Use a Phone to Locate Property Boundaries
- June 8 How to Identify Common Tree Diseases
- June 15 How to Harvest and Sell Wood Burls
- June 29 How to Build a Low-Cost Cabin

FEATURE STORY:

- Apr. 6 Oldest Tree Discovered in Sweden
- Apr. 20 Earth Day 2016, A Historic Day for Earth's Future
- Apr. 27 Why We Celebrate Arbor Day
- May 4 TREES by Joyce Kilmer
- May 11 Estate Planning for your Timberland
- May 11 How Forests Respond to Climate Change
- May 18 Tree Farm System Celebrates 75 Years
- May 25 Woodlots Role in Restoring Chesapeake Bay
- June 1 Hunting for the Red-Spotted Salamander, to Save it.
- June 15 Collaborative Stewardship & Forest Health
- June 29 Why is Logging Dying?

FOREST SCIENCE:

- June 8 Forest Science: Global Warming vs. Discovery
- June 16 Forest Habitat for Declining Bird Species

- June 22 Will Chemical Wood Make a Comeback?
- June 29 Neutralizing Acid Soils Spikes Nitrogen Runoff

FOREST PEST OF THE WEEK

- Apr. 6 Butternut Canker
- May 25 Parasitic Wasp to Fight Emerald Ash Borer

BUSINESS & MARKETS

- Apr. 6 Tax Tips for Tree Growers
- Apr. 13 Reporting Income from Timber Sales
- May 4 Housing Slump Checking Market Growth Pine
- May 25 Forestry and Bourbon in the 1930s
- June 1 USFS Funds New Strategies to Improve Markets.
- June 8 Forestry Firm Sues Greenpeace for Conspiracy
- June 16 Imported Pests Cause \$2/yr. Billion in Damage
- June 22 Small Sawmills Improve Forests and Bolster Economy

WILDFIRE:

- Apr. 6 Post-Fire Management on the Klamath National Forest
- May 4 Insect Outbreaks Reduce Wildfire Severity
- May 11 Ft. McMurray Canada Wildfire story
- June 22 To Suppress or Not? The Politics & Science of Wildfires
- June 1 Recreating Past Forests Does not Fix Wildfire Problems.
- June 29 Keeping Drones from Wildfires

To subscribe to the online *Woodland Word*, which is emailed to subscribers every Wednesday, email: WWW@nwoa.net



Woodland Report

Reliable, Responsive Reporting since 1983

Volume 33, Issue 2

Late Breaking Forestry News from Washington DC and State Capitals
Published for Woodland Owners by the National Woodland Owners Association

Summer 2016

No Agreement on Carbon Neutrality

Since 2004, 14 different biomass definitions have been written by Congress and included in federal legislation and the tax code. The application of each results in a different ratio of carbon released in the air when burned or remaining sequestered here on earth in nature and buildings. To try to resolve the differences, two national committees of qualified scientists have been appointed to use “best available science” to determine whether burning wood and woody biomass is carbon neutral or not. One side says “yes, it is neutral,” the other says “no way.”

At stake is whether woodland owners will continue to have a market for wood as an energy resource as recognized in both state and federal Renewable Fuel Standards, and if use of wood will continue to qualify for tax credits for utilities. The debate went as far as discussing whether the term should include biomass from federal lands (but remain OK for private land). There is no logic here, only the result of increasingly harsh and effective dueling by special interests seeking special legislation.

With no clear direction from science, it is now up to Congress to craft a political compromise on a sensitive issue for which no scientific compromise has been reached. This is where it gets interesting, though how they actually accomplish this is quite obscure.

Congress Moves to Settle the Issue

On June 16 the Senate Appropriations Committee passed an Interior, Environment and Related Agencies FY17 funding bill, including arcane language that effectively recognizes the carbon neutrality of forest biomass.

On July 14 the House of Representatives passed its version of the Interior Appropriations Bill, including direction that prevents EPA

(or any agency) from regulating CO₂ emission from forest biomass-generated power, effectively sidestepping the complex procedures in the administration’s Clean Power Plan. There were 179 amendments offered on the floor, but none would have removed the “carbon neutrality of forest biomass” statements, which is an achievement in itself. The bill now goes to conference to combine the two bills into one for a vote.

Issue resolved? Not quite yet. There are significant voices in the administration in opposition to credits for “carbon neutrality” of burning wood for fuel. They have already urged a presidential veto. With a bill this large with so many important items, the betting is that the president will sign it anyway. Check here next quarter for the answer. —KAA

Canadian Lumber Issue Far from Settled

The cooling off period to renew the Canadian-U.S. Softwood Lumber Agreement expires Oct. 12, after which both nations can bring their grievances to court. Both Premier Trudeau and President Obama have directed their mediation teams to work it out.

The fundamental differences over perceived subsidized stumpage prices for Crown timber and unfair competition have resolved somewhat in the last six years. Both sides are working for a durable and equitable solution for mills and landowners.

EPA Decides Not to Regulate Roads

The announcement on June 27 by EPA that no additional regulations are needed to address storm water discharges from forest roads under the Clean Water Act is good news. It adds to a favorable decision by the Supreme Court in 2013, and legislation secured in the 2014 Farm Bill.

Reports From State Affiliates

"All Forestry is Local"



West Virginia Slashes Forestry Staff

In February the West Virginia State Legislature passed a law advocated by the forest industry to reduce the timber severance tax (which funds part of the Division of Forestry) by \$1.8 million. However, lawmakers did not follow up with an addition appropriation to fund the Division of Forestry. When the governor did not find money in other accounts to fund the difference, the issue fell to the State Personnel Board for resolution. At a hearing on June 26 attended by many foresters in uniform, the State Personnel Board voted 4 to 1 to lay off 37 foresters—half of the forestry divisions field workers—on July 15.

The Woodland Owners of West Virginia (NWOA affil.) and the NWOA have both appealed for a quick resolution. The loss of so many foresters could weaken the forward-looking West Virginia Logging Sediment Control Act, which had been honored with NWOA's Outstanding Forestry Law of the Year Award in 1992.

New Forestry Laws for Vermont

There are 40,000 woodland owners in the Green Mountain State, and they pay attention to what is happening in their legislature through the VT Woodlands Association (NWOA affil.). Parts of the governor's forestry omnibus bill (including a Timber Harvesting Notification Act) described here last quarter were adopted, while others are carried over for future action. Two additional forestry bills were signed by the governor.

H.355 Forester Licensing. Concerns that this bill might mandate a form of forest management initially divided the forestry community. In the end there was agreement that it raised the bar for the recognition of professionalism of consulting foresters, would promote valuable continuing education, and provide state enforcement for the few examples of unprofessional conduct.

H. 854 Timber Trespass. This long overdue revision to current law changes timber theft from only a civil penalty (where the injured party has to sue in court and hope that the judgement will be enough to cover the loss and court costs) to a criminal penalty with increased penalties and possible jail time. Losses, appraised to stump size, can be considerable.

NHTOA Flagship Bill Signed into Law

The journey was a little long and a bit strange, but HB 1298 is now law. The bill, requested by the New Hampshire Timberland Owners Ass'n (NWOA affil.) will help landowners deal with illegal dumping and property damage through illegal off-highway recreation vehicle (OHRVs) and snowmobile use on private land.

The legislation creates a "private right of action" for a landowner against any person who dumps waste on their property or vandalizes it through use of OHRVs or snowmobiles and entitles a landowner to up to three times the cost of damages, plus attorney's fees.

Blowing Smoke About Forest Thinning

There is growing resistance to forest thinning in Montana, much of it based on the appearance instead of the health of woodlands. Although primarily focused on public lands, there are obvious implications for private landowners for whom forest health is a primary concern. Members of the Montana Forest Owners Association (NWOA affiliate) were cheered when Montana Extension Forester Peter Kolb, in a guest article in the *Missoulian*, stated that the allegations were just "blowing smoke" on the real issue of forest health. He confirmed that forest thinning does not change the risk of wildfire, but it can reduce the occurrence of crown fires that burn with such intensity they cannot be controlled easily. Thinning also reducing risks of bark beetle infestations.



Yearly Reports from The Western Alliance Of Landowner Associations



Washington
FARM FORESTRY
ASSOCIATION



"Stewards of
the land...
for
generations"



Washington

Contact: info@wafarmforestry.com

As WFFA state treasurer Bill Scheer likes to remark "There is a lot going on!" And he is right. We have taken on a wide range of activities this year, some a continuation of prior year's endeavors and some completely new.

On the completely new side of the ledger was the effort to raise the profile of tree farming by working jointly with the Washington Tree Farm Program to celebrate the 75th anniversary of tree farming. It has taken a tremendous amount of work from both staff and volunteers to bring the 75th anniversary celebration to fruition.

We also completed the science review for the Eastside Riparian Template and are working on developing the template itself. We rolled out a new approach to communications with our monthly Stewards of the Land E-news publication, and we managed a seamless transition to become the publisher of *Northwest Woodlands* (NWW) when the World Forestry Center could no longer act in that role. We hope that it was so seamless that you didn't even notice that last one! Thanks to Anne Maloney and the NWW team for making it happen.

We maintained an active role in state legislative processes in this non-budget year that nevertheless had a large budget component related to wildfires. Our participation in two committees, the Wildland Fire Advisory Committee and the NRCS State Technical Advisory Committee, was critical when it was time to discuss how to improve on last year's performance and what resources might be available to rebuild after last year's catastrophic wildfires.

We also had strong volunteer participation on the Cultural Resources Roundtable, Small Forest Landowner Advisory Committee (SFLOAC), Steve Stinson Scholarship Committee, Endowment Committee and the Puyallup Watershed Initiative. We made multiple presentations at the Forest Practices Board and were represented ably in the Adaptive Management Program committees (Policy, CMER, Compliance Monitoring) by Dick Miller, Harry Bell, and Steve Barnowe-Meyer.

Our participation in the Adaptive Management Program (AMP) is funded through grants from the Department of Natural Resources. Participation grant funding comes from a tax on timber harvest. The program is split into a Policy Committee and a science committee called Cooperative Monitoring, Evaluation and Research.

The 2016 Washington Forest Action Plan will emphasize the huge role that stewardship plays in keeping lands from being converted and will stress that adaptation to climate change will be of greater importance.

Washington Farm Forestry Association is represented on the Timber/Fish/Wildlife (TFW) Cultural Resources Roundtable by Steve Barnowe-Meyer. The Roundtable facilitates the identification, protection and management of cultural resources that are significant to the history and cultures of the people of Washington State.

The Roundtable fosters cooperative protection and management of cultural resources, under forest practice rules and as envisioned in the Cultural Resource Protection and Management Plan. Activities during the past year have focused on attempting to resolve multiple issues raised by several tribes pertaining to current cultural resource protection. Results to date have minimal impact on small forest landowners but several proposals still under discussion could have potentially significant impacts on small forest landowners, unless modified or replaced with better options.

Not much of significance to forestry happened during the 2016 legislative session, but that is not all bad. No harm was done. Early in the session, hopes were high for a fire bill that would update and streamline the way wildfires are dealt with in Washington. As time wore on, it became evident that other issues, specifically school funding, were consuming so much time and energy that wildfires were being pushed to the back burner. In the end, the omnibus fire bill failed to pass, but many of its points were included in the budget.

The Joint Legislative Audit and Review Committee was tasked with analyzing fire suppression funding and costs for the Department of Natural Resources and the state fire marshal. The analysis shall include: (a) The agencies' estimates of fire suppression costs for individual fires; (b) Suppression costs for state lands, private lands, and federal lands; (c) Costs for suppressing fires on undeveloped lands and developed lands; (d) The source of funds for reimbursement of suppression costs and the process for seeking reimbursement; and (e) The extent to which suppression activities were related to private properties covered by fire insurance. A report on the results of the analysis with any findings and recommenda-

tions shall be submitted to the appropriate committees of the legislature by December 2017.

The Conservation Commission was allotted \$1,000,000 to provide to conservation districts for the firewise program and \$6,800,000 to protect water quality, stabilize soil, prevent crop damage, replace fencing and help landowners recover from losses sustained from wildfires. \$300,000 of this amount shall be provided to the Okanogan County Noxious Weed Control Board to control weeds and revegetate lands damaged by wildfires.

The Department of Fish & Wildlife was given \$642,000 to restore wildlife habitat including the purchase and planting of native seeds, wildlife feeding, fence repair, and noxious weed control.

The Department of Natural Resources got a total of \$6,669,000 for wildfire related programs, divided as follows:

- \$1,200,000 for training
- \$215,000 to develop a 20-year strategic plan to treat areas of state forestland that have been identified by the department as being in poor health.
- \$629,000 to update the smoke management plan in consultation with the Department of Ecology, other relevant state and federal agencies, and relevant stakeholders.
- \$696,000 to enhance the department's capacity to respond to large wildfires using in-state resources.
- \$443,000 to enhance capacity for aerial attack of wildfires, including the development of a list of pre-certified aerial contractors.
- \$1,000,000 to provide firefighting equipment to local fire agencies.
- \$417,000 for wildfire prevention education, community outreach programs, technical assistance to landowners.
- \$569,000 for portable and mobile radios.
- \$700,000 for fuel reduction and forest health activities on state lands.

An additional \$800,000 was allotted for forest resiliency burning.

On January 21, representatives from the Washington Farm Forestry Association (WFFA), the Washington Tree Farm Program (WTFP) and the State Department of Natural Resources (DNR) converged on Olympia to visit legislators, and tell them about the 75th anniversary of the first certified tree farm in North America and why managed tree farms are so vital to the economy of our state.

The Tree Farm Program was recognized with a ceremony on January 21 in the Capitol Building in Olympia. Commissioner of Public Lands Peter Goldmark read a proclamation from Governor Jay Inslee designating the month of January as the "75th Anniversary of Sustainable Forestry in Washington State." He recognized the American Tree Farm System and its contribution to the sustainable forestry movement, the 400,000 acres it has certified in Washington, and the 3.2 million acres of forestland in our state that are owned and managed by small forest landowners. Other speakers included State Senator Kirk Pearson, Chair of the Senate Natural Resources Committee; State Representative Brian Blake, Chair of the House Agricultural and Natural Resources Committee; and Tammie Perreault, Chair of WTFP.

WFFA members can read the full story by logging into their account at www.wafarmforestry.com, clicking on Members Area and then choosing Landowner News issues. Click on March 2016.

Elaine Oneil, WFFA Executive Director



Oregon

Contact: info@oswa.org

2016 is another chapter of the same story for Oregon. With three bad fire seasons in a row and the prospects of another in 2016, all forest owners are bracing for the worst and hoping for the best. Oregon is blessed with an outstanding landowner partnership with the Oregon Department of Forestry in preventing and putting out fires, but the general public seems to be brain dead when using common sense during fire season. Some of the worst fires in Oregon in 2015 were human caused and could have been avoided. Lightning strikes in overstocked federal forests are the other significant cause of fires in Oregon. Of course fires do not pay any attention to property lines. Many of the private forests burned in 2015 were the result of fires started on federal lands that spread to private lands. The huge losses from fires in the West and the significant federal ownership of forests in the West is not a coincidence.

Water quality issues continue to surface in Oregon in several venues. The federal government continues to try to flex its muscle on a variety of water issues with absolutely no science to support its positions. Fortunately for forest owners in Oregon, Oregon's regulatory bodies need more than rhetoric to justify the need for regulation. The Oregon Department of Fish and Wildlife's position that the coho salmon should be delisted as a Threatened Species under the Endangered Species Act in Oregon continues to fall on deaf ears at NOAA Fisheries. Fortunately, the Supreme Court did get it right when it ruled on the forest roads issue related to forest roads in Oregon.

On the positive side, log markets have been generally good in Western Oregon and there are good markets for many secondary wood products. Westside family forest owners interested in generating revenue from their forests have many opportunities. In Eastern Oregon it is a different story and markets are not so good. With the Forest Service owning the majority of the forests in Eastern Oregon and basically eliminating any reasonable timber harvest, the number of mills capable of operating in Eastern Oregon to acquire logs has decreased below a reasonable level. The infrastructure needed to maintain a healthy log market is almost gone. Some landowners cannot afford to haul their logs the distances needed to find markets. The Forest Service talks about selling more timber, but in its normal fashion, it is all talk and no action. The agency spends all its time making plans on how to make plans.

Although this report probably sounds a little discouraging, forest landowners in Oregon are optimistic about the future of forestry in Oregon. It is an outstanding place to grow and harvest trees.

Jim James, Executive Director



Forest Landowners of California

Protecting Family Forests

California

Contact: deidre@forestlandowners.org

Established in 1975, Forest Landowners of California promotes, preserves and protects family forests in California along with the rights and rewards of caring ownership and stewardship of family forests.

In 2014, the Board of Directors, Communications Committee and staff, published the Resource Guide, which was essentially an updated edition of "Who Will Buy Your Logs," last produced in 1998. FLC has produced a second edition of the Resource Guide, which was distributed to members in May. This publication provides members with log buyer information, saw mills along with other resources and is produced biannually.

