SOCIETY OF AMERICAN FORESTERS

Western Forester

October/November/December 2019 Oregon • Washington State • Alaska Societies Volume 64 • Number 4

Forest Economics and Policy Decisions in the PNW: Retrospective and Outlook

BY DARIUS M. ADAMS

As I have always reminded students in my forest economics classes, economics isn't about "money." Economic analysis as it's applied in forestry focuses on how people and institutions make decisions in environments where resources are scarce and trade-offs among resource values must be made.

Sometimes policy decisions relate largely to marketable goods and services, such as public or private forest owners considering the extent and timing of selling logs into regional markets. In these instances economists might employ well-tested tools such as supply and demand analysis to evaluate alternatives. In other cases, trade-offs can involve marketable goods on one hand against other services and outcomes that do not have markets or readily available prices. The policy debate over reducing federal timber harvest to enhance the likelihood of spotted owl survival in the early 1990s provides a notable example. In such cases economists must often devise novel means to model and quantify value trade-offs. The primary aim in analysis of all these questions, however, is to provide information to decision makers to facilitate their decision process. Economic analyses attempt to characterize gains and losses, benefits and costs, and who wins and who loses from a policy decision using measures consonant with the decision maker's values.

PHOTO COURTESY OF LONE ROCK TIMBER

Applications of economic analysis in forestry aim to help managers make better land stewardship decisions for their specific ownership objects.

The past few decades have seen a steady growth in application of economic analysis to forest policy problems and a significant increase in the scope and complexity of the methods used. Evaluations that were once only discussed in theoretical terms or conducted in highly simplified and aggregated form are now readily accessible to a broad range of owners and frequently applied. Two major types of forest policy problems, timber management decisions and policies that involve multiple and conflicting resource uses, provide useful examples of these changes.

Examples of trends in economic analysis

When I started my first job as an economist in the late 1960s, evenaged stand-level decisions on rotation age and other silvicultural practices were commonly made by extrapolation from responses measured in fixed silvicultural experiments. Stocking and marking guides for selection harvesting systems east of the Cascades were derived in a similar fashion, though from a much smaller set of experiments. These field studies were commonly established by public agencies and universities assuming management objectives that may or may not have coin-

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Forest Economics and Policy Decisions in the PNW

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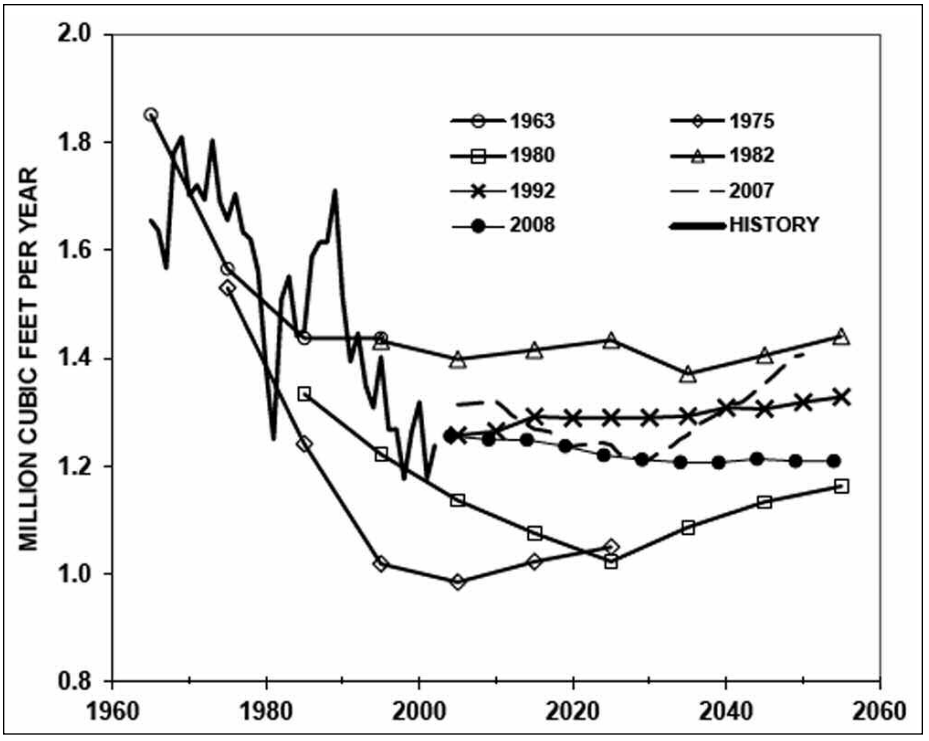
cided with those of any user.

At the forest level, scheduling harvests was commonly limited to estimates of aggregate volumes by period without identifying specific stands or areas and often with highly simplified assumptions about desired future forest structure such as the classic "full regulation." In many cases these approaches were dictated as much by insufficiently detailed inventory data as by lack of analytic methods. And at the regional level, projections of potential future timber supplies were based on crude projections of future yields, simple and highly aggregated inventory, and harvest decision models based largely on assumptions (or artificial targets such as "even-flow") rather than analysis of actual historical decision behavior.

In current practice, silvicultural decisions can be tailored to individual inventory units (stands, etc.) using methods that optimize thinnings and other treatments for the owner's objectives and values. Forest-level scheduling and management decisions can be based on detailed temporal and spatial models that may also be integrated with physical features to allow optimization of infrastructural and logistical decisions as well. Stand actions are often derived from forest harvest schedules to ensure consistency with overarching enterprise goals.