FLC produces an Annual Report that is presented at the Annual Conference each year with a hard copy mailed to members in June each year.

Forest Family News, the quarterly newsletter for FLC members, provides updates on legislative and regulatory activities that are relevant to forest landowners and includes articles on forest management best practices such as fire protection and educating landowners about insect infestation.

FLC is recognized as an unbiased technical resource on legislation that affects the small landowner and has established working relationships with numerous conservation organizations, regulators and legislative members and staff. While FLC has struggled to determine measurable metrics of success, this clearly is an excellent example of measurable success.

With the theme of "Roads and Water—Making It Work," registrants attended workshop sessions on targeted road surface and drainage design; watercourse crossing design and installation considerations; erosion control site inventory, documentation and post completion monitoring; board of forestry road rules; reducing landowner liability as it relates to fire; and water rights—what are they, types, establishment and protection. As part of an added-value element to the Annual Meeting, an "early bird" technical session workshop was scheduled at 8:00 a.m. on Forest Stewardship Council (FSC) Certification—A Top Down Approach and How the Timber Owner Can Benefit. For the Field Day program, attendees toured the UC Berkeley Blodgett Forest Research Station and its Experimental Forest. Attendees toured areas in the forest such as: reserve and shaded fuel breaks; gap based silviculture; diameter limit cutting; three-year-old/13-year-old and mature clearcut; group selection; treatment alternatives for young strand resiliency study; and fire and fire surrogates study.

The Field Day programs continue to be an excellent opportunity for forest landowners to network face-to-face while observing other forest properties and learning about individual land management practices. Thank you to the landowner hosts for sharing their properties. FLC held three Field Day workshops in 2015—Humboldt County, Sonoma County and Nevada County with an average attendance of 35-40 attendees at each property.



Idaho

Contact: info@idahoforestowners.org

"FPAAC" (pronounced "F-Pac" in conversation) is an acronym that stands for Forest Practices Act Advisory Committee. This committee is a body of professionals and concerned citizens charged with providing direction and leadership in revising or promulgating new Forest Practice Act (FPA) Rules.

There are nine voting members across the state of Idaho representing family forest owners, industrial forest owners, citizens at large and logging operators. Currently, the FPAAC has three members who are active IFOA members. Suffice it to say that family forest owners are very well represented when new forest practice rules are considered.

Typically, the FPAAC meets at least twice a year to discuss issues or new rules. The last FPAAC meeting was held April 23, 2016 at the Idaho Department of Lands (IDL) Coeur d'Alene office.

Every four years, the Idaho Department of Environmental Quality (IDEQ) leads a water quality audit to monitor compliance with the Forest Practice Rules on harvests containing Class I streams. This quadrennial audit was last conducted in 2012 and is scheduled to take place again this summer.

There was some good discussion about the IDEQ "digitizing" the audit form to streamline the audit and the subsequent analysis. If you conducted a harvest next to your Class I stream in the last four years, your harvest may be chosen as a sample site for the audit.

In conjunction with the University of Idaho (UI), the IDL is moving forward with a study that will analyze the effectiveness of Idaho's new Class I stream "Shade Rule." In a nutshell, the UI study entails identifying qualified sites, taking pre-harvest measurements along the stream, harvesting the Stream Protection Zone (SPZ) down to the minimum stocking, then taking post-harvest stream measurements.

Paul Buckland, IFOA Director and FPAAC Vice Chair

Helping Students

Early last November I got a chance to volunteer for an effort that I thought you might like to hear about. Regan Plumb, JoAnn Mack, Becky Reynolds and I helped teach forestry and wetlands to the students of Clark Fork Jr/Sr High School (CFHS).

I was contacted by JoAnn Mack, IFOA Treasurer a few years ago. She and I are both also Idaho Master Forest Stewards (IMFS). Regan works for Kaniku Land Trust (KLT). JoAnn was organizing the volunteers for this field day and I am glad she called me.

We met 30+ students with their teachers out on a large private property. We taught them about wetlands, which included wetlands habitat identification and importance, wetland grasses and plants identification, a scientific insect count and identification, a water quality study, and duck box installation.

With three trash cans full of waders, we got the kids in close to the action and generated a lot of interest in forestry. The students and teachers were very happy to be out of their



Idaho students enjoy a day in the outdoors.

classroom and into the forest, and were all very thankful for our time. What a worthwhile day we volunteers had, too!

Here is an explanation from Regan as to why we were there: KLT, a community-based non-profit serving Bonner County, Idaho and Sanders County, Montana, has traditionally followed the standard land trust model of focusing on habitat and forest protection. But today KLT is doing something new: seeking to prove the relevance of nature and conservation to a much broader audience through authentic opportunities to connect with the land.

By applying a more community-driven model to its conservation work, KLT can address community challenges while cultivating a strong conservation ethic and building awareness of natural resources. KLT's partnership with CFHS is one example. Faced with staffing cuts and imminent closure due to declining enrollment, the staff of this small, rural high school set out to attract new students by providing something fresh and fun: outdoor learning. In partnership with KLT and others, an outdoor learning program consisting of 38 days of "on-the-land" education was implemented for the 2015/16 school year.

Topics range from wetland exploration and forestry to soil science and wilderness skills. Lessons are taught in forests and wetlands and led by expert volunteers, thus exposing students to diverse expertise and careers. Textbooks are replaced by dip nets and clinometers, by the sounds of squishing mud and chattering squirrels. What better place to develop knowledge and appreciation for our natural resources than in their midst? One 11th grader summed it up well: "Getting outdoors and still getting an education? Awesome!" Meanwhile, KLT gained access to a 75-acre private parcel just minutes from Clark Fork that is the perfect space for myriad outdoor programming.

The students have learned to identify the tree species and wetland types of their outdoor classroom, and are giving back by pruning western white pine and installing duck boxes. "I'm so excited to see the impact that our little school has had," said one 9th grader. KLT is hoping to purchase this land through grants and local partnerships in order to offer more public access and education opportunities, and will continue to partner with CFHS while this pilot project is developed. In the near future the students of Clark Fork may be helping to manage forest resources, monitor wetland health, and inventory the wildlife and plants on this land. When that occurs, a dynamic team of teachers and community members will have been successful in fostering a deep connection with the natural world and conveying the importance of its careful stewardship to the next generation. Already enrollment is up! I am proud to be both an IFOA and IMFS volunteer.

Sandra Murdock, IFOA President



South Dakota

john.brigman@state.sd.us

The South Dakota Family Forests Association is now the state sponsor of the South Dakota Tree Farm Program Dating from 1954 in the state. Early work by South Dakota State Forestry was with the Windbreak Tree Farm and the Woodland Tree Farm primarily as a recognition program.

A unique South Dakota Forestry Cost Share program was launched in 2007 when the Family Forests Association received a grant from the SD Dept. of Agriculture to assist landowners with hiring consulting foresters to prepare management plans for their property.

State Forestry provided another \$3,500, which was matched by the Black Hills Forest Resource Association along with funds from the Family Forest Association. Over time, additional funds have been granted from State Forestry and matched by other partners, including Neiman Enterprises. Interestingly, the funds donated by Neiman came from fees assessed to trucks that are overweight when they arrive at the company's mills.

Since 2007 about 30 landowners covering nearly 4,500 acres have participated with over \$24,000 granted for management assistance. A statewide membership survey was conducted in June. The results will be applied to the 2016/2017 Action Plan for the association.

John "Parks" Brigman



Kansas

Contact: *info@kansasforests.org*

The Kansas Forestry Association has continued to grow and expand this past year. It acts as the umbrella organization for Kansas Tree Farmers and Kansas Chapter of Walnut Council members along with other individuals interested in woodlands.

We chose the Recognition Pathway with the American Tree Farm System starting January of this year. During this time we received a grant from ATFS to provide additional training for targeted outreach. We continue to reach out to landowners to complete Forest Stewardship Plans. In early February we had a workshop, Tools for Engaging Landowners Effectively. The focus was for individuals to become mentors to other landowners in their area. This program is just starting and we hope that many of those who develop Forest Stewardship Plans will become future Tree Farmers.

We now have a part time paid program administrator to assist in our work and programming events.

A survey was sent in late May to assess all of our members. Its focus was to compile their interests in forest management and their willingness to volunteer in different aspects of our organization.



State Forestry UPDATE

What's Happening in Western Forests

by Caitlyn Pollihan*

Introduction to CWSF

The Council of Western State Foresters (CWSF) is a non-partisan, nonprofit membership organization comprised of 17 western U.S. state foresters and six territorial foresters from American-affiliated Pacific islands. Located in Denver, Colorado, the CWSF has a small staff that leverages the work of our membership through partnerships with other non-profits, as well as federal and state agencies, all promoting the goals to conserve, protect and enhance western forests and lands. This includes the CWSF's delivery of the western Forestry Leadership Coalition (WFLC), a unique partnership between CWSF and Western federal forestry leaders from the U.S. Forest Service.

CWSF provides insight on the many complex, interrelated factors at play in western forestry and the programs and strategies of greatest importance to the health and sustainability of western and Pacific island forests. Our issue areas include forest health, sustainability, climate change, wildland fire and water. Our members, the state forestry agency directors, are the subject matter experts in our field and their collective knowledge allows CWSF to speak across the western landscape on issues of the day.

Drawing on the expertise of our members, CWSF conducts research, compiles reports and delivers legislative and policy interpretation to inform partners and policymakers about the critical issues in western forest management. CWSF collaborates with partners across jurisdictional boundaries to promote sustainable forest management, to protect forests from threats, and to enhance forest health.

Relationship to NWOA Regions and Issues

CWSF serves the states in the National Woodland Owners Association's Rocky Mountain Region (Wyoming, Colorado,

New Mexico, South Dakota, Kansas and Nebraska), Northwest Region (Alaska, Washington, Oregon, Idaho and Montana) and Southwest Region (California, Nevada, Utah, Arizona and Hawaii).

Within each of our member states and islands, a variety of issues in forest and land management are overseen by each forestry agency. The state agencies that are members of the CWSF deliver programs and support to woodland owners in their respective states.

As stated previously, CWSF primarily focuses on five issue areas providing information and support to our members, guided by our strategic plan, the national priorities and the top forestry issues faced annually across our member states and islands. CWSF provides the network and information needed to provide learning, leadership and technical information to our members and partners.

States use the Statewide Forest Resource Assessments and Strategies (Forest Action Plans) to identify priority areas and issues for their state. The Forest Action Plans provide an analysis of forest conditions and trends across the state, and sometimes across state boundaries, including lands under all ownerships. These priorities and trends are used to identify the CWSF, and WFLC, priority issues.

This means that the work that the CWSF does at a regional level directly impacts program delivery and work of interest to woodland owners.

CWSF also works closely to align our issues with the U.S. Forest Service State & Private Forestry Program (S&PF) National Priorities. S&PF prioritizes conserving working forest landscapes, protecting forests from harm, and enhancing public benefits from trees and forests. These priorities are integrated within our five issues of forest health, sustainability, climate change, wildland fire and water. State and federal forestry leaders work corroboratively through the S&PF programs to effectively address the region's critical forest resource issues



CWSF
COUNCIL OF WESTERN
STATE FORESTERS

Executive director of the Council of Western State Foresters.

across ownerships and jurisdictions. These non-regulatory, incentive-based programs deliver expert advice and financial assistance to landowners and communities for the protection, management and sustainability of their forest resources.

CWSF members also undertake activities related to the Top Ten forestry issues for NWOA members including timber markets, invasives and forest health, keeping forests as forests, water quality, wildfire issues and certification.

Issues that Matter

To Western Woodland Owners

CWSF's issues are explored in-depth in the following narrative, to paint a clear picture of the significant overlap between NWOA's 2016 forestry issues and CWSF's issue areas.

Partnerships and collaboration are key to achieving success in our priority areas and identifying opportunities to work together is an important piece of reaching our individual organizational goals. Just as forests don't know jurisdictional boundaries, we believe it is important to work together across state lines and across organizations. It is evident that forestry organizations and landowners are facing many of the same challenges and opportunities. Working together, we can achieve much greater results, as demonstrated in the following examples.

Wildland Fire

It is no surprise to landowners that wildland fire is a pervasive issue—and a pressing management challenge—across the West.

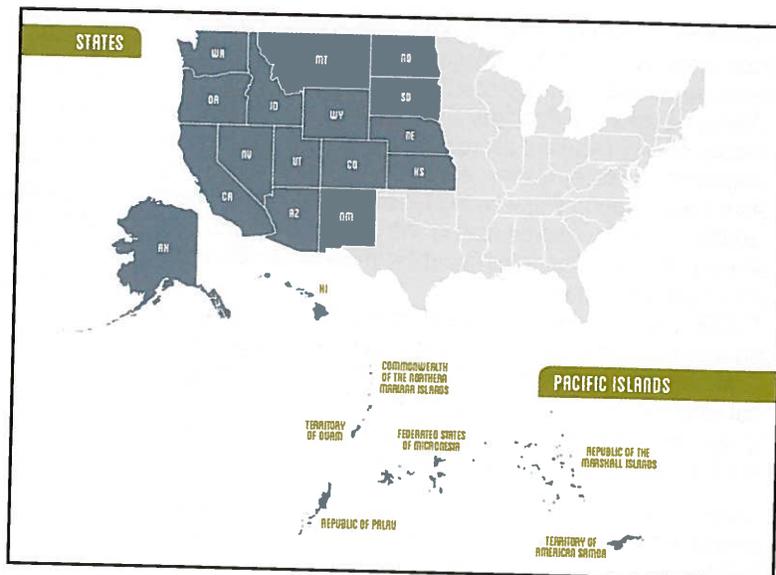
Today, the average fire season is 78 days longer than in the 1970s according to the U.S. Forest Service. Fire costs accounted for 16 percent of the Forest Service's total budget in fiscal year 1995 and surpassed 50 percent in fiscal year 2015. States spend an annual average of \$1.6 billion on the prevention, control, and management of wildfire.

Future fire seasons are expected to grow hotter, longer, more unpredictable and more expensive. Factors contributing to the increasing wildland fire risk across the West include human development in the wildland urban interface (WUI), forest health deteriorating across large-scale landscapes, increased presence and tree mortality by native and invasive pests, climate variability and extreme weather and drought.

CWSF works with partners and Western leaders on policies, programs and approaches to address this issue. CWSF supports a comprehensive approach to wildland fire management that meets the three goals of the National Cohesive Wildland Fire Management Strategy: 1. Resilient Landscapes; 2. Fire Adapted Communities; and 3. Safe and Effective Wildfire Response. These goals are achieved by supporting important programs such as U.S. Forest Service State Fire Assistance and Volunteer Fire Assistance programs, along with other vital wildfire prevention and preparedness programs to protect local communities and reduce the risk of future fires. Further, state foresters continue to call for a solution to address the wildland fire suppression funding challenges at the U.S. Forest Service and the Department of the Interior.

Forest Health

NWOA's 2016 top issues include Invasives and Forest Health. Forest health is one of CWSF's five issue areas and invasive species are a high priority for CWSF members. Emerald ash



borer has recently been sighted in western states including parts of Colorado, Kansas and Nebraska. This invasive metallic-green beetle causes great concern for both landowners and state foresters.

As landowners know, forest health is deteriorating across the Western U.S. and Pacific islands. The problems are complex and multifaceted and have significant impacts across large scale forested landscapes. Many forest stands are overly dense and therefore competing for water and nutrients. Human development continues to encroach on these landscapes resulting in parcelization and forest fragmentation. There is an increasing frequency of catastrophic wildfire, invasive species spread and large-scale insect and disease impacts. Coupled with climate variability and drought, urban and rural forests across the western landscape are in critical need of intentional management and restoration treatments. Challenges to addressing and overcoming forest health decline include: reductions in timber supply, diminishing viable wood products markets, threats from wildfire, insects, disease, and invasive species, uncertainty about the future of carbon markets and biomass utilization, generational turnover among non-industrial private forest landowners, funding cuts for natural resources programs at all levels, unnatural wildfire fuels conditions due to suppression efforts, and lack of management. These are just a few of the challenges woodland owners and CWSF members are facing every day.

State forestry agencies are a vital resource for landowners across the nation and CWSF members work directly with landowners to address forest health issues. From 2010 through 2014, Wyoming State Forestry Division (WSFD) provided technical forestry assistance in some form to 1,972 private landowners across Wyoming. Additionally, over the last five years, there have been nearly 135 Forest Stewardship Plans created for private landowners that amounted to roughly 60,805 forested acres being placed under management plans. These management plans are critical pieces in conserving and managing a working forest landscape for the future.

Sustainability

From tropical forests to dry climate needle leaf forests, boreal forests to temperate rainforests, the forests of the West and Pacific islands contain some of the most diverse and rich flora and fauna on earth. All across the region, forests—and the values they provide—are under pressure from human

development and population growth. The encroachment on forest lands leads to fragmentation, parcelization and higher management and wildfire protection costs.

Western states and Pacific island territories agree that sustainable forestry requires: addressing major risks and threats (catastrophic wildfire, human development, native and non-native pests), supporting working forests and a viable forest products industry, and educating the public, partners, the administration and Congress about the importance of forests, their values and benefits.

CWSF supports forest management practices that balance long-term economic, social and ecological sustainability, resulting in resilient forests that provide a multitude of benefits for local communities across the West. Further, CWSF supports the use and creation of sound policies, practices and incentives that keep working forests working by:

- Creating opportunities for actions that span boundaries, strengthen partnerships and support active forest management across all land ownerships;
- Supporting vibrant urban and community forests that sustain the health and well-being of the public and serves to connect people with forests; and
- Encouraging forest products industries for traditional markets as well as opportunities for new and emerging forest markets.

Western forests provide critical ecosystem services such as clean water, wildlife habitat, wood products, flood protection, erosion control carbon sequestration and much more.

In 2015, South Dakota Department of Agriculture, Division of Resource Conservation and Forestry was awarded funds through the WFLC Western Landscape Scale Restoration grant competition. The project developed a model for shared land management in the Black Hills on a landscape-scale between private landowners, non-governmental agencies and the state and federal governments. The goals identified in this successful project included: 1.) The hiring of a Resource Conservationist to reduce the backlog of forest stewardship plan requests in order to mitigate forest fragmentation, improve habitat connectivity, and increase fuels reduction; and 2.) The improvement of forest management on private lands in close proximity to federal and state forest lands to improve forest health and wildlife habitat.

This grant enabled South Dakota to facilitate collaboration with multiple forest management entities while securing a positive outcome for private landowners ensuring the sustainability of their forests and lands.

Water

Water is the lifeblood of the natural systems, economies and culture of the western U.S. and Pacific islands. Yet across the West, water quality and quantity continues to be challenged. As a result, all CWSF members have identified water as a critical priority within their Forest Action Plans. According to the U.S. Forest Service, western forests are the source for two-thirds of the region's water supply.

The threats to western forested watersheds are many and complex: Human development and forest fragmentation (loss of forest cover), declining forest health, increasing catastrophic wildland fire (degraded forests and watersheds), and widespread drought. Of the many uses, benefits and resources provided by western forests, water is among the most critical given its essential value for human life and the health of our natural landscapes. Western forested watersheds also contribute significantly to the health of the aquatic habitat of hundreds

of fish and wildlife species, many of which are threatened or endangered. Fresh water is particularly important to the Pacific islands, where streams provide water for drinking, cooking, bathing and recreation, as well as support healthy coral reef ecosystems.

In 2015, the National Association of State Foresters (NASF) released a report on forestry best management practices (BMPs) for water quality, accompanied by an interactive map detailing practices in each state. The Protecting Water Quality through State Forestry Best Management Practices report can be found online at <http://bit.ly/NASFWaterBMP>.

Additionally, as described in Idaho Department of Land's Forest Action Plan National Priorities, Idaho and Montana coordinated a Forestry Best Management Practices for Water Quality project. This project provided educational tools for forest managers, contractors, and landowners to ensure best management practices are implemented correctly. The project developed a user-friendly field guide, 40-minute instructional video, and web site available at <http://www.uidaho.edu/extension/idahoforestrybmps/>.

CWSF works to protect, restore and enhance water quality and quantity across the West through widespread collaboration across state lines and jurisdictional boundaries on policy development and program delivery.

Climate Change

Western and Pacific island forests play a critical role in the national strategy to address climate change and variability. It is essential that these forests and the benefits that they provide—carbon sequestration, forest products, clean air, clean water—be a part of regional and national climate solutions.

Western forests are continually faced with new stressors and challenges such as: catastrophic wildfire, drought, deteriorating forest health, native and invasive species and disease, and fragmentation and conversion of forests. The impacts of climate variability are wide-ranging. Sustainable forest management and forest conservation are needed to ensure that western and Pacific island forests continue to remove carbon from the atmosphere, improve soil and water quality and reduce wildfire risk.

In an effort to reduce the impacts of wildfires on communities and threatened rare habitats near them, Hawaii works to educate teachers, students, and other community members on wildfire concepts. As referenced in the Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) Forest Action Plan, DOFAW has helped to develop and update 13 Community Wildfire Protection Plans across the state.

Working Together

The highlighted examples from our member agencies demonstrate the clear overlap between the interests and priorities of the National Woodland Owners Association and the Council of Western State Foresters. This is especially evident within NWOA's Rocky Mountain, Northwest and Southwest Regions. Organizations and associations such as ours ensure there is representation on our priority issues at both the regional and national level. Working together to leverage this important work will ensure continued success.

We encourage you to learn more about the Council of Western State Foresters by visiting www.westernforesters.org. We also invite you to sign up for our monthly e-newsletter at <http://bit.ly/CWSFnewsletter>.



Aerial view of "islands" of ponderosa pine forest at the eastern-most limit of the tree's natural range in Elbert County, Colorado.



Nearly complete defoliation of ponderosa pine forests occurred in 2014 on 7,400 acres in Elbert and northern El Paso Counties, CO.

A Pine Sawfly Outbreak at Forest's Edge

By William M. Ciesla, Dan West, and Meg Halford*

Almost all of Colorado's forests occur west of Interstate Highway 25, which borders the eastern extent of the Rocky Mountains. The Great Plains begin at this main north-south corridor and, except for cottonwoods along river bottoms and windbreaks and shelterbelt plantings, trees are scarce here.

However, between Denver and Colorado Springs, there is a portion of the western-most edge of the Great Plains that is exceptionally high in elevation—around 6,300 feet. This area receives enough moisture to support forests that consist of pure, open stands of ponderosa pine on ridges scarcely higher than the surrounding plains. These ridges form the easternmost edge of the range of ponderosa pine in the state.

Most of these unique ponderosa pine forests occur in Elbert and El Paso Counties, in a lightly populated area of ranches and residential developments that serve as bedroom communities for the larger cities to the north and south. These forests add diversity to the landscape and provide shade, recreational opportunities and a source of fuel wood for local residents. All of these forests are privately owned, either by ranchers, or as small residential properties of approximately two to five acres.

These pine forests also provide a favorable habitat for a species of pine sawfly (*Neodiprion autumnalis*). The sawfly larvae feed in colonies on ponderosa pine needles during June and July and then drop to the soil to form cocoons and pupate. Adults are small wasps that emerge in September to mate. Females then deposit eggs in individual slits they

cut into pine needles. The eggs overwinter and larvae hatch in early to mid-June. This sawfly occurs throughout the western U.S., portions of Canada and south into Mexico. The forests of Elbert and adjoining El Paso County seem to be especially suitable for this sawfly. Almost every year, there are enough sawfly larvae present to be noticeable to landowners and some trees may suffer light to moderate defoliation.

One rancher, who has lived in Elbert County for 16 years, reported that he has seen sawfly colonies and defoliation on his ponderosa pines every year. In addition to the presence of pure ponderosa pine forests, which are favored by the sawfly, another factor that favors this insect is that soils in this area are sandy, which makes it easy for mature larvae



A colony of mature larvae of the pine sawfly, *Neodiprion autumnalis*. Bugwood.org photo

*William M. Ciesla is a forest health consultant, based in Fort Collins, Colorado and was under contract to the Colorado State Forest Service when this work was completed. Dan West is the entomologist for the Colorado State Forest Service, based in Fort Collins, Colorado. Meg Halford is assistant district forester, Franktown District, Colorado State Forest Service, Franktown, Colorado. Photos by W. Ciesla except where otherwise credited.

to burrow and find suitable sites for pupation.

In 2014, a major pine sawfly outbreak erupted in Elbert County and portions of northern El Paso County. By late July, pines over large areas were stripped of their foliage with some 7,400 acres of aerially visible defoliation mapped during the annual Colorado aerial forest health survey. In the most heavily infested areas, foliage was totally consumed by half-grown larvae, which then migrated down the boles of infested trees in search of more food. Masses of larvae, sometimes one to two inches deep, accumulated at the bases of infested pines to die of starvation.

According to one landowner, the first indication that something was amiss was what sounded like a gentle rain falling in the pine forests, despite the lack of precipitation. This was due to the dropping of frass pellets by the feeding larvae. Several days later the trees were bare.

"The huge number of larvae on our property was like something out of a science-fiction movie," another landowner said.

Several landowners sprayed their trees with insecticides but treatments were too late in the season to be effective. Other than to kill a few larvae, they accomplished nothing. The damage was already done. The trees were defoliated.

In November 2014, personnel from the Colorado State Forest Service (CSFS), Franktown District, in partnership with the Elbert County Extension Office, organized a public meeting at the County Fairgrounds in Kiowa—a small community northwest of the main outbreak area. Sixty-three concerned landowners attended the meeting. They were briefed on the life history and habits of the sawfly, the current status of the outbreak, tree survivability and available management measures.

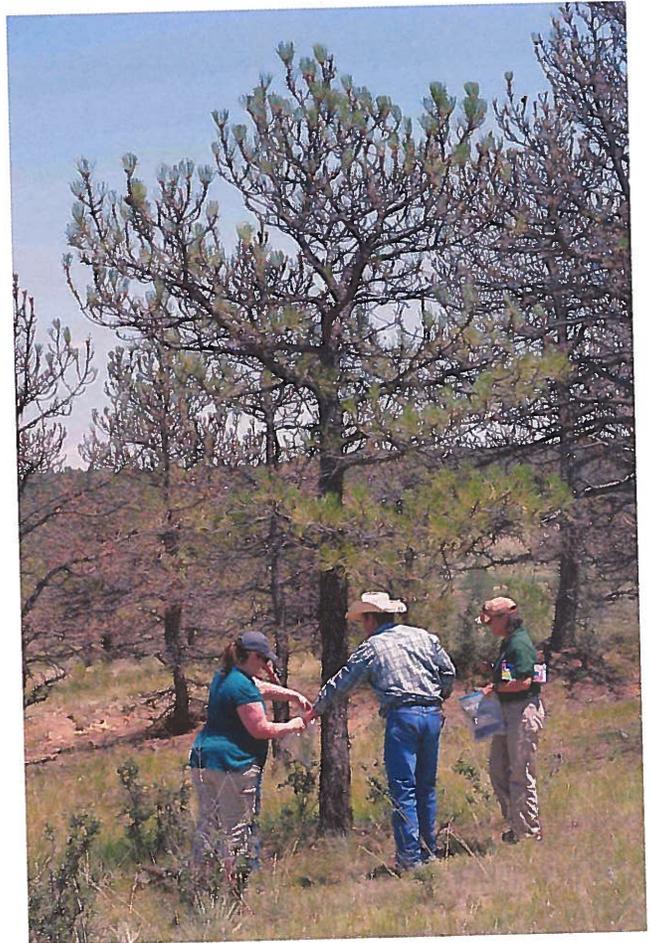
"What will happen next year?" was the question asked by most of the affected forest landowners.

In order to answer this question, the CSFS designed and conducted a pine sawfly egg survey to make predictions for 2015. The survey was adapted from a late 1950s study, which investigated a similar sawfly affecting red pine plantations in New York State.

Sample points, each consisting of clusters of ten ponderosa pines, were established on properties in and near the outbreak. Two 15-centimeter (5.91-inch) branch samples



Large numbers of half-grown larvae, dying of starvation, accumulated at the bases of many ponderosa pines. *Bugwood.org photo*



A rancher and officials with the Colorado State Forest Service examine ponderosa pines defoliated by the pine sawfly in Elbert County.

were removed from the mid-crowns of each sample tree and examined for egg-infested needles. If between 14 and 41 egg-infested needles were tallied on the sample branches, light to moderate defoliation was predicted for 2015. If the number of egg-infested needles exceeded 42, heavy defoliation was predicted. All of the sample trees were rated for intensity of 2014 defoliation using a six-class system and it was planned to also rate defoliation in the summer of 2015. A team of entomologists and technicians from U.S. Forest Service, Rocky Mountain Region in Lakewood, Colorado also assisted with the survey.

The egg survey began in October 2014 but due to winter weather, was not completed until the following April. Sixty-six sample points were established on 18 properties. The number of egg-infested needles per sample point ranged from 0 to 205. Thirty-four of the sample points had fewer than 14 egg infested needles, suggesting that defoliation at those sites in 2015 would be light or undetectable. Nineteen sample points had between 15 and 41 egg-infested needles, predicting moderate defoliation in 2015, and 13 sample points had more than 42 egg-infested needles, predicting that defoliation for 2015 would be severe. Also branches from five of the sample points with "severe" predictions had more than 100 egg-infested needles. Thus the egg survey clearly indicated that the outbreak would most likely continue in 2015.

Several factors confounded the outcomes sought in this survey. As a result of the egg survey, a number of forest



During a public meeting, Meg Halford, Colorado State Forest Service, Franktown District, Assistant District Forester, points out areas of pine sawfly defoliation on an aerial forest health survey map of Elbert County.

Due to a combination of aerial spraying, egg hatch failure and heavy rains during June, the sawfly outbreak was much reduced in 2015. Only 795 acres of light to moderate defoliation were mapped during the annual aerial forest health survey during late July.

What was most striking was the degree of recovery in many trees that had suffered nearly complete defoliation in 2014. By August 2015, their crowns were lush and green and there was no indication that they had been stripped of their foliage the previous year. This almost spectacular recovery is attributed to record rainfall during May and June 2015. May alone, with 21 days of rain, represented the heaviest May precipitation along the Colorado

landowners on whose properties moderate to heavy defoliation was predicted, joined forces and contracted to have their properties aerially sprayed in early June, at the time of sawfly egg hatch. Also, on one property in particular, situated some distance from the main body of the outbreak and where moderate to heavy defoliation was predicted and which was not sprayed, the sawfly eggs simply failed to hatch. The reason for the failure is unknown. Heavy local summer rains at time of egg hatch also occurred and may have impacted the 2015 sawfly population.

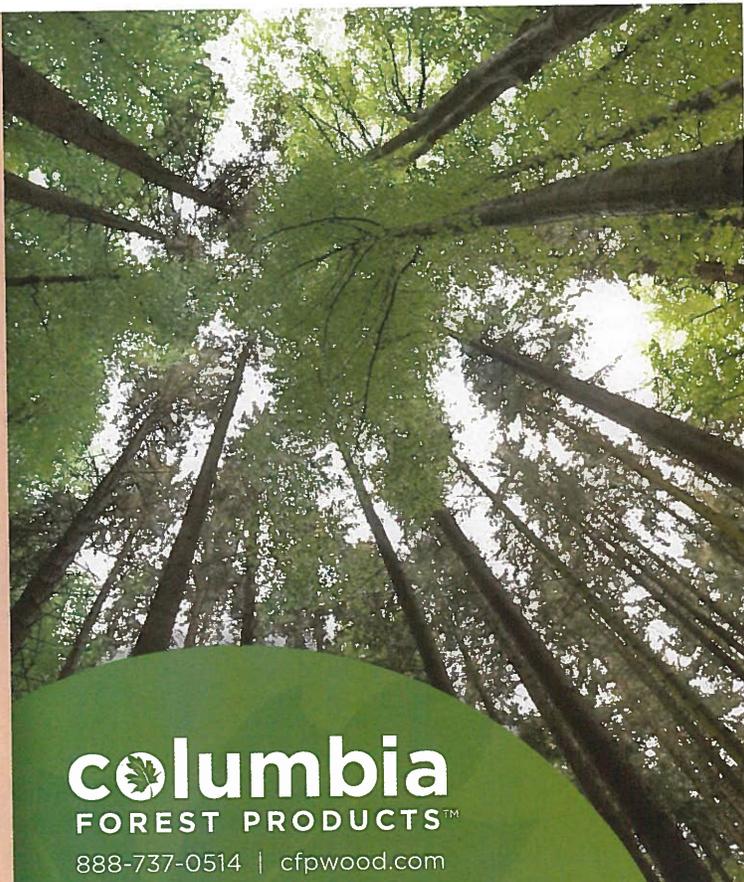
Front Range ever recorded, since weather data collection began during the 1890s.

What will happen in future years? Clearly this pine sawfly is an integral part of eastern Colorado's ponderosa pine ecosystem and episodes of varying degrees of defoliation can be expected to continue. Hopefully, as has been the case in the past, a major outbreak, similar to the one observed in 2014, will be the exception rather than the rule.



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.



columbia
FOREST PRODUCTS™

888-737-0514 | cfpwood.com



The Greatest Good For..... The Greatest Number

Forest Research—State & Private Forestry—National Forests



Drought, Fire & Forests: New Assessment Provides Critical Information

by Zoe Hoyle, USFS Southern Forest Research Station

The 2015 wildfire season was the costliest on record, with about \$1.71 billion spent by the Forest Service on fighting fires. During one particular week in the summer of 2015, firefighting cost \$1.6 million per hour. Most of the fires of 2015 hit western states like drought-stricken California, where fire risk remains high due to four years of drought that's resulted in the deaths of millions of trees.