In today's approaches, long-term forest structures are shaped by intertemporal optimization of owner objectives and need not be imposed to facilitate the scheduling method (such as requiring some form of regulation). Even selection harvesting systems can be modeled and optimized in detail, yielding marking guides tailored to an owner's actual stands. And at the regional level, it is now possible to model resource actions at the inventory plot level, track harvest shipments from plots to mills over the transport grid, and estimate potential product output from log harvest by mill. Current capabilities even allow simulation of the development of new products to assess their feasibility and impact on the forest resource and existing industries.



SOURCE: UPDATED FROM ADAMS, D. M. AND G. S. LATTA. 2007. TIMBER TRENDS ON PRIVATE LANDS IN WESTERN OREGON AND WASHINGTON: A NEW LOOK. WESTERN JOURNAL OF APPLIED FORESTRY 22(1):8-14.

Examples of projections of regional private timber harvest in western Oregon and Washington from seven past studies by date of publication with actual historical cut, 1965-2016.

Western Forester

Society of American Foresters
4033 S.W. Canyon Rd. • Portland, OR 97221 • 503-224-8046
www.nwoffice.forestry.org/northwest-office/western-forester-archive

Editor: Lori Rasor, rasorl@safnet.org

Western Forester is published four times a year by the Oregon, Washington State, and Alaska Societies' SAF Northwest Office

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Next Issue: Editor's Choice

Policy decisions involving multi-resource trade-offs (e.g., timber, wildlife, types of recreation, visual amenities, water quality, or housing and infrastructural developments) have occasioned major controversies in the Pacific Northwest. Decision analysis is highly complex because of modeling and measurement problems across the various resources and conflicting views about the relative importance of resource values.

Examples include design of wildlife reserve or refuge areas involving limitations on timber harvest and infrastructure, wildlife corridors to allow habitat connectivity with associated exclusion of development or other land use changes, and allocation of reserved lands to alternative types of recreation activities (e.g., motorized or non-motorized). Past analyses have often taken the form of scenario comparisons in which a limited number of decision options are evaluated across a range of resource value measures. Expert panels have frequently been used to identify alternatives and also to select the "best" option based on personal knowledge of physical trade-offs and subjective weightings of conflicting use values.

In recent years economists and decision analysts have developed methods to aid in the identification of alternatives in these cases. New approaches allow the structuring of alternatives such that land allocations yield the highest output of one set of competing values for a given (restricted) set of competing outputs. These are termed "efficient" alternatives. Selecting among them still requires some subjective weighting of alternative values. But decision makers know that each option yields the greatest output of any specific resource value given the restricted output levels of the others. Indeed, this knowledge alone is often sufficient to identify use allocations that allow expansion in a subset of values with no reduction in others simply by eliminating inefficient management actions.

Drivers of past change

The dramatic changes illustrated in the timber management and multi-

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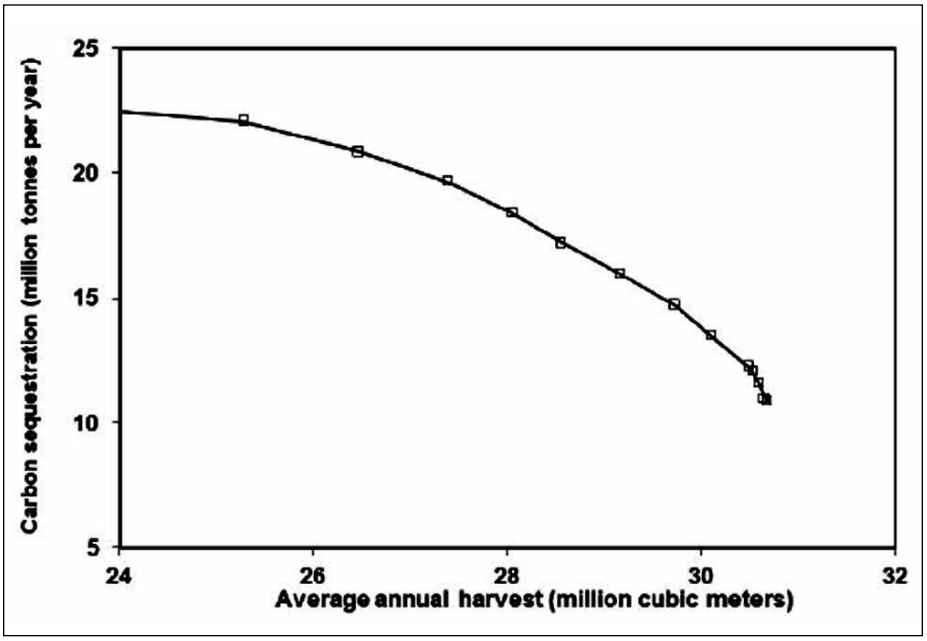
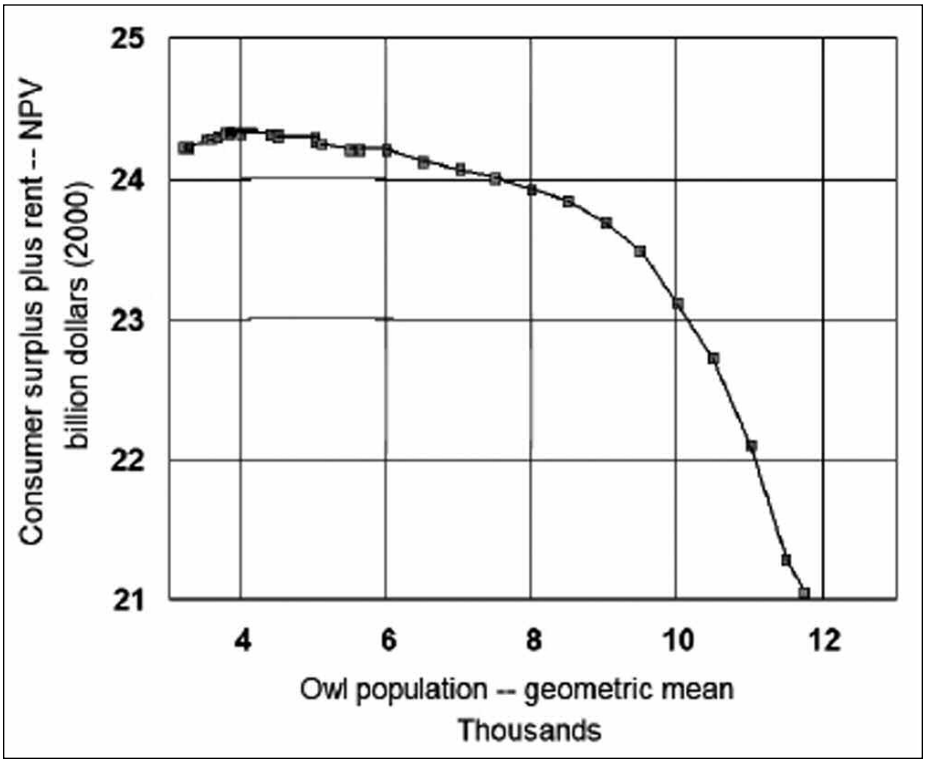


SOURCE: ADAPTED FROM IM E, DM ADAMS, GS LATTA. 2010. THE IMPACTS OF CHANGES IN FEDERAL TIMBER HARVEST ON FOREST CARBON SEQUESTRATION IN WESTERN OREGON. CANADIAN JOURNAL OF FOREST RESEARCH 40: 1710-1723.

This graph depicts estimated recent average timber harvest and forest carbon sequestration on all lands in western Oregon (single point) and the simulated trade-off curve between timber harvest and carbon sequestration IF harvest on federal lands was expanded to Northwest Forest Plan volumes. The curve is obtained by optimally constraining private harvest in the region at various levels.



SOURCE: ADAPTED FROM NALLE, DJ, CA MONTGOMERY, JL ARTHUR, NH SCHUMAKER, AND S POLASKY. 2004. MODELING JOINT PRODUCTION OF WILDLIFE AND TIMBER IN FORESTS. JOURNAL OF ENVIRONMENTAL ECONOMICS AND MANAGEMENT 48(3): 997-1017.

Simulated trade-off between great horned owl population and present value of net future timber harvests on all lands in west-central Oregon Cascades using a 150-year look-ahead period. Trade-offs obtained by optimally constraining timber harvest from all owners at various levels.

resource trade-off examples described above were driven by four major trends. Most important has been the improvement in resource inventory data on all ownerships, particularly use of remeasured plot systems, more plots to reduce sampling error, and more detailed stem and stand measurements. Better inventories allow use of more sophisticated tree growth models calibrated to the owner's specific stands and more detailed estimates of tree and stand qualities for both timber and non-timber values. More plot measurements and the advent of GIS technologies also facilitated the addition of spatial detail to inventories and explicit recognition of location-dependent processes (such as transportation) in economic studies.

Economic analysis of forest policy decisions is wholly dependent on knowledge of the response of natural systems to management actions. Thus improvements in tree growth and other biophysical models have allowed expansion in the scope and detail of economic studies. For example, movement from earlier age and site-dependent yield tables to individual tree models with explicit inter-tree competition provided a basis for more useful analysis of intermediate stand treatments such as thinning. With more detailed stand and vegetation data supplemented by spatial characteristics, it has also been possible to replace crude habitat suitability indexes with species occurrence, and even species population models in estimating wildlife impacts.

More inventory data, inclusion of the spatial dimension, and better biophysical models have allowed analysts to approach more realistic (i.e., detailed) decision problems with much larger computational burdens. Steady improvements in computer capacity and speed have made simulation or solution of these problems feasible. Analytical software—such as harvest scheduling programs, linear programming and other optimization codes, and generic system simulation programs—with large solution capacities is now widely available in commercial form. For example, closed form optimization problems entailing millions of activities and hundreds of thousands of constraints are readily accommodated with many commercial programs and can be run on a laptop PC.

Economic theory and modeling have also evolved to permit more flexible approaches to depict the behavior of economic agents in markets and resource use decisions. For example, early studies of markets or timber supply commonly represented private

owners' harvest decisions by means of simple fixed rules (e.g., harvest some fraction of trees over a certain age or diameter) or using crude and largely ad hoc price-sensitive supply equations (e.g., cut is a function solely of price and inventory). With expanded theory, better inventory, and more market data it is now possible to statistically estimate behaviorally consistent private timber harvest relations. And where this is not feasible, private utility maximizing behavior can be simulated from basic components of prices, costs, discount rate, and growth characteristics of the inventory. In effect we can mimic the harvesting decisions that would result if private owners behaved exactly as our theories suggest, including the recognition of side constraints (such as amenity or other non-monetary values derived from older stands).