As temperatures rise and precipitation patterns change under climate change, it's likely that drought—and associated disturbances such as insect outbreaks and wildfires—will only get worse across many areas of the U.S. Large stand-level changes in forests are already underway in many parts of the West, but all U.S. forests can be impacted by drought.

In the South, the 2011 drought set off timber fires in both Georgia and Texas. In 2007, over a third of the region was classified in "exceptional" drought and the city of Atlanta declared a water emergency. That same year, Georgia experienced its largest wildfire on record when the Georgia Bay Complex burned 441,705 acres of forest.

How can forest managers address the impacts of short-term and long-term drought conditions and manage their lands for a hotter and drier future? A newly published report by the U.S. Forest Service provides a national assessment of the impacts of drought on the nation's forests and rangelands and gives the scientific foundation required to develop strategies that managers can use to increase the resiliency of their forests.

"Management actions can either mitigate or exacerbate the effects of drought," said Jim Vose, the Forest Service Southern Research Station (SRS) scientist who served as one of lead editors of the report. "This synthesis establishes the scientific foundation needed to manage forests for drought resiliency and adaptation."

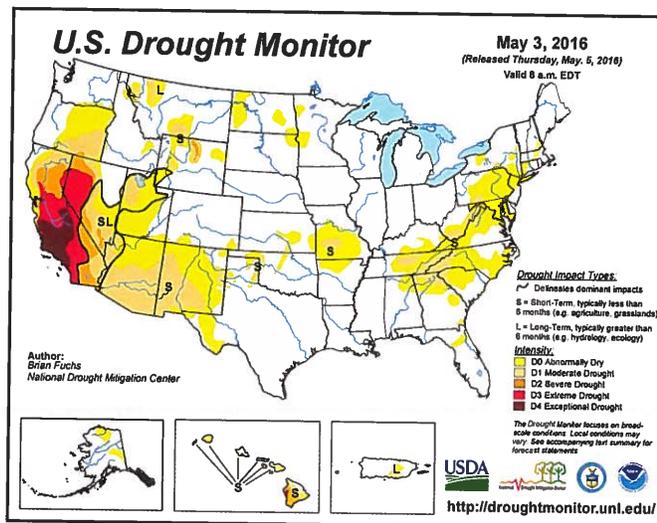
Forested land alone comprises nearly one-third of the total land area of the U.S.—the single largest classification of land cover in the country. Although the assessment is national in scope, it identifies and discusses key regional

concerns such as large-scale insect outbreaks and increased wildfire risk in the western U.S.

"This is not to say that drought doesn't affect forest resources of the East," says Vose, project leader of the SRS Center for Integrated Forest Science. "The key difference

between the western and eastern U.S. is the scale, frequency, and pace of change. The less obvious impacts in the East could have equal or greater consequences because of the large human populations living near forests and relying on them for many key purposes, including clean water."

For example, forested watersheds are critical for the water supplies of many cities, including New York City and Atlanta.



Major findings from the report include:

- Drought projections suggest that some regions will become drier and that most will have extreme variations in precipitation.
- Even if current drought patterns remained unchanged, warmer temperatures will amplify drought effects.
- Drought and warmer temperatures will increase risks of large-scale insect outbreaks and larger wildfires, especially in the western U.S.
- Drought and warmer temperatures will accelerate tree and shrub death, changing habitats and ecosystems in favor of drought-tolerant species.
- Forest-based products and values—such as timber, water, habitat, and recreation opportunities—will be negatively impacted.
- Forest and rangeland managers can mitigate some of these impacts and build resiliency in forests through appropriate management actions.

More than 70 scientific experts from the Forest Service, other federal agencies, research institutions, and universities across the U.S. participated in the synthesis. The key issues addressed in the synthesis were identified from a series of virtual workshops with scientists and stakeholders.

Understanding the Effects of Drought on Forests and Rangelands

A new publication entitled "Effects of Drought on Forests and Rangelands in the United States: A Comprehensive Science Synthesis," is available as a pdf on the Forest Service website, www.fs.fed.us. The following discussion is from the Executive Summary.

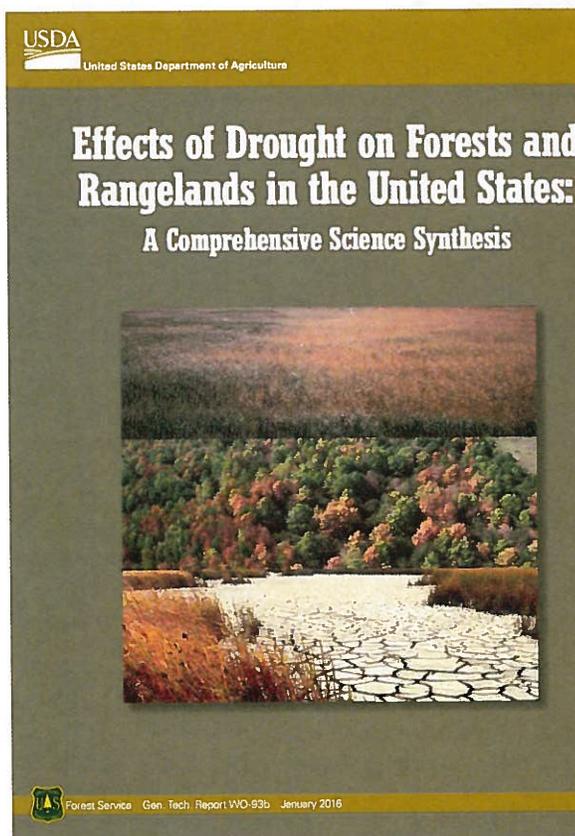
There is a critical need to understand how drought affects forests and rangelands, in part because drought severity and drought-associated forest disturbances are expected to increase with climatic change. Drought affects forest and rangeland systems both directly and indirectly. In regions where seasonal droughts are common, forest and rangeland ecosystems respond through various physiological and morphological adaptations. In regions where drought is less common, responses can be substantial because ecosystems are not well adapted to drought conditions.

High evaporative demand, the combination of high temperature and low humidity, combines with low soil moisture to induce stress through closure of stomata, which can lead to carbon stress, loss of hydraulic function, and mortality. Species vary in their vulnerability to drought due to differences in their allocation to roots, mycorrhizal associations, and xylem anatomy (chapter 3). Large stand-level impacts of drought are already underway in the West, but all U.S. forests are vulnerable to drought. Changes in climate will continue to stress forests and alter suitable habitat. Combined field evidence and models suggest that climate change is causing relocation of habitats at rates much faster than populations of trees can migrate. Reorganizations of stand structure and species composition are expected to lag behind shifts in habitat caused by increasing drought and temperature change (chapter 4).

Droughts are predicted to accelerate the pace of invasion by some nonnative plant species into rangelands and grasslands. Drought can also promote plant invasion indirectly by modifying the environment to favor nonnative species. For example, opportunities for invasion are created when drought kills native plants leaving open niches and bare ground (chapter 8). Drought is also an important contributor to the invasive annual grass-wildfire loop that threatens ecosystems not adapted to fire (e.g., cheatgrass' positive feedback with fire in parts of western North America's sagebrush biome). In this self-perpetuating cheatgrass-fire loop, drought increases the frequency of wildfires, and nonnative plants (especially annual grasses) are likely to invade burned sites.

Drought alters ecosystem processes such as nutrient, carbon, and water cycling in ways that are not yet well understood (chapter 5). Drought tends to slow nutrient uptake by plants and reduce retranslocation of foliar nutrients with premature leaf senescence. Dieback that results from combinations of drought and natural enemies can severely reduce carbon exchange between atmosphere and biosphere. Recent large diebacks have had global impacts on carbon cycles, including carbon release from biomass and reductions in carbon uptake from the atmosphere, although impacts may be offset by vegetation regrowth in some regions.

Indirect effects of drought on forests can be widespread and devastating. Notable recent examples include insect and pathogen outbreaks (chapter 6) and increased wildfire risk (chapter 7). Available evidence suggests a nonlinear relationship between drought intensity and bark beetle outbreaks;



moderate drought reduces outbreaks whereas long, intense drought can increase them. As a consequence of long-term drought and warming in the Western United States, bark beetles are currently the most important biotic agent of tree mortality. Multiple large outbreaks have killed hundreds of millions of trees in recent decades. Host trees weakened by drought allow beetle populations to build. Warming facilitates northward range expansion. In contrast, there is little current evidence for a role of drought in bark beetle outbreaks in coniferous forests of the eastern United States. Fungal pathogens are poorly understood, but available evidence suggests reduced pathogen performance and host impacts in response to drought for primary pathogens and pathogens whose life cycle depends directly on moisture. In comparison, secondary pathogens that depend on stressed hosts for colonization are anticipated to respond to drought with greater performance and host impacts.

Historical and pre-settlement relationships between drought and wildfire have been well documented in much of North America, with forest fire occurrence and area burned clearly increasing in response to drought. This body of evidence indicates that the role of drought in historical and likely future fire regimes is an important contingency that creates anomalously high potential for ignition, fire spread, and large fire events. However, drought is only one aspect of a broader set of controls on fire regimes, and by itself is insufficient to predict fire dynamics or effects. Whereas the relationships between fire occurrence or area burned and drought are well documented, the relationship between drought and fire severity can be complex.

Two Issues Affecting Timber Taxes

by Dr. Linda Wang

Issue 1: Form 1099-S for Timber Sales

General rules. A business taxpayer must issue Form 1099 to a vendor when the taxpayer pays that vendor more than \$600 during the year for rent or services in the course of a trade or business. Payments to corporations are generally exempt from Form 1099 reporting. However, payments of attorney fees in the course of a trade or business must be reported even if the law firm is incorporated.

Rules for timber. For standing timber sales, Form 1099-S (Proceeds from Real Estate Transactions) is required (Tax Code Sec. 6050N and Tax Regulation Sec. 1.6045-4). For example, a consulting forester is engaged to conduct a timber sale for his client.

In the planning phase, the consulting forester informs the client that proper steps must be taken to ensure the timber sale meets all tax reporting requirements as well as qualifies for the special tax breaks. The consulting forester knows that the standing timber sales are subject to Form 1099 tax reporting, he agrees to file the form with the IRS and also send a copy to the client. He will keep a copy for his own records. When the client does his tax return at the tax time, the client will use the form to report the timber sale.

Note that effective after May 28, 2009, Form 1099-S is required for lump-sum standing timber sales. Pay-as-cut

standing timber sales have been subject to Form 1099 reporting for years.

Penalties. The amount of the penalty is based on when you file the correct form. According to the IRS Instructions on Form 1099, the penalty is:

- \$50 per form if you correctly file within 30 days (by March 30 if the due date is February 28); maximum penalty \$532,000 per year (\$186,000 for small businesses).
- \$100 per form if you correctly file more than 30 days after the due date but by August 1; maximum penalty \$1,596,500 per year (\$532,000 for small businesses).
- \$260 per form if you file after August 1 or you do not file required form; maximum penalty \$3,193,000.

Issue 2: Estate Tax Planning

Under current law, a taxpayer does not pay federal estate tax if his or her estate is less than \$5 million (indexed for inflation, American Taxpayer Relief Act of 2012). For example, a taxpayer, who died in 2016, had a total estate value of \$300,000, including timberland and farm. Because his estate is less than the \$5.45 million exclusion amount, his estate is not subject to the federal estate taxes. A federal estate tax return is not required.

The annual exclusion is: \$5,120,000 (2012), \$5,250,000 (2013), \$5,340,000 (2014), \$5,430,000 (2015), and \$5,450,000 (2016). For taxpayers whose estate is more than the annual exclusion amount, Form 706, United States Estate (and Generation-Skipping Transfer) Tax Return, must be filed. The taxable estate (the amount over the deductions, exclusion, credits and expenses) is subject to 40 percent estate tax rate for 2016.

Although a "permanent" \$5+ million exclusion now exempts most estates from federal estate and gift taxes (and generation-skipping transfer tax), estate planning remains an important issue for woodland landowners transferring land from one gen-



In the planning phase, the consulting forester informs the client that proper steps must be taken to ensure the timber sale meets all tax reporting requirements as well as qualify for the special tax breaks. Photo: SFI of Pennsylvania.

eration to the next.

First, landowners still need to plan for the adjustment of basis (cost) of the property to the heir. This affects the federal income tax when the heir sells the timber down the road. For example, an elderly woodland owner plans for his woodland transfer to his son.

When he acquired the property, the basis of the timber was only \$5,000 to him. But over the years, the timber has grown and the value has appreciated significantly. The fair market value of the timber is now \$40,000.

If his son inherits the property upon his death, his son would avoid a large federal and state income tax when he sells the timber. That's because the basis of the timber to his son is the fair market value of the timber at the decedent's death according to the tax law, which is \$40,000+ in this case, not \$5,000. This is the so-called "stepped-up" basis for inherited property. If the father gives the property to his son while he's still alive, the basis of the timber in his son's hand is only \$5,000. His son will pay taxes on the \$35,000 gain (the difference between \$40,000 and \$5,000). This is because in this case, the basis of the timber for his son is his father's basis when the property is transferred by gift.

Second, at the state level, some 18 states impose state estate taxes or inheritance taxes which may have a much lower exclusion/exemption amount than the federal one. In other words, even if an estate is not subject to the federal estate taxes because it is under the federal exemption threshold, state estate/inheritance taxes may be due.

For example, Maryland imposes both estate tax and inheritance tax. In 2016, an estate with a gross value of more than \$2 million may owe the Maryland estate tax (property that is left to the spouse is exempt from the estate tax no matter the size of the estate). The Maryland inheritance tax rate doesn't depend on the size of the estate; instead, it's based on how closely related the deceased person is to the people who inherit from him or her. The Maryland estate tax return is due nine months after the death (unless the person administering the estate requests an extension).

Third, probate, creditor and liability protection, dealing with future generation's potential conflicts and rifts, legal entity choices for the property, potential forced property sales as well as many other non-tax issues continue to be important for estate planning. These are complex legal or family issues and each family has unique situations that need to be carefully considered for succession planning. One of the biggest problems for woodland owners is that the next generation may lack of interest or knowledge on how to manage the woodland.

Fourth, for large estates, tax planning as well as estate planning continue to be important due to the high estate tax rates and the complexity of "portability" issue. For estates with more than \$5 million value, if the taxpayer is married, a couple will have a combined \$10+ million exemption, which may help avoid the trigger for the estate taxes. For single taxpayer, wealth planning techniques may be necessary to save taxes.

For extremely large estates with more than \$10 million value, minimizing federal estate taxes may become crucial planning goal. The "portability" refers to surviving spouse's ability to use the deceased spouse's unused exclusion amount. The estate's administrator (executor or trustee) must file an estate tax return—Form 706—to elect portability, even if the estate is under the filing threshold (\$5.45 million in 2016).

NATIONAL WOODLANDS SUMMER 2016



Timber income from gifted land vs. inherited forestland is treated differently by the IRS.

Summary

- When woodland owners plan to have a timber sale, be aware that one of the tax reporting requirements is the filing of Form 1099 for the timber sale. Make sure one of the parties involved in the sale transaction such as an attorney who handles the closing transactions, the timber buyer, the consulting forester, or the mill, issue 1099-S timely and correctly. When you receive the form, check the amount of the payment for the timber and take action early to get a corrected form if there's error.
- Whether or not the woodland owner receives Form 1099, timber sales are taxable income.
- Although the federal estate tax exclusion is \$5.45 million (2016), tax and estate planning may continue to be an important issue. This is due to issues such as the property basis for the heir, the state estate tax, the probate, liability protection and family conflict over inheritance.
- The annual gift exemption amount is \$14,000 per recipient for 2013-2016.



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.



WOMEN OWNING WOODLANDS

Recreation in Oregon Forests

by *Tiffany Fegel*

Aesthetics and recreation are two of the leading reasons woodland owners cite for why they own forested property. After talking with some local Oregon Women Owing Woodlands Network members it is obvious that recreation is an important element of forest ownership for them. They are out in the woods doing everything from horseback riding to plant identification. And often they are taking friends and family along to get them engaged with the forest. Here some of these women share what they are doing in their woods.

What recreational activities do you participate in on your woodlands?