Outlook and challenges

Looking to the future, I believe that technical inventory advances (such as LIDAR measurements within stands, improved GIS software, and more extensive and detailed use of satellite imagery to extrapolate fixed inventory measurements) will continue to allow improvements in economic analysis. Studies will have still greater detail and produce results more apt to decision makers' specific circumstances. Computer capabilities and access (such as cloud computing) will improve apace to accommodate the increased computational burden.

The stage is also set, I think, to see some early applications of machine learning to forestry decision problems, fueled by the growing number and detail of stand and forest databases. Some examples might include: use of classification algorithms developed from existing databases to "grade" logs by tree in stands surveyed with emerging LIDAR methods; fire suppression decision support based on weather, fuels, topographic, and spatial fire details; and improved biophysical models of wildlife species occurrence and populations based on vegetation, disturbance history, and climate outlook.

My comments to this point were intended to paint a broad picture of trends in methods of economic analysis available to aid forest policy decisions. There are, of course, wide differences in the extent to which these methods and improvements have actually been employed by various forest owners.

Generally, larger private ownerships have been aggressive and early adopters while smaller private owners have been much more variable in access and use. Applications in public ownerships have varied markedly over time, ostensibly as their specific mixes of values and objectives have changed. In all cases, however, both knowledge of available decision aids and the extent of foresters' basic skills in forest policy analysis represent key barriers to access. ◆

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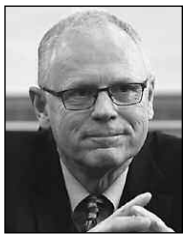
A Year in the Life...

BY MARK RASMUSSEN



When I tell folks I am a forest economist, they immediately assume that I am in the business of tracking prices, markets, employment, production, shipments, etc. Certainly, there is some of that, and I am always a sucker for a great graph that tells a story.

But economics is more than just tables and charts; economics is the science of how people make decisions. In a market, prices give the signal about how we value one thing relative to another. But in the realm of forestry, there are many outputs that don't have prices, or where the price signals are not clear, or the prices are so distant in the future they are based more on faith than on analysis. And given the nature of a forest, there is always tension between the short term and the long term. That's where being a forest economist becomes interesting.

As a consultant, I usually think of a consulting assignment as helping a client answer a set of questions. Here are a few of the more interesting questions we have worked on in the last year:

Forest Planning: How should we manage this forest to best meet some set of short- and long-term objectives? What would happen to this forest if we changed some of our past policies and decisions? What can we do to make this forest more resilient, and what would that cost?

Biomass: What role can biofuel play in financing forest restoration? What policies, investments, or subsidies would be required to increase the amount of forest biomass delivered to a network of biomass power plants? Would any of that make a significant difference in efforts to improve forest health?

Carbon: Under what conditions would I consider selling carbon credits? What would be the impact of proposed carbon legislation?

Forest Restoration/Resiliency: What kind of effort is needed to make a large-scale difference in forest health and resiliency? What could we do with the material being removed? Is the existing milling infrastructure sufficient, or would we need more mills? Where would those mills go and how would they be designed?

Family Forest Legacy: How can a family forest be passed from one generation to another? How can the next generation organize itself to be successful timberland owners and managers?

Family Forest Partition: How should we split the deceased's forest into equal parcels for sale? (This is my least favorite kind of project and why we work hard on the Family Forest Legacy effort.)

Future Forest Products: What kinds of logs will our clients need from the next rotation? How should we manage the forest to produce those products? What would a good hedging strategy look like, and how much would it cost?

Public Forest Management: What set of goods and services could we derive from this forest? What are the financial impacts of decisions to focus public forest management on conservation objectives? How can we ensure that future revenues are sufficient to cover management costs?

Trust Land Management: How can a fiduciary manage this forest so that both current and future beneficiaries have the same opportunities? Which long-term commitments meet the "prudent person" standard required by trust law?

Regulatory Impacts: What are the likely impacts of regulatory changes and/or proposed legislation?

Fire Damages: What is the value of the resources lost in a fire?

Trade: Do foreign competitors enjoy benefit from forest policies and practices of their governments? What are the impacts of trade policies and actions?

Appraisal: What is the value of this particular property? What values might other bidders contemplate?

Due Diligence: What should I know about this property before bidding on it? Can I rely on the inventory? What do the markets look like? What is the likely supply to the local mills?

Taxes: How much of my annual gain can be taxed as a capital gain? What is the value of this property when the owner passed away?

Education/Outreach: How can I possibly describe how interesting it is to be a forest economist?

I am one in a long line of forest economists at Mason, Bruce & Girard, and we've been helping people answer these kinds of questions for decades. It is interesting work, and I hope that in the long run, we are helping people make better natural resource management decisions. If you would like to talk about a career in forest economics, give me a call at 503-224-3445. ◆

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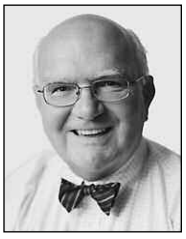
Why Do Institutions Invest in Timberland?

BY CLARK S. BINKLEY



Institutional investors now own timberland worth at least $50 billion. Many foresters now work directly or indirectly for those investors, or maybe your personal 401K plan includes timberland investments, so you might be interested in understanding their motivations for making and holding these investments.

Let's start by defining "institutional investors." These are organizations that invest on behalf of others. Examples include pension-plan sponsors that invest on behalf of plan participants; university endowments that invest on behalf of university students and faculty; insurance companies that invest on behalf of insurance reserves or annuity holders; and family offices that invest on behalf of family members.

Such entities generally seek to generate regular returns to offset recurring obligations to those for whom they invest. The returns could be in the form of actual cash distributions or increases in the underlying capital value of their portfolio of assets. Two key points follow from this: (1) volatility in returns increases the risk that the institution cannot meet its obligations; and (2) volatility is measured across their entire portfolios, not just on an asset-by-asset basis.

The benefits of diversification

With this background, let's answer the question posed in the title: Diversification. This might seem like an unlikely answer because timberland offers other benefits—organic growth, inflation protection, and low-but-stable returns, to name a few.

Diversification has been said to be the only free lunch in investing. If an investor seeks to avoid return volatility, diversification is a "free" way to do so. As noted above, institutions desire to avoid return volatility.

Consider two portfolios of $100 each with two possible assets, both with the same expected long-term return. Portfolio A is concentrated with $100 in a single asset that increases $10 every even year and falls in value by $10 every odd year. This portfolio would have $10 (or 10%) of annual volatility. Portfolio B consists of investments of $50 in each of two assets. These both have annual volatility of $5 (the same 10%), but one rises in even years and falls in odd years, and the other vice versa. Portfolio B has no volatility with exactly the same long-term return as Portfolio A. This is the power of portfolio diversification. In investment parlance, the risk-adjusted return has increased as a result of the diversification. In our example, the returns of the two assets in Portfolio B are perfectly negatively correlated, but the same principle applies as long as the returns are not perfectly positively correlated.

Following the logic of diversification, the Employment Retirement Income Security Act of 1974 (ERISA) required private-sector pension plans to diversify out of their traditional reliance on bonds alone as a means of protecting pension pay outs. The first moves were into publicly traded stocks, then real estate, and finally, in the early 1980s, timberland.

Many have studied the correlation of timberland returns with those of other assets available to institutions—corporate and government bonds, large capitalization US stocks, foreign equities, real estate, and oil and gas partnerships, for example. The precise findings depend on how the timberland returns are measured and which asset is examined. But timberland returns generally have low positive or small negative correlations with these other assets. This means that even small doses of timberland in a large mixed asset portfolio can provide meaningful diversification benefits. Indeed, unconstrained portfolio optimization models based on historical returns will load far more timberland into most portfolios than there is timberland to acquire!

Institutional investment in timberland

There is a bit of dispute within the industry as to who was "first" to organize institutional investment in timberland, but three organizations have credible claims: Hancock Timber Resource Group, Forest Investment Associates, and Resource Investment Associates (evolved into Global Forest Partners). The former grew out of the agricultural lending group at the John Hancock Life Insurance Company; the

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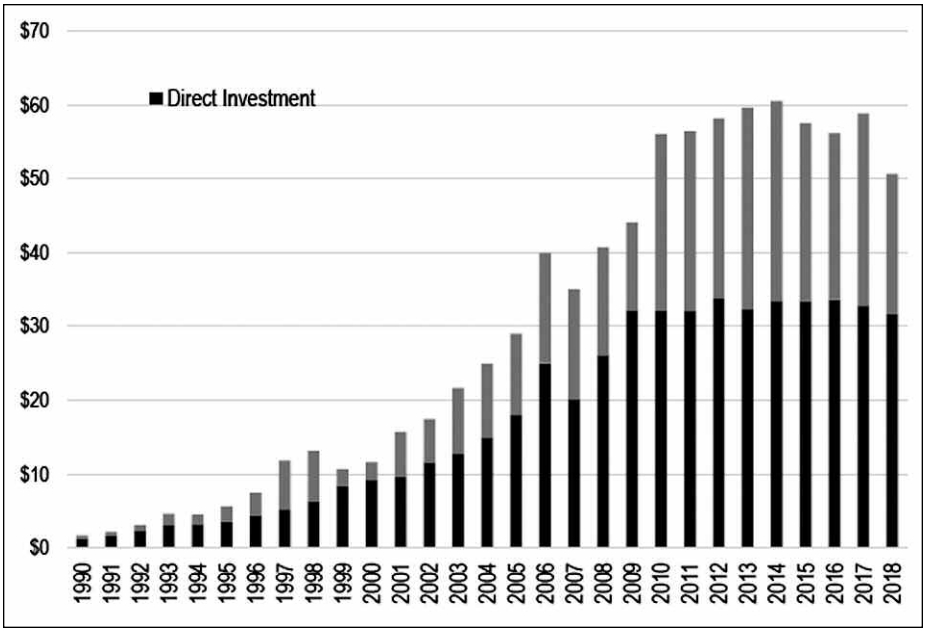
second out of the trust division of First National Bank of Atlanta; and the third as an independent investment advisory group. From early beginnings in the US South, there are now over 20 timberland investment management organizations (TIMOs) investing on behalf of institutions on all continents except Antarctica (where there were once trees, albeit only fossilized ones now).