"Hiking and picnicking, bough collecting, berry picking etc. And lots of photography!"—*Margaret*

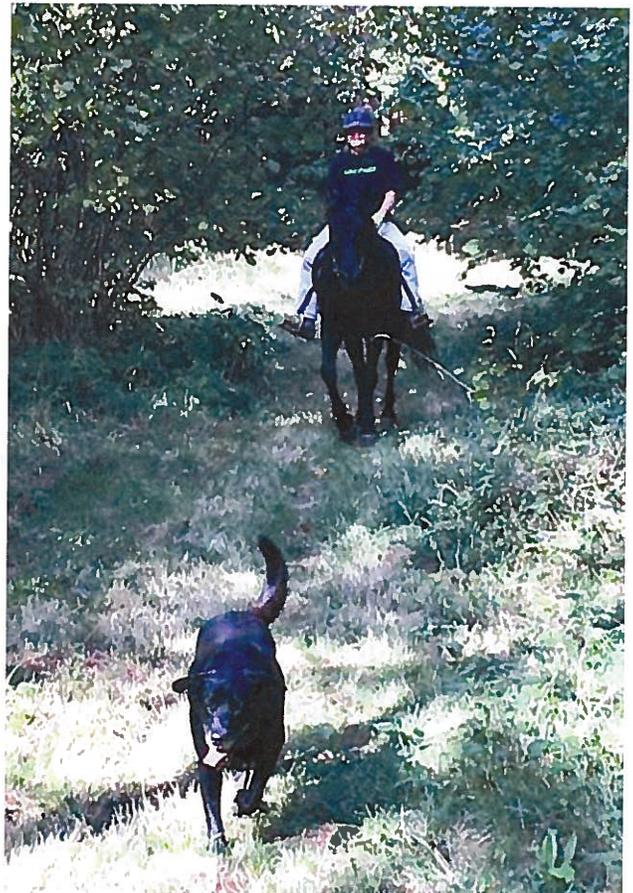
"I hike 2-3 miles down to my stream daily and take visitors as often as I can. I like to tell people the names of all trees and plants, if they are not familiar with our forests, and their significance."—*Candace*

"I ride my horse in my forest and also build new trails for hiking and horse riding. Of course I invite my friends to go hiking on my trails and they tell me 'Gail, these aren't really trails.'"—*Gail*

"We have built connecting meandering walking paths down through the woods, as well as several benches, staircases, and 2 bridges that cross our small stream."—*Nancy*

Mission Statement

The Women Owing 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



What recreational activities do you encourage others to participate in on your woodlands?

"We recently hosted a hiking group I started. We have also invited basket weavers out to collect material. We host family picnics and also church group picnics (with a barbecue or a fire in the fire pit when season allows). We also have regular hunters that come out every year, and my brother has some hunting stands. We allow horseback riding with permission and groups and individuals have done that."—*Margaret*

"We are developing mountain biking single track trails on our small property. The trails will also be used for walking/hiking and will provide easier access to much of the forested area."—*Shelley*

"When I was teaching Biology at Clackamas High School, I sometimes brought students here in the spring to study and identify native wildflowers. We are not hunters, but encourage some of our neighbors to hunt for deer on the property, usually with bow and arrow. We are the only family we know of in this area that has developed paths to encourage people to explore the woodland. To us, it is pure paradise, and I would encourage more folks to make their woodlands accessible to others."—*Nancy*

Why is recreation on your woodlands important to you?

"Partly, we just like to entertain and show off our property—share what we have. My brother, as manager and a Master Woodland Manager, is always looking for ways to educate people about forestry and tree farming. As a guide on hikes, he is very informative and people seem to enjoy that. We are thinking about developing campsites, which would serve as an additional revenue stream for the tree farm."—*Margaret*

Protecting What You Drink

by *Bethany Keene*

Land and water. We always talk about them together, but why?

The reason is simple: to care for the land is to care for the water. In fact, it's that very idea that established the Delaware Highlands Conservancy. When the Conservancy's founder Barbara Yeaman first canoed the Upper Delaware River in the 1980s, she was shocked at what she found. She was visiting from Maryland, where increasing development was having a major impact on the region's rivers—but this water looked very different.

"What a change from the Potomac and Monocacy rivers that seldom ran clear anymore! Paddling the Upper Delaware revealed all kinds of fish and plants growing in the clear water under our paddles. I loved this new place, and was drawn to live here, but quickly realized that this river too could change," Barbara explains.

She knew that to prevent the Delaware from becoming similarly polluted, it was necessary to protect the land around it. Forests are the best water filters around—something that's easy to see for yourself if you take a look at a forested stream after a rainfall compared to a stream in a more developed area. Streams near developed areas will often turn brown after a storm because there is nothing to slow and filter the rainfall, or to prevent runoff from nearby surfaces. But rainfall in forested regions is captured by the trees and filtered through the soil and the roots before slowly making its way back into the water, so the stream continues to run clear.

Of course, everyone knows that clean, clear drinking water is a necessity for healthy people and a healthy world. But it's a very limited resource—only 2.5 percent of the world's water is fresh (not salt water), and we're only able to access one percent of it. Seven hundred and fifty million people (or, more than twice the population of the United States), already lack access to clean drinking water—a number that is only continuing to rise. But in the Upper Delaware River region, we have the increasingly rare opportunity to protect our water before it becomes polluted.

To care for the land means to care for the water. And to care for the water means to care for our health, now and for generations to come. To care for the water means to care



To care for the land means to care for the water.

for the wildlife that relies on it.

Whether or not you own land near a river or stream, you can take steps to ensure that our water stays healthy and clean—for people and for wildlife.

- Never pour anything onto the ground or into a stream that you wouldn't drink.
- Make sure septic systems are in good working order.
- Help your stream maintain its buffer zone—also known as a "riparian buffer"—which is the area of vegetation that separates the stream from development, whether a manicured lawn or a parking lot. Instead of mowing right to the edge, leave that vegetation where it is. It helps reduce runoff—which means sediment and chemicals won't end up in the stream—and provides important shade and wildlife habitat.
- Don't divert or change the course of a stream.
- You know not to dump trash in a stream, but don't put organic materials like leaves or grass clippings in there either, as they reduce the oxygen content. A better idea is to start a compost pile for your yard and kitchen scraps.
- Consider installing a rain barrel under a downspout, which captures runoff from your roof that can then be used to water your garden.
- If you do own forestland, you may want to work with a forester to develop a forest management plan and implement good forest stewardship practices. You may also choose to permanently conserve your land with a land trust like the Delaware Highlands Conservancy.

The most important thing to remember is that what you do to the land, you do to the water. And what you do to the water, you do to everything you drink. One thing is clear—if we want to keep our drinking water clean, we need to take a close look at the changes we are making to the land around us, and ensure we are doing all that we can to support a sustainable future.





National Historic Lookout Register

FIRE LOOKOUTS = EARLY DETECTION = SMALLER FIRES

Check www.nhlf.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.ffla.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's listing include a wide variety, representing six states from coast to coast.

Forestry on the highest point in the state about 1958. It is a 100' steel tower, and the cab has been removed.



Old Sentinel



Mounds

US# 1052 NJ# 25

The **Old Sentinel Fire Tower** built by the Orange County Watershed Commission is the first fire lookout in New Jersey. It may have been constructed as early as 1904, which would make it one of the oldest in the U.S. It is a 100' Blaw-Knox metal tower with a 7'x7' metal cab.

US# 1053, FL# 07

Standing on a slight rise known locally as the Indian Mount, **Mounds Lookout Tower** was constructed by the U.S. Fish & Wildlife Service in 1935. It is located on the St. Marks National Wildlife Refuge.



Phelps



Black Mountain

US# 1054, KY# 10

Located just north of the Virginia state line, **Black Mountain Lookout** was built by the Kentucky Division of

US# 1055, WI# 05

Constructed on the Nicolet National Forest in 1936, **Phelps Military Hill Veterans Lookout Tower** is a 120' Aermotor MC-39 tower with 7'x7' cab. It was used until 1960 and purchased as surplus by Lowell Buell in 1978, who donated it to the Town of Phelps as a historic site.



Bonanza King

US# 1056, CA# 101

Bonanza King Lookout on the Shasta-Trinity National Forest was named for one of the mines in the vicinity. A 14'x14' AR4 ground house with pyramid roof built in the 1920s, it continues to be actively staffed.



Ironside Mountain

US# 1057, CA# 102

A modified L-4 cab groundhouse, **Ironside Mountain Lookout** sits on the edge of a ridge overlooking the CA Route 299 deep in the valley. It was rebuilt in the 1980s and is regularly staffed by the



Leak Springs



Big Spring

Shasta-Trinity National Forest.

US# 1058, CA# 103

Leek Spring Lookout is a 14'x14' CL100 series metal live-in cab on a 40' tower. It is located on the Eldorado National Forest southwest of Lake Tahoe and is in active service.

US# 1059, FL# 08

Southside Forestry Fire Lookout is a 100' Aermotor tower with 7'x7' metal cab. It was built by the Florida Division of Forestry as the Flagler Fire Tower and moved to the present site and renamed "Southside" in 1938. It is the prominent feature in Jacksonville's Forestry Tower Park.

US# 1060, CA# 105

Weaver Bally Lookout is located on a reserved road well within the Trinity Alps Wilderness in the Shasta Trinity National Forest. The 14'x14' live-in flattop cab is a utilitarian design atop a 20'H brace metal tower. It is an active fire lookout.

US# 1061, ID# 105

Located in the Targhee National Forest southwest of West Yellowstone, **Big Springs Lookout** is a 100' Aermotor tower with 7'x7' cab. No longer maintained as a detection point, it can be reached on a one mile trail.

NATIONAL WOODLANDS

**20 Reasons Why We Are
America's Largest Circulation
Family Forestry Magazine**

1. **Every issue** features one of the four eco zones in the U.S.: North, South, East and West.
2. **In addition**, every issue has a special focus including: Wildlife, Timber Sales, Wildfire, Markets and current forestry news, stories, events and legislative alerts that affect woodland owners.

PLUS.....EVERY ISSUE INCLUDES THESE REGULAR COLUMNS:

3. **Woodland Report:** Lake Breaking landowner news from Washington DC and State Capitals.
4. **Washington Woodland Watch:** Actions of Congress and the Administration.
5. **Family Forestry Commentary:** Observation by the President of NWOA.
6. **Annual Reports from the Affiliated State Landowner Associations.**
7. **Timber and Taxes:** Reliable current news from the Forest Tax Counsel.
8. **Conservation News Digest:** Forestry events and issues from around the U.S.
9. **Forest Quotes of the Quarter:** Cogent quotes from politicians, environmentalists, and industry.
10. **Wednesday Woodland Word E-letter:** List of topics presented in the previous quarter.
11. **Regional Roundup:** News of markets, regulations, and events from NWOA's ten regions.
12. **The Readers Respond:** What you have to say about current issues.
13. **Women Owning Woodlands (WOW):** Featuring women owner issues and accomplishments.
14. **The Greatest Good for the Greatest Number:** Forestry reports from U.S. Forest Service.
15. **Questions and answers about optional Woodland and Hunt Club liability insurance.**
16. **National Historic Lookout Register:** Latest listings. "Small Landowners Can Only Afford Small Fires."
17. **Extension Forestry Education Programs:** On the ground and webinars.
18. **Quarterly Regional Reports from the National Association of State Foresters.**
19. **Current News from the National Association of Forest Resources University Programs.**
20. **The American Loggers Council/NWOA: Working Together.**

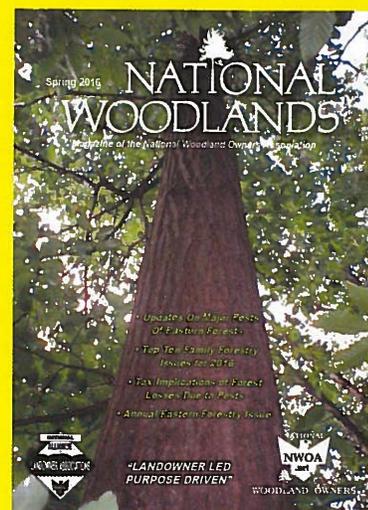
DID YOU RECEIVE TWO COPIES OF THIS ISSUE?

IF SO, PLEASE PASS IT ON TO A FRIEND

**EACH QUARTER WE MAIL AN INTRODUCTORY COPY OF
NATIONAL WOODLANDS TO LANDOWNERS, FORESTERS
AND LOGGERS WHO ARE GOOD PROSPECTS FOR JOINING
NWOA.**

**WE TRY HARD TO REMOVE DUPLICATE ADDRESSES, BUT
THEY DO SLIP THROUGH.**

**SHARE YOUR ADDITIONAL COPY WITH OUR
COMPLIMENTS.**





The Readers Respond.....

talk@nwoa.net

National Woodlands
374 Maple Avenue East
Suite 310
Vienna, VA 22180

Dear Editor:

For years, California forests have suffered significant impacts from the illegal cultivation of marijuana. In Northern California communities, millions of acres of lush forestland serve as the perfect hideout for those looking to avoid the laws and regulations that protect our wildlife and our watersheds.

The result has been streams and riverbeds that run dry from water diversion; poisonous rodenticides that enter the food chain and threaten endangered wildlife; and, the safety of land owners and workers.

Some thought that legalizing marijuana would help to regulate the industry and help protect the environment. Though California has yet to legalize the entire marijuana industry, it has moved forward with the legalization of medical marijuana.

As California begins to regulate a new industry, we have to ensure that it abides by the same stringent rules and regulations that are imposed on others in an effort to protect our natural resources.

Yet, so far, we have to question if that will in fact be the case.

In June, the California Legislature passed SB 839, a budget trailer bill that helps expedite the registration process for medical marijuana growers. In doing so, it allows growers to avoid some of the costly, time consuming and expensive environmental reviews that forest owners comply with.

For instance, in order for us to harvest timber, we comply with more than 1,300 planning, operational, and monitoring rules and regulations reviewed by no less than six different state agencies. In doing so, we must protect wildlife habitats regulated by Calif. Dept. of Fish and Wildlife (CDFW); protect watersheds regulated by water boards; protect air quality regulated by the air boards; provide a stream alteration agreement by CDFW and submit a proposal that is the equivalent of a California Environmental Quality Act (CEQA) analysis. This process takes an average of six months to complete and can cost more than \$50,000.

In contrast, growers who divert less than 20-acre feet of water annually, don't have to have a valid water right when applying for a permit. They only have to

show they have applied for one. They are exempted from a CEQA analysis and do not have to enter into a streambed alteration agreement.

Many existing landowners may ask where a marijuana cultivator's water is coming from. How can they obtain a license to cultivate marijuana if they don't have a valid water right permit? Will they be diverting water from other users who do possess a valid water right permit? How will this impact the careful balance of watersheds and wildlife? And in our 5th year of drought, is there enough water to satisfy existing water rights holders, protect our fish populations and provide extra to growers?

We can't answer those questions, and many of them will be addressed in soon-to-be developed regulations, but given the stringent laws that forest owners comply with every day, this doesn't

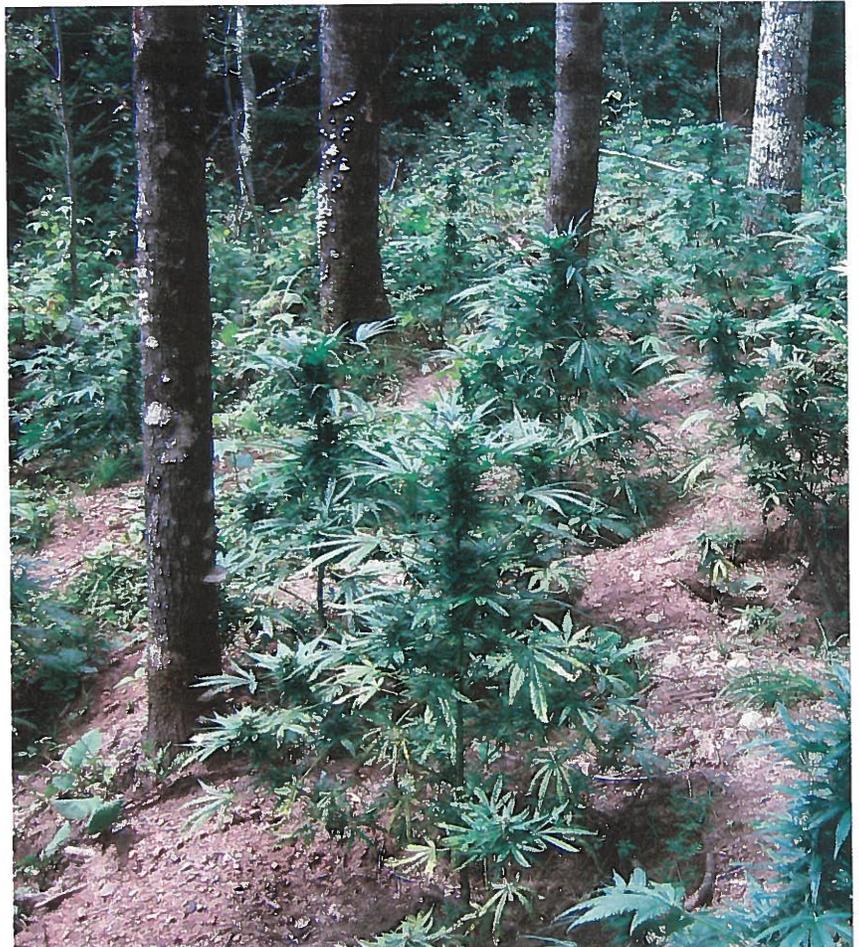
seem to compare.

We ask that our members watch and participate in the regulatory process to ensure that marijuana cultivators are held to the same high standards.

Our concern is that in an attempt to expedite the licensing process, California is sending a message to the medical marijuana industry, that the environment is a secondary concern.