TIMOs manage "private equity" timberland. "Private" refers to the fact that the timberland assets are directly held and not regularly traded in public securities markets. Institutions can also access timberland by holding shares in publicly traded timberland-intensive companies generally organized as Real Estate Investment Trusts (REITs). These include Weyerhaeuser, Rayonier, Potlatch-Deltic, and Catchmark in the US, and Acadian in Canada. These investments can be made directly, via exchange-traded funds (WOOD), or through the actively managed timberland mutual fund run by Pictet Asset Management.

Although the underlying asset—timberland—is similar in public and private equity ownership, there are differences. Specifically, the publicly traded companies generally include manufacturing assets and are "marked to market" with daily pricing on stock exchanges. Manufacturing adds the volatility of forest products markets to that of timberland. Daily valuation subjects publicly traded companies to the vicissitudes of such macro-economic factors as trade policy and changes in expectations related to Federal Reserve moves, among others. Both give rise to additional volatility that does not exist (or, is not measured) in private markets.



SOURCE: TIMBERLINK, UNITED STATES SECURITIES AND EXCHANGE COMMISSION, HNRG; COURTESY OF HNRG

Figure 1. Equity Investment in Timberland Investment, 1990-2018. This figure shows the development of equity ownership of timberland, both public and private.

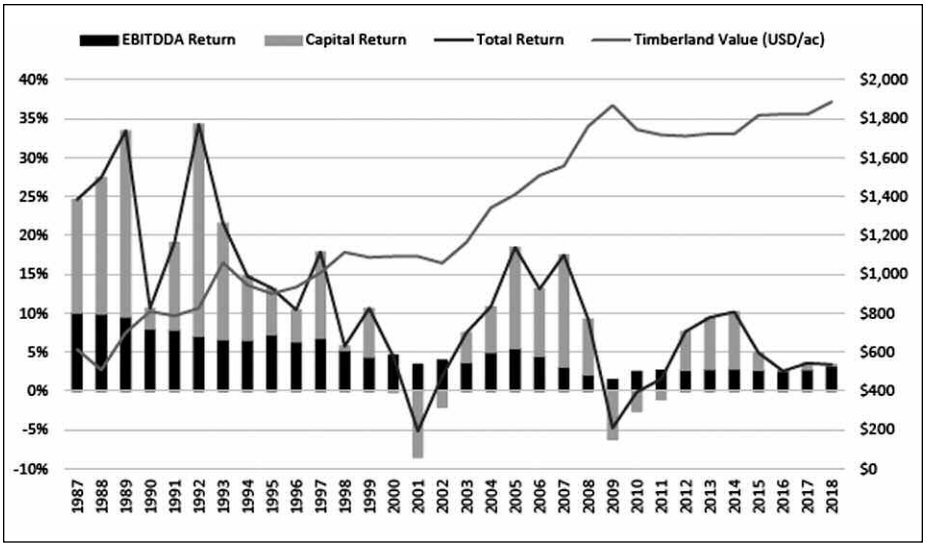
As shown in Figure 1, private-equity timberland grew rather quickly in the 1990s through the Global Financial Crisis (GFC) starting in 2009. Two factors drove the growth. The first was the disintegration of the forest products industry in the US, and to a smaller extent, in Canada and Western Europe. Public companies in the US are required to report under US "generally accepted accounting principles" (US GAAP). At the time, US GAAP consistently understated timberland returns— those rules "depleted" timber as it was harvested, writing down the asset value, but not recording the increased value of the asset as it grew. In contrast, institutional investors regularly measure "total returns": cash flow plus change in asset value. This mismatch in valuation metrics provided an opportunity for institutions to acquire timberland from integrated companies with a value increase for both.

The second factor was a series of changes in the US tax code that allowed timber and timberland to escape corporate taxation as long as certain stringent requirements were met. For example, only a small fraction of the company's assets could be in activities other than timberland itself. These changes forced companies such as Weyerhaeuser to sell their valuable pulp and paper assets and focus on timberland as a way to maximize returns to shareholders. These "tax efficient" structures also benefitted private equity investors.

Along with the changes in the US, investors became more comfortable with investments outside the US and moved into Australia, New Zealand, Chile, Brazil and even to frontier markets of Laos, Malaysia, and Mozambique.

What about the future of institutional investment in timberland?

The National Council of Real Estate Investment Fiduciaries (NCREIF) Timberland Property Index measures returns from individual timberland properties held by institutions. The figures are self-reported and reflect a changing mix of assets. It is not an "investable index" like the S&P 500,



SOURCE: GREENWOOD RESOURCES

Figure 2. US Timberland Returns, 1987-2018. This figure shows timberland returns as measured by NCREIF Timberland Property Index.

but it is generally accepted as the best available measure for timberland returns in the US.

In the 1980s and early 1990s timberland returns were quite high. Two factors drove these high returns. In the early 1990s, protective measures for the endangered northern spotted owl rapidly reduced federal timber supply. These unanticipated supply reductions pushed up timber prices, providing windfall gains for early investors. In addition, in the early phase of disintegration, timberland asset markets were relatively inefficient, with buyers and sellers just beginning to understand each others' valuation metrics and processes.

But, as more capital pressed against a relatively fixed base of investable timberland, asset values moved up and returns moved down. The after effects of the GFC kept timber prices low, especially in the South. Housing starts, a key demand driver for timber, have not yet returned to trend levels, a decade after their collapse in 2009. As a result of persistent weakness in returns, some early timberland investors are reducing their exposure to the asset class. For example, the California Public Employees Retirement System (CalPERS), one of the earliest institutional investors in timberland, has completely exited. Harvard University has pulled back significantly as well.