Forestland owners have worked for years to ensure that forests are sustainable and protect both our environment and our economies. We'd like to see an even playing field when it comes to agricultural harvesting in California and expect that everyone who shares our natural resources are held to the same high standards—something that appears to be missing in the latest bill.

California Forestry Association
Sacramento, California





News from the Regions



Northeast

Vermont Forestry Omnibus Bill

The Vermont General Assembly is considering a Forestry Omnibus bill with implications for Vermont forest landowners and forest industries. According to the Vermont Woodlands Association, there are five parts:

- A right-to-practice forestry section that establishes that logging and forest management are not a public nuisance so long as they comply with Best Management Practices for water quality.
- A requirement that landowners notify the state forestry agency before harvesting timber. Small harvests are exempt.
- The bill will provide a trip ticket for every load of forest products transported to a mill, including the harvest notification number. This provision will not only cut down on timber theft, but has the potential to make more information available recording the volumes and values of wood delivered from harvest to buyer.
- Expanded protections for landowners from timber trespass by adding criminal penalties in addition to clarifying damages that landowners may pursue under civil action (including costs of litigation and investigation).
- The bill expands the scope of practices associated with forestry that are exempt from municipal regulation.

Because of its complexity, the bill is expected to evolve along the way.

Silvio O. Conte Wildlife Refuge Controversy

An overflow crowd of 150 people packed the Community Room at the Kilton Library in West Lebanon, New

Hampshire recently to listen to representatives of the U.S. Fish & Wildlife Service (USFWS) describe expansion plans for the Silvio O. Conte Wildlife Refuge and to voice concerns with those plans.

After listening to USFWS officials, Andy French, project leader for the Refuge, and Nancy McGarigal, natural resource planner, detailed approaches USFWS is taking to expand the Refuge. Many members of the audience expressed strong opposition to greater federal ownership of lands in the Upper Valley region. A common theme in many of the comments was that private ownership has protected land better than USFWS can. Another worry is that lands under the control of USFWS will be removed from active timberland management.

“Let us do our job,” said sawmill operator and New Hampshire Timberland Owners’ Association member Ben Crowell.

The Conte Refuge, established in 1991, covers the Connecticut River watershed in four states, from the Canadian border to the Atlantic Ocean, including nearly 8,400 acres in New Hampshire. It currently operates under a management plan adopted in October 1995. That plan is now being updated, with four proposals for expansion.

Vermont Bans Firewood Imports

A new Vermont rule prevents invasive insects from piggybacking into the state on untreated firewood.

As summer camping season arrives, visitors to Vermont should be prepared to buy firewood in-state or be able to verify that imported firewood is heat-treated to USDA-approved standards.

The Vermont Department of Forests, Parks, and Recreation already urges all campers and homeowners to purchase wood locally. The new rule strengthens protection of Ver-

mont’s forests by reducing the likelihood that invasive pests and pathogens, such as the emerald ash borer and Asian longhorned beetle, will enter the state.

Emerald ash borer, not yet detected in Vermont, has been found in 25 other states and two Canadian provinces, including Massachusetts, New York, New Hampshire and Quebec. Vermont has over 100 million ash trees which will be threatened by this tree-killing insect when it arrives. Other regulations already exist to prohibit transportation of logs from areas under quarantine for emerald ash borer.

In Vermont, firewood can be purchased at state parks, at many private campgrounds, and in nearby communities. “Most people understand that this new rule exists to protect the health of Vermont’s forests,” said Michael Snyder, Commissioner of Forests, Parks, and Recreation. “Buying local firewood reduces the risk of unknowingly spreading destructive insects. It’s something we can all do to protect the forest.”



North Central

“Good Neighbor” Authority Opens up National Forest Timber

An agreement gained by Wisconsin Governor Scott Walker’s administration to facilitate forest management and



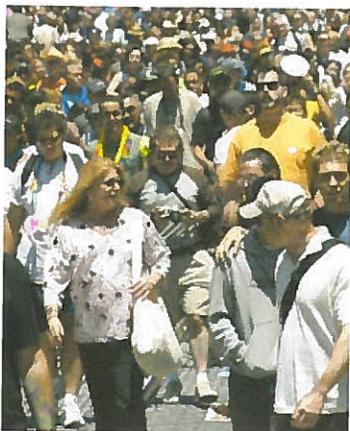
**NOT ALL SEEDLINGS
ARE CREATED EQUAL.**

VISIT US ONLINE

INTERNATIONALFOREST.CO

12 Of These Wonderful People

Sitting in a Jury Box



Could Ruin Your Life!

Woodland Liability Insurance

Up to 535 acres for
only \$150/year!

**"IT'S JUST
COMMON SENSE"**

**National
Woodland Owners**

**Serving Landowners
Nationwide**

woodlandowners.org

(703) 255-2700

watershed work in the Chequamegon-Nicolet National Forest is being put into action with the first timber cut and salvage operation now underway in the 1.5 million-acre forest.

As part of the Good Neighbor Authority agreement between the Wisconsin Department of Natural Resources and U.S. Forest Service, Wisconsin is pioneering the expanded authority granted by Congress that allows states across the country to build on the work being accomplished by the U.S. Forest Service. The agreement, which includes expanded forest-management and watershed-restoration activities on federal lands, promises to support jobs while improving wildlife habitat and water quality.

"This first project provides an excellent example of what we can accomplish for the environment and the economy," Walker said. "The winning bid for the project was awarded to a local employer to remove timber damaged in a windstorm. The wood itself has real value."

A portion of the receipts from the timber sales will reimburse the state for its costs to do the work, with remaining funds available for use in conducting additional forest-restoration activities in the future.

The Good Neighbor Authority was authorized in the 2014 Farm Bill for the Forest Service and the Bureau of Land Management. Good Neighbor Authority allows the Forest Service to enter into agreements or contracts with states for the performance of forest, rangeland and watershed-restoration services on National Forest System lands.

Iowa Using Bugs to Fight Other Bugs

Beneficial insects that will help battle the emerald ash borer (EAB) have been released in Jefferson County, Iowa. Several thousand stingless, parasitic wasps will be released at Whitham Woods near Fairfield, Iowa. This is the first release of the natural enemies of EAB in Iowa.

When EAB was accidentally introduced into North America from Asia, its natural enemies, unfortunately, did not accompany them. This effort is being made to reunite pest and natural enemies to help suppress EAB populations. Following rigorous testing and research one or more parasitic wasp species, native to Asia, have been released in 23 of the 25 states where EAB has been detected.

The parasitoids were produced and

supplied by the USDA EAB Parasitoid Rearing Facility in Brighton, Michigan.

"Due to the current situation of EAB in and around Fairfield, biocontrol seems justified at this point in time, said Mike Kintner, Iowa Department of Agriculture and Land Stewardship EAB and gypsy moth coordinator. "The use of biocontrol will not be a 'silver bullet' for the problems we face with EAB, but the natural enemies will serve as a long-term management strategy to lessen the impact of EAB."

The two species of parasitic wasps available by USDA Animal Plant Inspection Service target the larval and egg stages of EAB. *Tetrastichus planipennis* female wasps, which are about the size of a grain of rice, lay eggs inside EAB larvae, terminating their development into adult beetles. *Oobius agrili* female wasps, which are the size of a gnat, lay eggs inside EAB eggs, parasitizing them before given the opportunity to hatch. Both species are harmless to people.

According to the U.S. Forest Service, Iowa has an estimated 52 million rural ash trees and approximately 3.1 million more ash trees in urban areas. Additional suitable sites will be approved and utilized for biological control releases.



Heartland Region

Kentucky Enacts "Bad Actor" Law

A logger and/or operator who fails to comply with the rules and regulations specified in the Kentucky Forest Conservation Act (KFCA) will be designated a "Bad Actor." This means that the logger is responsible for a specific water quality violation and/or violations and has not corrected the violation for a particular logging site or sites.

The individual remains a bad actor until he or she officially requests to have the designation removed. As per KRS 149.342, no person shall conduct timber harvesting operations within the Commonwealth unless there is at least one logger on site and in charge of the harvest who has successfully completed the Kentucky Master Logger (KML) program. Violations of these terms will result in the designation of the logger as a bad actor.

Amendments to KRS 149.344 (11) requires bad actors who have not paid all civil penalties and completed all site remediation to provide prior notice to the appropriate regional office or offices of the Division of Forestry. The statute instructed the Energy and Environment Cabinet to promulgate administrative regulations to how to report, where to report, and what information to provide to comply with the notification requirements.

The Bad Actor Notice Provisions in 402 KAR 3:050 became effective on September 3, 2015.

- A bad actor who has not paid all civil penalties or completed all site remediation shall notify the Division of Forestry prior to conducting logging operations.
- The bad actor must continue to provide prior notification until all civil penalties are paid and all site remediation required by the division is completed.
- A bad actor shall notify the appropriate Division of Forestry regional office covering the county where the harvest shall occur by letter, facsimile, email, telephone conversation, or in person. A message left on an answering ma-

chine or voice mail does not count as a valid notification.

- The bad actor shall identify the anticipated date of the harvest and the location of the harvest site with enough detail to allow the division to locate the site in the field.
- The bad actor must provide the name of the landowner and the county and one of the following methods:
 - Latitude and longitude of the site.
 - USGS 7.5-minute topographic quadrangle map marked to show the name of the quadrangle map, the map scale, the north arrow, and the exact location of the site.
 - The nearest named community and the approximate distance and direction from the community to the site, the name and number of the nearest highway or street, and a description of how to reach the site from the nearest road intersection or other appropriate landmark.

Any bad actor who is required to notify but fails to notify will be considered in violation of the statute and subject to civil penalties. A logger and/or operator designated as bad actor may have the designation removed by complying with

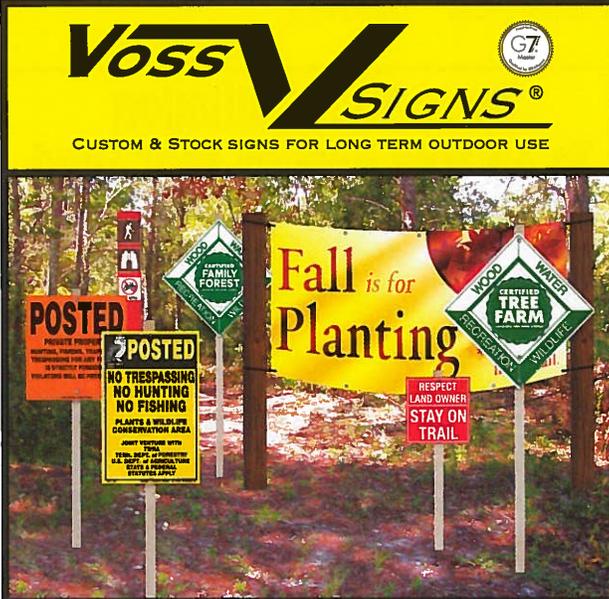
any and all final orders against them, including fixing all sites and paying all fines, request to have the designation removed by calling Timber Harvesting Compliance Section in Frankfort at 502-564-4496, and finally, sign an agreement stating that they will notify the division of every logging operation for the next two years.

Missouri Landowners to be Paid For Allowing Public Access

A new program offered by the Missouri Department of Conservation (MDC) will offer payments to private landowners for public access for hunting, fishing and wildlife viewing. The voluntary Missouri Outdoor Recreational Access Program (MRAP) also offers financial incentives for wildlife habitat improvement on enrolled lands. The program primarily focuses on enrolling lands in northern Missouri, where public access opportunities are generally more limited.

"This is a chance for property owners to generate additional income off the land," said Jeff Esely, MDC MRAP manager. "Participating landowners also have the chance to share their land with others."

The enrollment application period for



Voss SIGNS®
CUSTOM & STOCK SIGNS FOR LONG TERM OUTDOOR USE

Voss Signs, LLC • P.O. Box 553 • Manlius, NY 13104

Custom & Stock Signs • Trail Signs
Posted Signs • Full Color Banners
Sidewalk Signs • Posted Signs
Magnetics • Custom Decals
Vehicle Graphics • And Much More
Call Today For A FREE Catalog!



Scan this QR Code to go to our website.

Phone: 1-800-473-0698 • Fax: 315-682-7335
Visit Our Website For A Complete Selection Of Signs
www.VossSigns.com



FIRE BOSS

Powered by a 1600 HP Pratt & Whitney Engine



Over 70 Operating Worldwide

Spain • Australia • Montenegro
United States • Macedonia • Argentina

651.209.7191 www.firebossllc.com
1700 Henry Avenue — Fleming Field South, St. Paul, MN 55075

the program began on June 1 and will close on July 15. Approved landowners will be notified in August with enrolled lands becoming open for public use this fall. Funding for the program is provided largely by a \$1.1 million federal grant from the USDA Voluntary Public Access and Habitat Incentive Program. MDC offered a pilot MRAP program last year in northeast Missouri and enrolled more than 1,600 acres. This is the first year for a statewide program. MDC plans to enroll as many as 10,000 acres.

Annual payment rates will be determined by the access type selected by the landowner, amount of quality habitat available, committed participation length and other factors. Most landowners will likely earn \$15-\$25 per acre each year they participate. Payment rates for fishing-only access will be on an adjusted scale and will be based largely on impoundment size or stream length.



Mid Atlantic

Lyonsdale Energy Goes Into "Standby Mode"

Upstate New York's Lyonsdale Energy has gone offline and into "standby mode," the company announced in early May. However, the Lyonsdale facility's 22 workers still have their jobs under a state Labor Department program. The company said it went into standby mode "due to financial losses caused by record-low wholesale electricity prices." Parent company ReEnergy said layoffs were being avoided due to the state's Shared Work Program, which took effect on May 9. The Shared Work program will allow the employees to work a reduced work schedule and collect partial unemployment insurance benefits.

The Lyonsdale plant said it continues to accept fuel from some suppliers, but deliveries have been curtailed significantly. The facility will be maintained in standby mode so it is prepared to restart if dispatched by the state's grid operator, NYISO, or if electricity prices recover seasonally due to peak demand (likely in July and August and again in late fall and winter). The plant saw financial losses in 2015 and was projected to incur even

larger operating losses in 2016 and 2017 based on forecasted merchant energy pricing. In recent months, the company said it has aggressively reduced operating expenses, including reductions in fuel prices and the postponement of capital projects. ReEnergy also has been discussing energy sales agreements with various parties that would have allowed the facility to maintain a cash-neutral position. Those efforts have been unsuccessful thus far, but will continue, the company said.

ReEnergy's facility at Fort Drum, ReEnergy Black River, is unaffected by Lyonsdale's status change.

Southern Pine Beetle Effort Ongoing in New Jersey

In New Jersey, the southern pine beetle (SPB) is surveyed using aerial detection and select ground verifications. SPB damage is identified by pine tree crown color changing from yellow to red to brown, typically over contiguous areas. Additional symptoms associated with SPB include pine mortality, crown fragmentation, pitch tubes, exit holes, and larval galleries. In New Jersey, SPB mainly affects pitch pine (*Pinus rigida*), shortleaf pine (*P. echinata*), and Virginia pine (*P. virginiana*); it has also been observed infesting Norway spruce (*Picea abies*) and white pine (*Pinus strobus*). In 2014, SPB impacted 2,016 acres; this represents a decrease of approximately 3,630 acres from 2013. SPB is still mainly found in the southern counties of the state.

The New Jersey Forest Service (NJFS) has suppressed SPB on a total of 30.5 acres using the cut-and-leave method in Burlington, Atlantic, and Cape May Counties. SPB continues to infest New Jersey's native pine species on public and private property. NJFS continues to analyze prioritized sites on lands owned by the New

Jersey Department of Environmental Protection (DEP) and address those areas for suppression. Some landowners in the Forest Stewardship Program have updated their management plans to include suppression activities. NJFS performs extensive trapping, select ground verification, and aerial surveys annually. Three funnel traps are deployed in each of six southern counties for a total of 18 traps. All trapped insects are sent to the U.S. Forest Service Morgantown Field Office for identification.

Thirty-Seven West Virginia State Forestry Staffers Laid Off

West Virginia's Division of Forestry will lay off 37 workers to address a \$1.7 million shortfall in the new budget year.

A news release from the agency said lawmakers rejected legislation to fully fund the Division of Forestry, and the \$1.7 million shortfall will spur layoffs of more than one-third of the agency's workforce.

The affected employees work in fire protection, logging and timber management programs.

The reduction includes the elimination of 42 positions, five of which are vacant, one is a part-time employee and 36 are full-time. The layoffs will be determined by seniority.

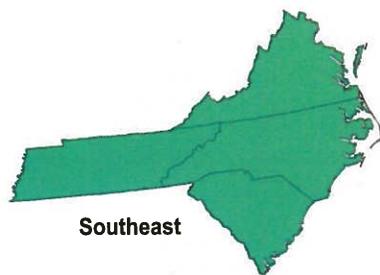
Show Your Affiliation To All Who Pass by Your Land



Available from the National Woodland Owners Assoc.