The emerging recognition that trees offer a "natural climate solution" offers some positive news for timberland investors. Plants are the only proven and scalable technology for actually removing heat-trapping carbon dioxide from the atmosphere. Among plants, trees are uniquely positioned to be an effective part of a "net zero" carbon economy: trees not only remove the carbon dioxide from the atmosphere, but also store it, possibly for quite a long time. The carbon can be stored in the tree itself, and the trees can be converted into long-lived building products that avoid the emissions associated with carbon dioxide-intensive alternatives concrete or steel. While controversial, there can be positive climate benefits if the residuals are converted to heat and power, offsetting the use of fossil fuels.

US and broadly global strategies for reaching Paris Climate Agreement targets rely heavily on afforestation, reforestation, and improved forest management to achieve their goals. Such policy measures as carbon taxes or cap-and-trade systems support these strategies. If implemented, substantial new timberland investment opportunities could become available to institutions. Already the California carbon market provides meaningful incremental returns to timberland ownership, albeit on a small scale with somewhat idiosyncratic rules. Hundreds of billions of dollars of new investments are required to achieve the Paris Agreement goals, and the private sector is likely to be the main source of this capital. The good news for timberland investors is that returns from carbon-offset investments appear to offer still more diversification benefits from timberland investments. ◆

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Casualty of the Trade War

BY KENT WHEILER

The US-China trade war has taken a heavy toll on American farmers and the wood products industry. Through August 2019, US exports of logs and lumber to China are down nearly one billion dollars ($940 million). Softwood lumber export volumes to China are down 63%, softwood logs down 38%, hardwood lumber down 40%, and hardwood logs down 35%. The impact has been a painful blow for the US industry and will have long-term implications.

Overcutting in China throughout much of the 20th century led to gradually declining domestic harvests and finally a total ban in 2017 on commercial harvests from natural forests. A growing economy, rising incomes, booming housing market, and a thriving furniture industry led to China becoming the world's largest importer of wood products. Exports to China were particularly important for US producers recovering from the 2008-2009 recession, especially hardwood lumber mills. In the years following the recession, US hardwood lumber exports to China grew five-fold, with China eventually taking one-fourth of all graded hardwood produced in America.

Storm clouds began gathering in early 2018 as the US imposed tariffs on solar panels, washing machines, steel, and aluminum. China retaliated with tariffs of 15-25% on $3 billion of US goods, but not lumber or logs. Another round of tariff increases and tit-for-tat retaliation during the summer of 2018 continued to spare wood products. But in September, the US imposed a 10% tariff on $200 billion of Chinese imports, scheduled to increase to 25% on January 1. China retaliated with 5-10% tariffs on $60 billion of US imports, this time including logs and lumber. The January 1 increase was delayed twice but went into effect on May 10, 2019. China retaliated on June 1, increasing tariffs to 10-25% on $60 billion of US imports, including most US log and lumber products.

The impact has been huge, with US log and lumber suppliers losing nearly one billion dollars in sales to China in the first eight months of 2019. To put this in perspective, the sales lost are nearly equal (96%) **to a total loss** of all US log and lumber exports to Mexico, Japan, Vietnam, and Western Europe **combined** over the same period. There is simply no other market or combination of markets that can absorb the lost volume.

Of course, this collapse in demand has had a negative effect on prices in all markets. At the end of August, prices in Washington state for Douglas-fir #2 sawlogs were down 19% from the prior year. Alder sawlog prices are down 30%. *Hardwood Review Weekly's* Green Price Index for hardwood lumber is down 20% and the Kiln Dried Index has dropped 17%. Mills are losing both volume and value.

Short-term fluctuations in volume can often be managed, but long-term loss of market share is difficult to recapture. China is turning to Europe, Russia, Africa, and Southeast Asia for supply. While China has increased average tariffs on US goods to over 20%, average tariffs on the rest of the world have dropped from 8% to 6%. As noted earlier, US softwood logs to China are down 38% August year-to-date, but China's total imports from around the world are up 3%. Likewise, American softwood lumber is down 63% but China's total imports are up 16%. China's total imports of hardwood logs and lumber are down 20% through August but have dropped nearly twice as much from the US.

The loss in market share is especially unfortunate because the nature of consumption in China has changed significantly over the past 20 years. The American Hardwood Export Council estimates that in 2000, 85% of US hardwoods sent to China were re-exported as furniture and other value-

added products back to the US or other global markets. Now it is nearly the opposite, with 80% of incoming US hardwoods staying in China and consumed domestically.

The change in supply channels also has negative environmental implications because many of the growing sources of supply in Russia, Africa, and S.E. Asia are not diligent about sustainable harvesting.

Certainly, there are real problems with some economic practices in China, including industrial subsidies and other support of state-owned enterprises, insufficient intellectual property protection, and forced technology transfer. But consider these points:

• For many years the forest products industry has had a trade surplus with China. To solve barriers faced by other industries, is it fair or wise to penalize businesses that have already developed profitable and net positive supply chains to China? Is it fair to damage their business in order to improve access for others?