Sturdy 18"x18" metal sign, only \$15 plus \$4 postage; \$25 for two, plus \$5 postage

To order with VISA/MC call (703) 255-2700, or mail check payable to: NWOA National Woodlands Owners, 374 Maple Ave. E., Suite 310, Vienna VA 22180



Southeast

Southern Appalachian Forests Producing Less Water

In the densely populated southeastern U.S., forested watersheds are particularly important to drinking water supplies. Recent estimates show that forests in the Southeast deliver surface drinking water to an estimated 48.7 million people, with streams from the mountainous Southern Appalachian region alone providing water supplies to ten million people, many of them living in major cities such as Atlanta.

Newly published research from the U.S. Forest Service shows water yields from unmanaged forested watersheds in the southern Appalachian Mountains declining by up to 22 percent a year since the 1970s. Changes in water yield were largely related to changes in climate, but disturbance-related shifts in forest species composition and structure over time also played a role. The study findings have implications for managing the forest composition of watersheds to ensure water supply under future climate change.

“Climate and land use change have long been linked to changes in water yield,” said Peter Caldwell, research hydrologist for the Forest Service Southern Research Station (SRS) and primary author of the article recently published in the journal *Global Change Biology*. “This study is one of the first to show that gradual and subtle changes in forest structure and species composition, driven by climate change—as well as invasive insects and pathogens that act on a fraction of tree species within a forest—can also affect water yield.”

The scientists analyzed 76 years of data (1938-2013) collected from six unmanaged, reference watersheds at the SRS Coweeta Hydrologic Laboratory located in the southern Appalachian Mountains in North Carolina, to determine whether annual water yield from those watersheds has changed over time, and if so, to determine causes for significant changes. They tied measurements of climate and streamflow to data collected in long-term vegetation plots and measurements of water use

by individual tree species.

“We found that, from 1938 to the mid-1970s, annual water yield increased by as much as 55 percent, but that was followed by decreases of up to 22 percent by 2013,” said Caldwell. “The vegetation survey showed increases in forest basal area (area expressed as the cross-sectional area of all the trees in a stand) since the mid-1970s and a shift from oak and hickory species to poplar and maple, which can use up to four times as much water as oaks and hickories of the same size. Changes in forest structure and species composition alone decreased water yield by as much as 18 percent in a given year since the 1970s after accounting for climate.”

The forests in the Coweeta Basin reflect the disturbance history of the region, which in addition to climate change has experienced early 20th century logging, drought, hurricanes, and insect and disease outbreaks, these last including the extirpation of the American chestnut, once the most important species in southern Appalachian forests. In addition, the arrival of hemlock woolly adelgid in the

early 2000s has meant, at Coweeta, the almost total loss of a foundational riparian species, and an increase in the dominance of maple and poplar in the overstory and rhododendron in the understory.

“Prior to this work, large, abrupt changes to forest structure and species composition were needed to induce a change in water yield we could detect,” said Caldwell. “With the rise of ecohydrology as a discipline, we can now work across scales—from the individual tree to the mountain stream—to see the actual effects of species change in relation to climate.”

Trout Habitat Threatened In North Carolina and Elsewhere

A newly published research study that combines effects of warming temperatures from climate change with stream acidity projects average losses of around ten percent of stream habitat for cold-water aquatic species for seven national forests in the southern Appalachians—and up to a 20 percent loss of habitat in the Pisgah and Nantahala National Forests in western North Carolina.

Published in the online journal *PLOS*



Forestry based on
active research.
Visitors Encouraged.



Honoring the Past Growing the Future
STARKER FORESTS, INC

For 80 years, Starker Forests has practiced progressive forest management throughout Western Oregon. The result? A sustainable resource for forest products and a whole lot more.

We invite you to hike, bike, hunt or ride on horseback through our beautiful Douglas fir forests, or take a tour of our working forest to learn more about what we do.

541.929.2477 | www.starkerforests.com

ONE, the results represent the first regional assessment in the U.S. of aquatic habitat suitability tied to the combined effects of stream temperature and acidity. Authors of the article include researchers from E&S Environmental Chemistry, Inc., the U.S. Forest Service, and Oregon State University.

Previous research has shown that stream-dwelling species in the southern Appalachian region are particularly vulnerable to climate change and that many coldwater species are already shifting their ranges in response to warming tem-

peratures. Headwater streams, which provide the coldest available habitat in many areas, are often assumed to be the ultimate refuges for coldwater species, but many of these species are also acid-sensitive—and many headwaters of the southern Appalachian region are already too acid to support them.

The researchers focused on streams draining seven national forests in the southern Appalachian region, first mapping out how much of the area's current habitat is suitable for acid- and heat-sensitive aquatic species such as the native brook trout.

"We then used models to forecast future habitat loss in the national forests from expected temperature increases in the region," says Andrew Dolloff, research fishery biologist for the Forest Service Southern Research Station and a co-author of the study. "Our goal was to help watershed managers identify and assess specific stream reaches that are potentially vulnerable to stress from warming, acidification, or both."

Of the seven national forests studied, the Pisgah and Nantahala in North Carolina contained the most coldwater habitat—and are predicted to have the greatest losses in suitable habitat for acid-sensitive coldwater species. In these forests the combined effect of acidification in headwater streams and stream warming will restrict acid-sensitive coldwater species such as brook trout to a narrowing band of mid-level stream reaches, increasing the likelihood that these species will disappear locally and possibly regionally.

Though they seem discouraging, results from the study will help Forest Service managers classify watersheds in response to human-produced stressors and develop regional climate adaptation plans. Forest managers and aquatic

biologists can use the study's data on specific streams for restoration planning and to assess the need for intervention (liming, riparian afforestation, native fish reintroduction) in stream reaches that are potentially vulnerable to warming, acidification, or both.



Gulf South

Georgia Forestry Association Takes Canadian Softwood Stand

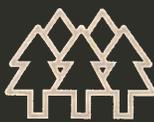
On March 16, Georgia Forestry Association President and CEO Andres Villegas, along with several GFA members, participated in a video shoot with the U.S. Lumber Coalition as a part of an advocacy campaign to educate Congress on the importance of fair trade for softwood lumber.

On Oct. 12, 2015, the 2006 Softwood Lumber Agreement between Canada and the U.S. expired. The agreement was intended to reduce the competitive imbalances caused by subsidies growing out of Canadian provincial government control of most of the fiber supply used to produce softwood lumber in Canada and to minimize the harmful effects of unfairly subsidized imports in the U.S. lumber market.

Although a new agreement would provide stability and predictability to industries and consumers on both sides of the border, the Canadian government has so far been unwilling to enter into negotiations on a new trade agreement. As part of the original 2006 agreement, members of the U.S. Lumber Coalition committed not to file petitions under the U.S. trade laws for one year after the agreement expired.

Zoltan van Heyningen, executive director of the U.S. Lumber Coalition, hopes that their advocacy efforts in Congress during the year-long stay will assist in bringing Canada to the negotiation table by reminding members of Congress of the importance of working forests and the softwood lumber industry to local communities.

"The U.S. and Canadian forestry management systems are very different, and those differences have to be managed when Canadian lumber products cross the border and enter the U.S. market," van Heyningen explained.



LOOKING FOR A CAREER IN FORESTRY?

**Mississippi State
University
Forestry graduates
have over
95% placement rate**

Interested?

email: c.bailey@msstate.edu
web: www.cfr.msstate.edu/forestry



MISSISSIPPI STATE UNIVERSITY
DEPARTMENT OF FORESTRY




Indoor and Outdoor Kits • Free Catalog

GROW YOUR OWN MUSHROOMS!

WWW.FIELDFOREST.NET • (800)792-6220


Field & Forest Products

“Managing those differences—hopefully through an agreement that works, or through trade cases if we are forced into them—are critical to providing jobs and opportunities in so many communities that really need them.”

In Georgia, softwood lumber is very important to the state’s economy, and it is critical to many Georgia communities. The lumber and wood preservation sector of the industry (not including pulp and paper or engineered woods), provides more than \$1.3 billion in economic output, 5,242 jobs and \$267 million in wages and salaries. Not to mention, the countless benefits to the state’s clean water, clean air and wildlife habitat.

According to GFAPresident and CEO Andres Villegas, that is an important story to tell.

“It is critical that we explain the economic, environmental and societal benefits of Georgia’s working forests and forest product industries at every opportunity,” Villegas said. “Fair and equal trade is not only the right thing for forestry, it is the right thing for Georgia.”

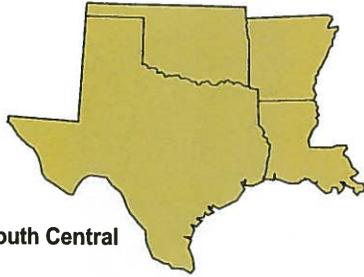
Unusual, Ancient Forest Found Off Alabama Coast

An ancient forest found 60 feet underwater about ten miles offshore of Alabama is much older than originally thought. Divers collected samples of the trees during a scuba diving expedition to the forest. Those samples were sent to the Lawrence Livermore National Laboratory for radiocarbon dating and found to be more than 50,000 years old.

Scientists who examined the trees remarked on how well preserved the wood was. Cut into a piece and the unmistakable aroma of newly sawn cypress blooms up, despite millennia spent at the bottom of the Gulf of Mexico.

Some of the pieces still had bark on them. The forest was apparently buried under a thick layer of sand for eons until it was uncovered by giant waves during Hurricane Katrina.

“It is a little darker in color than a piece of modern cypress, but if I didn’t tell you that it was over 50,000 years old, you wouldn’t know it,” said Kristine DeLong, the Louisiana State University researcher who prepared and sent the samples for analysis. “I showed it to some of the other professors and they couldn’t believe the wood was that well preserved. It’s amazing it has held up. When I cut into them, they smelled just like you were cutting into a cypress tree.”



South Central

Louisiana Expands Emerald Ash Borer Quarantine

The Louisiana Department of Agriculture and Forestry has officially added Union Parish to the emerald ash borer (EAB) quarantine, a state official stated July 1.

Richard Miller, administrative coordinator of quarantine programs for LDAF, issued an email announcing the quarantine became official June 22, making Union the fourth parish in the state to fall under the restrictions for EAB. Bossier, Claiborne and Webster are the three other parishes.

Miller said the process of quarantining takes some time, which is why the it was established several weeks after the insects were discovered in traps in May.

There are about 500 traps throughout the state, Miller said, including 350 that belong to a company the state has contracted to monitor the spread of EAB. The other 150 traps are set up through several volunteer agencies, including the U.S. Forest Service, which checks its traps every two weeks. The state contractor is required to check its traps only twice during the summer and the first round of checks began in early July.

“We really don’t know how many parishes could be infected,” Miller said.

The quarantine is issued by the state but is required by the federal government.

Emerald Ash Borer Presence Confirmed in Texas

The invasive emerald ash borer (EAB) beetle that has killed tens of millions of ash trees across the U.S. has been detected in Texas. State and federal agencies are preparing people and communities with information, education and preventative measures to fight the pest.

In early June, the U.S. Forest Service and Texas A&M Forest Service—agencies leading the U.S. Department of Agriculture’s EAB survey in the state—trapped four adult beetles in Harrison County just south of Karnack, Texas. Although the ash trees in the immediate

vicinity of the trap did not exhibit symptoms of the pest, the USDA’s Animal and Plant Health Inspection Service (APHIS) laboratory confirmed the specimens were emerald ash borers. Efforts are underway to identify any infested trees.

Texas has anticipated the arrival of the EAB and has strategically placed beetle detection traps across the state for the past four years in an effort to provide an early warning if and when the invasive pest arrived.

“Early detection of this destructive pest minimizes its spread and enables us to effectively work with those affected by providing information and science-based solutions to potential attacks,” said Texas A&M Forest Service Forest Health Coordinator Shane Harrington. “TFS is working with other state and federal agencies to ensure that the general public, homeowners and landowners know fact from fiction and what to look for when monitoring for EAB.”

The EAB is a destructive, non-native, wood-boring pest of ash trees and poses a significant threat to urban, suburban and rural forests, killing both stressed and healthy ash trees. The trees typically die two or three years after becoming infested. Native to Asia, the EAB was first discovered in southeast Michigan in 2002. Since then, infestations of this invasive pest have been found in 26 states and have killed tens of millions of ash trees.

“Proper planning can reduce the impact of EAB in our communities,” said Texas A&M Forest Service Urban and Community Forestry Program Coordinator Paul Johnson. “Removal of poor quality ash, planting trees that aren’t susceptible to EAB, and protecting high value ash by treating them will help us weather this attack. Work with a forester or an ISA-certified arborist to help you assess your EAB risk and care for your trees.”

New Wildfire Fighting Tool Being Used in Oklahoma

Wildfires are common in Oklahoma and how crews battle the blaze evolves with just about every fire. Now with new technology, crews have access to fires like never before.

The second the Oklahoma Forestry gets word of a wildfire, an OHP trooper is in the air. The land is surveyed and a map is drawn in several hours, possibly a day later. But now, with an iPad app, fire crews get the information on the ground almost instantly.

"You look up north of town and you can tell it was the start of a pretty decent fire," said Woodward Fire Chief Steve Day.

Day was quickly on scene when word got out that a wildfire was spreading across his district. At that time, Day and his crew were unaware the fire's size and where it was going. So OHP Trooper Pilot Roy Anderson was called in.

"When I first get on scene I'm looking for occupied residences, cattle, access points to get in there," said Anderson.

Anderson relays all that information to Day and responders on the ground, while also drawing a fire perimeter; a process that usually takes 6-12 hours or even a day.

"A lot of times our maps were old. They were already a day old before we handed them out in many cases," said State Fire Management Chief Mark Goeller.

It's always been a major problem for Goeller, until now.

"It is a game changer," said Goeller.

The game changer is known as the Wildland Collector App. While Anderson is in the air, his route is tracked every five seconds and is then relayed to iPads held by Day, Goeller and crews on the ground.

"I pulled that up and thought wow that was quick," said Day. A fire perimeter is set. Access points are marked. And hot spots are hot spotted almost instantly.

"I think we're just scratching the surface about what it can be used for and what it can do for us," said Anderson.

"Lives and property, that's what it's all about," said Day. The Oklahoma Forestry Service hopes to establish a statewide licensing agreement so at least every county has access to the app.



Nevada Prepares for Fire Season

At the annual Governor's Wildland Fire Briefing, Nevada fire officials met with the governor to plan for the upcoming summer fire season. It's one they expect to be especially bad this year.

So firefighters are gearing up and feel confident that they're prepared with enough personnel and equipment this season. But they also want you to be ready for fire danger this summer.

"Fire belongs to all of us. If we all take our responsibilities, whether from an agency or the homeowner, and we do what we can to protect ourselves, we can help protect our community better," said Joe Freeland, the Forester Fire Warden for the State of Nevada.

Fire officials say homeowners can help be a part of the solution by creating defensible space around your home. Because they say the wet winter we received has caused vegetation to sprout up, and that increases the threat of a wildfire.

At the governor's briefing, experts talked about how the state had above normal precipitation this past year, but it has not substantially reduced the drought.

Thirteen different agencies are work-

ing closely together this year because of the fire danger. Even resources from the National Guard are moving to Reno.

Governor Brian Sandoval added, "What's important to me, is that we have the proper crews with the proper equipment, ready for that and the good news is that we are."

Officials say the most intense part of the summer fire season is mid-July, all the way through September.

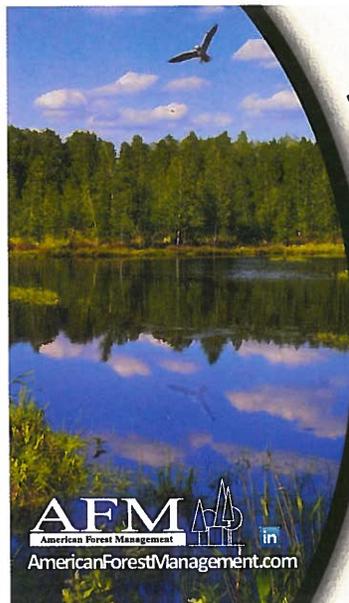
Drought Takes its Toll On California Forests

New research using high-tech tools to measure the moisture in trees found that 120 million trees across nearly every part of California are at risk of dying. Predictions that trends of higher temperatures and decreased precipitation will continue in the future could transform the state's forests

California is littered with dead trees. Four years of drought have pushed countless lone pines and forests alike to the brink of collapse, turning entire swathes of mountains from verdant to withering rust.

The numbers began rolling in early last summer with a U.S. Forest Service survey that tallied the death toll at 12 million. By September the agency revised its count to 21 million trees statewide. Soon the California Department of Forestry and Fire Protection (CAL FIRE), weighed in with 29 million confirmed dead trees.

Even those grim numbers, gathered through conventional on-the-ground and aerial estimates, were upended by a high-tech assessment done by scientists with the Carnegie Institution for Science. Four dry summers and



Your *best* source for:

- Forest and Land Management
- Real Estate Services
- Environmental Services
- Wood Flow Services
- Wildlife Services
- Investment Services
- Technical and Data Services
- Appraisal Services

Charlotte, North Carolina

2401 Whitehall Park Dr.
Suite 1100
Charlotte, NC 28273
704.527.6780 Tel.
704.527.1245 Fax

Sumter, South Carolina

407 N. Pike Road East
P.O. Box 1919
Sumter, SC 29151
803.773.5461 Tel.
803.773.4248 Fax

With offices throughout the Southeast, Northeast, Pacific Northwest, Lake States, Hawaii and Appalachian Regions of the United States.

four winters with a dramatically reduced snowpack have taken a toll throughout the Golden State, and will likely kill 58 million trees due to severe water loss, said Greg Asner, a Carnegie Institution biologist who published his results online in *Proceedings of the National Academy of Sciences*. As many as 120 million trees statewide are in jeopardy from loss of water in their canopies, he said.

His survey found the trees vulnerable due to extreme water loss represent 20 percent of the state's total.



Forest Legacy Program Proposals Being Accepted in Colorado

The Colorado State Forest Service is now accepting Forest Legacy Program proposals from Colorado landowners. The program authorizes the CSFS or U.S. Forest Service to purchase permanent conservation easements on private forestlands to prevent those lands from being converted to non-forest uses.

The purpose of the Colorado Forest Legacy Program is to protect environmentally important private forest areas that are threatened by conversion to non-forest uses. The program provides an opportunity for private landowners to retain ownership and management of their land, while receiving compensation for unrealized development rights. Forestlands that contain important scenic, cultural, recreation and water resources, including fish and wildlife habitat and other ecological values, and that support traditional forest uses, will receive priority.

Landowners who elect to participate in the program are required to follow a land management plan approved by the CSFS. Activities consistent with the management plan, including timber harvesting, grazing and recreation activities, are permitted.

The Colorado State Forest Stewardship Coordinating Committee will evaluate proposals and recommend those proposals that have sufficient merit to the state forester to forward to the Forest

Service. Forwarded proposals will then compete at a regional level; those selected at the regional level will compete nationally for funding. The application deadline is 4 p.m. July 29, 2016, for federal fiscal year 2018 funding. Proposals must be submitted by standard mail. For additional information or to obtain an application packet, contact Naomi Marcus at 970-491-6303.

Kansas Dedicates First Forest Legacy Program

On Saturday, April 30, many gathered at the historic Vinland Fair Barn just south of Lawrence to celebrate the dedication of the first Forest Legacy Program project in Kansas. The program has just been established as part of the Baldwin Woods Forest Preserve.

Thanks to the cooperation of a group of organizations, the Baldwin Woods Forest Preserve, part of the University of Kansas Field Station, has more than doubled from 202 acres to 456 acres, and is now unified as one contiguous tract. A segment of that property will be the first Forest Legacy Program project in Kansas.

With a Forest Legacy grant from the U.S. Forest Service, the Kansas Forest Service at Kansas State University selected Baldwin Woods as a conservation site. Additional funding was provided by The Conservation Fund, the U.S. Fish and Wildlife Service, and a Douglas County Heritage Conservation grant.

"Protection of Kansas woodlands from development has been largely missing from our conservation efforts in Kansas for many reasons," said Bob Atchison, rural forestry program coordinator for the Kansas Forest Service at Kansas State University. "Partnerships were critical for this success."

Conservation partners for the project include the U.S. Forest Service's Forest Legacy Program, the Kansas Forest Service, the Conservation Fund, the Douglas County Heritage Conservation Council, KU Endowment, and the Kansas Biological Survey.

Landowners Ray Wilber, Cathy Dwigans, and John and Gloria Hood, of Baldwin City, Kansas, sold the lands for the expansion below market value specifically to integrate them in the forest preserve.

The greater Baldwin Woods, named a National Natural Landmark in 1980 by the U.S. Secretary of the Interior, is recognized as a site of environmental significance. It lies within an ecotone,

the border region where the North American eastern deciduous forest meets the tallgrass prairie. Therefore, many species live at the western extremes of their geographic ranges, and subtle shifts in climate may affect their populations to a greater extent than farther east, Atchison said. This makes the Baldwin Woods Forest Preserve, which is one of the highest-quality protected timber stands of the eastern forest in Kansas, extremely valuable to the study of ecosystem dynamics and climate change.

Thanks to the commitment, dedication and patience of the state forester, Larry Biles and other partners, the woodlands, and hopefully many others, will be protected and studied for generations to come, Atchison said.

Arboretum Planned for Rock Springs, Wyoming

This spring Rock Springs is now home to Wyoming's newest arboretum. Through a grant from the Wyoming State Forestry Division, Rock Springs will be planting close to 150 trees on Rock Springs site adjacent to the White Mountain golf course.

Rock Springs will be the fourth community to utilize this grant program and joins Pinedale, Newcastle and Sheridan in establishing new community arboreta.

Grant funding is also going to the High Plains Arboretum west of Cheyenne to offset the cost of a new irrigation system and to re-establish several tree species that were originally planted for research purposes when the USDA Cheyenne Horticultural Field Station was in operation beginning in 1928.

"Experimental Forest" Comes of Age in North Dakota

A small forest that took root in Denbigh, North Dakota as an experiment some 70 years ago remains a largely overlooked oddity in a state known as the least-forested in the nation. But it has helped grow jobs and sprout millions of seedlings far beyond North Dakota.

The 636-acre Denbigh Experimental Forest was established in 1931 by the federal government to test which types of trees would survive the harsh climate and sandy soils of the upper Midwest.

More than 40 species were planted from throughout the United States, Europe and Asia. Today, about 30 species not only survive, but thrive, said Roy Laframboise, a nursery manager

with the North Dakota Forest Service in nearby Towner.

"It's time to take the 'experimental' out of the name," Laframboise said. "A tremendous amount of tree species have passed the test of time."

The nursery sells about 1.3 million seedlings a year, about 40 percent of which come from the forest, Laframboise said. Tree plantings from the forest have provided wind protection for crops, communities and wildlife throughout the United States and Canada, he said.

"This forest has been very important to the state of North Dakota, and it continues to make tremendous contributions," Laframboise said. The hardy seed stock from the forest is highly sought after, he said.



Old Fires Rekindled in Alaska

According to a joint release from the U.S. Fish and Wildlife Service and the Alaska Division of Forestry, firefighters responded recently to a small fire in the area of Funny River and Moose Ridge roads, the same area where the 2014 Funny River Horse Trail fire threatened hundreds of Peninsula residents and prompted evacuations, eventually tearing through almost 200,000 acres, mostly in the Kenai National Wildlife Refuge.

The small fire had been simmering in an "organic layer" a few inches under the surface for years, a remnant of that massive 2014 burn, according to the forestry officials.

It was just one of several such fires reported recently, with three holdovers from the 2015 Card Street fire—which burned not far from the 2014 Funny River blaze and even threatened one of the same neighborhoods.

There have already been 150 fires reported in Alaska so far this year, after a warm, low-snow winter across much of the state that left conditions drier than usual. The first wildfire of the year was reported in February outside Delta Junction.

Agriculture, Forestry Critical To Northwest Economy

More than 12 cents of every \$1 generated and one job in ten are attributed to the agriculture, forestry and fisheries industries in the Northwest, according to a new study.

The study was commissioned by Northwest Farm Credit Services and conducted by Oregon State University Extension Service Rural Studies Program and the University of Idaho Extension Service.

It looked at the five-state region of Washington, Alaska, Idaho, Montana and Oregon and Washington.

The study shows the continued importance of agriculture, forestry and fisheries to the Northwest's economy, said Phil DiPofi, Northwest Farm Credit Services president and CEO, in a statement.

"We knew intuitively how vital these industries are to the Northwest and wanted to quantify their contributions to the regional economy," DiPofi said. "This study affirms the significant impact producers have on the financial strength of our region."

The study concludes that the total economic impact of the segments equals more than 885,900 jobs and nearly \$176.1 billion in sales for the five states.

Of this impact, 68.2 percent comes from agriculture, representing 7.5 percent of all jobs in the region and 8.3 percent of total sales.

Forestry follows at 23.8 percent of the impact, with 2.3 percent of all jobs and 2.9 percent of total sales in the region; and fisheries at 7.9 percent of the impact represents 0.9 percent of sales and 1 percent of jobs in the region.

Of the states, Washington had the most jobs dependent on those segments. The study found that 303,321 full- and part-time jobs in the state depended on the ag, forestry and fisheries in 2015. Industry sales totaled \$58.8 billion last year.

Oregon Landslide Triggers Questions About Logging Practices

After heavy rains triggered fatal landslides in 1996, Oregon rewrote its rules on where logging can happen in landslide-prone areas.

Oregon forestry rules now say you can't log in areas with where logging could trigger a public safety risk from a certain type of landslide. But it's not the type of landslide that devastated Oso, Washington. It's the kind that killed

people in Oregon back in 1996.

That type of landslide—a shallow, rapid landslide or debris flow—sends the top layer of soil washing down a slope and taking everything on the surface along with it. Removing trees from steep slopes can raise the chances of that kind of landslide, and the Oregon Department of Forestry has rules that aim to avoid that risk.

"There's a link between harvesting and shallow, rapid landslides," said John Seward, a geotechnical specialist who reviews logging plans for the Oregon Department of Forestry. "You can't necessarily point to any landslide and say it was caused by logging, but our objective is to prevent logging from exacerbating those kinds of sites."

But the landslide in Oso was a different kind of landslide, referred to as a deep-seated landslide. It happened on terrain with a long history of landslides where unstable soil extended much deeper into the side of the slope.

Peter Goldman, director of the Washington Forest Law Center, says Washington has rules restricting logging above deep-seated landslides—in places known as "recharge zones"—but Oregon doesn't. Logging in these drainage areas allows more water to flow into the landslide area below, and that can raise the risk of a slide.

"Oregon has no rule prohibiting logging in recharge zones above landslides," Goldman said. "So, based on my initial review, there's nothing in Oregon that technically would have stopped the logging of a recharge area such as what occurred up in Snohomish County."

Washington Publishes State Trust Land Map

The Washington State Department of Natural Resources (DNR) has released an updated State Trust Lands map to help citizens see where, and how, these lands are being managed for conservation, recreation and revenue.

"This is Washington's treasure map," says Commissioner of Public Lands Peter Goldmark. "These state lands generate money for schools and counties, habitat for native plants and wildlife, jobs for people and space to recreate and enjoy. In conserving and managing these magnificent landscapes we're helping to ensure they continue to benefit us all."

Of the three million acres of land managed by DNR, the majority, including state forests, are part of a trust system managed on behalf of schools and counties to provide sustainable revenue.

Half of NWOA Members Now Have Woodland Liability Insurance

What do They Know that You Don't?

Premiums Can be Paid with the Same Check as NWOA Membership

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 (\$160/year for up to 570 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.
- Lawsuits for damages, real or imagined, are becoming more frequent.
- If you are sued and have this insurance, Outdoor Underwriters contracts with claim adjusters and attorneys with years of experience specific to woodland liability issues.

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 Woodland-owners.org 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.

- ✔ **Comprehensive General Liability**
- ✔ **Limit of Liability: \$1,000,000 each occurrence; \$2,000,000 aggregate**
- ✔ **Deductible: none**

- ✔ *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.*
- ✔ *Coverage does not apply to commercial hunting operations including for-profit guided and/or fee hunting.*

Named Insured
NWOA member landowner
named on the application

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.

Landowner Name _____ Telephone _____

Address _____ Telephone (work/mobile) _____

City _____ State _____ Zip _____ email _____ (email will not be shared or abused)

Woodland Location (County, city and State) _____

Please answer the following questions.

- | | | | |
|---|--------------------------|---|--------------------------|
| Are locations fenced or posted? | <input type="checkbox"/> | Any lakes or ponds? | <input type="checkbox"/> |
| Any leased hunting or commercial hunting?
<i>if yes, are Certificates of Insurance required?</i> | <input type="checkbox"/> | Any dams/spillways/bridges? | <input type="checkbox"/> |
| Any watercraft or docks? | <input type="checkbox"/> | Any property currently being used for mining? | <input type="checkbox"/> |
| Any buildings? | <input type="checkbox"/> | Any of the property leased for farming? | <input type="checkbox"/> |
| | | Are Certificates of Insurance required? | <input type="checkbox"/> |

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 = \$160 minimum
(subject to a minimum premium of \$160 for up to 570 acres)

Subtotal: _____

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

Total Payment Due: _____

Please Specify Effective Dates:

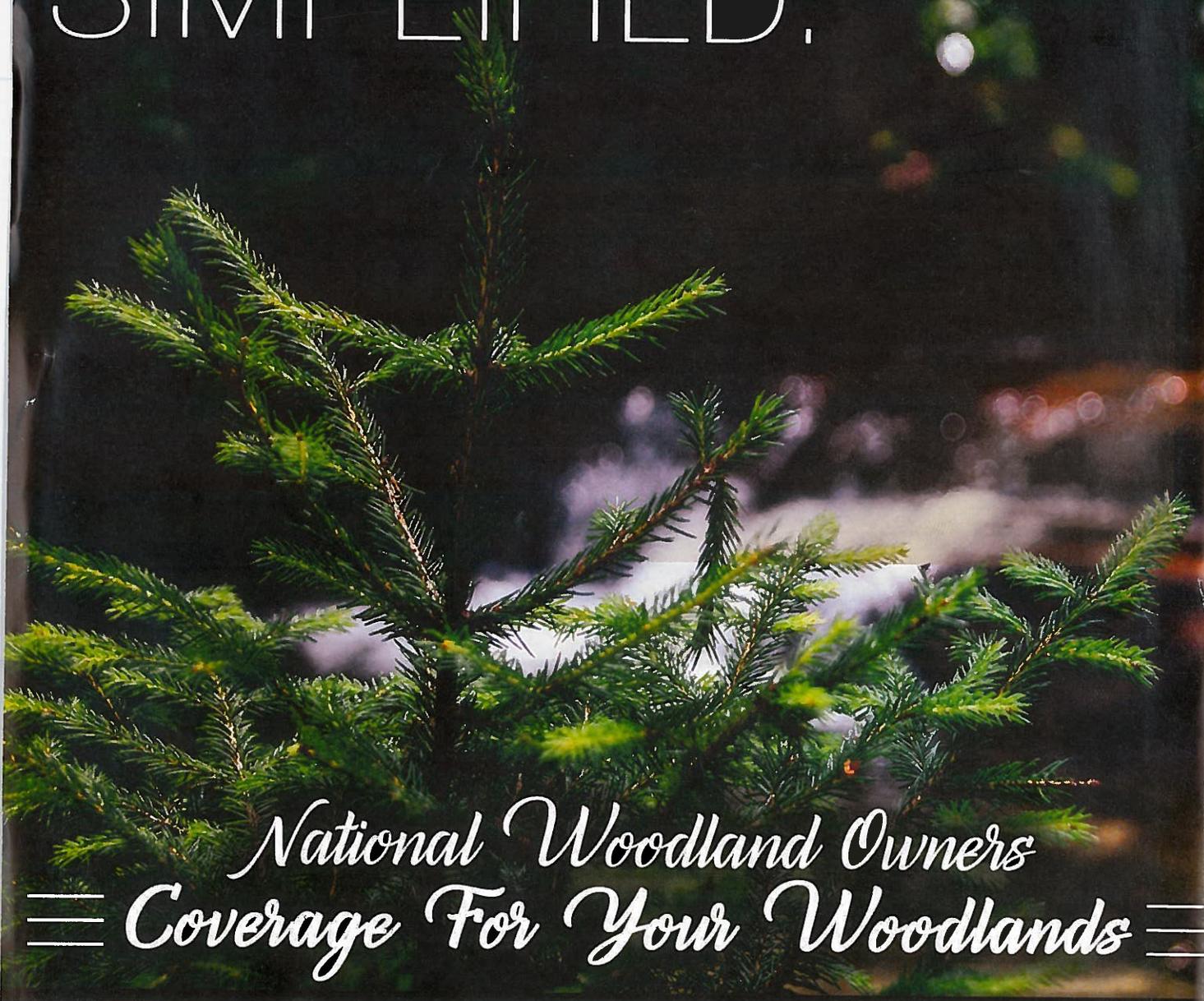
- January 1, 2016 to January 1, 2017
- April 1, 2016 to April 1, 2017
- July 1, 2016 to July 1, 2017
- October 1, 2016 to October 1, 2017

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

National Woodland Owners Association
374 Maple Ave E, Suite 310; Vienna, VA 22180-4751

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

Outdoor Insurance SIMPLIFIED.



National Woodland Owners Coverage For Your Woodlands

Woodland Liability Insurance

\$1,000,000 Per Occurrence • \$2,000,000 Aggregate

Available Coverages:

Hunt Lease Liability Insurance
Guides and Outfitters Coverage
Tractors, ATV's & Implements
and much more....



WOODLAND OWNERS
"Independent by Nature"

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



Underwritten by
Outdoor Underwriters, Inc.