• Tariffs are paid by the importer of record. Who ultimately pays depends on market conditions and alternatives for supply. If the supplier does not reduce prices, the importer must either cut their margin or raise prices, and then consumers ultimately pay. When consumers pay, it is a regressive form of taxation. Current research overwhelmingly indicates that US consumers are bearing the bulk of the increased tariff burden.

• Tariffs are a negligible source of revenue for the US government. In fiscal year 2019, total customs duties will be about $70 billion, representing 2% of federal tax revenue. And the increase in duties from the trade war has been largely offset by the $28 billion in relief given to US farmers—relief that was not shared with the forest products industry.

• A trade deficit is not itself evidence of trade barriers, nor is it true that "fair" trade will result in balanced trade. The US has often run a trade deficit during times of economic expansion, including over the past decade of economic growth and declining unemployment. Rather, the fundamental cause of a trade deficit is an imbalance between a country's savings and investment rates. The US consumes more than we produce. Private and public debt are growing. Money flowing out to pay for imports flows back in as investment or financing of the national debt. To reduce the trade deficit, Americans must save more and spend less. Otherwise, the trade imbalance merely shifts to other countries.

Threatening and implementing wholesale tariffs to force myriad changes, often unrelated to the products being taxed, is wreaking havoc on the global trading system and many US companies and farmers, including the forest products industry. The associated uncertainty retards investment and depresses economic growth. To effectively change Chinese government and business practices we need to work within the global trade system the US created and in cooperation with our allies. Let's fight for fair trade, but let's do so in an organized fair way that does not punish our industries that have already accomplished what we want for everyone. ◆

Kent Wheiler, Ph.D., is an associate professor in the School of Environmental and Forest Sciences at the University of Washington, and director of the Center for International Trade in Forest Products (CINTRAFOR). He can be reached at kwheiler@uw.edu.

Incorporating Payments for Ecosystem Services into Western Forest Management

BY GWENLYN M. BUSBY AND AUSTIN HIMES, CF

Gwenlyn Busby

Austin Himes

The value of forests to society cannot be overstated. In addition to providing a source of timber, food and fuel, we depend on forests for ecological services like air and water purification, nutrient cycling, and climate regulation, as well as a source of cultural and social benefits. However, for over a century, forest economists have focused almost exclusively on commercial timber as the primary source of value. The more recent development of markets for ecosystem services and an improved understanding of the complex linkages between forest management and ecosystem services have enabled the formal inclusion of non-timber values into standard economic models. Using this broader lens, forest economics provides fundamental insight into how ecosystems and commercial timber can be jointly managed in ways that positively impacts forests and communities.

People have long recognized the value of the natural world to human society, but only in recent decades has the term "ecosystem services" been used to describe these benefits.

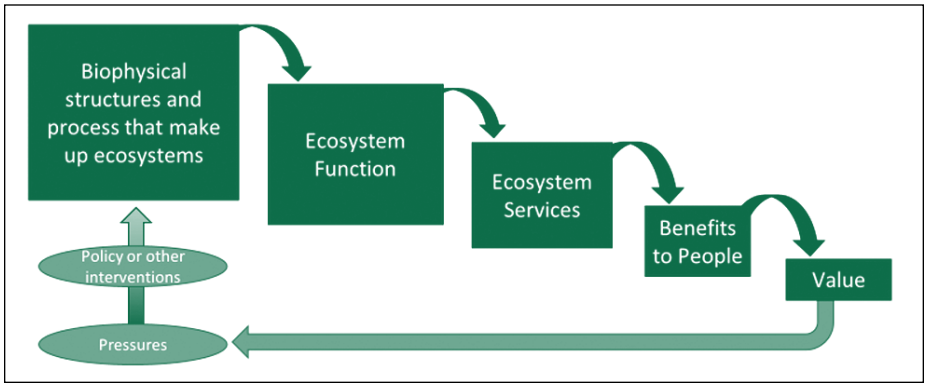


FIGURE ADAPTED FROM HAINES-YOUNG AND POTSCHIN, 2010

Figure 1. The biophysical structures and process that make up forest ecosystems support functions, like slowing the movement of water off a hillside. Those functions in turn provide goods and services, like flood protection, and those services benefit people by reducing the risk of a damaging flood. People in turn value those benefits and may be willing to pay for those services directly or exert pressure on the ecosystem to increase or maintain the flow of services, i.e. via change in land management. In some cases, policy or other interventions may be necessary to protect ecosystems' flow of benefits to people. Because the benefits people receive flow from ecosystems, many payments for ecosystem services go toward the protection and improvement of an ecosystem (e.g., conservation easements) which sometimes have more easily defined property rights than the actual ecosystem services, e.g., aesthetic and spiritual value or protection against unpredictable events like floods.

Gretchen Daily's 1997 book, *Natures Services* is credited for elevating ecosystem services to the global stage and setting the groundwork for the adoption of the term in the 2005 United Nations commissioned report, the *Millennium Ecosystem Assessment (MEA)*. The MEA is the most widely used reference for ecosystem services which are defined as, "the benefits people obtain from ecosystems." An underlying assumption of ecosystem services is that the benefits people value and receive from nature flow from healthy, intact ecosystems.

A critical element of managing forests for environmental and social benefits in addition to timber is the monetization of ecosystem service values. Such monetization has come to be known as "Payments for Ecosystem Services" (PES). PES provide financial returns for forest management activities that produce quantifiable ecosystem service values. In the US, voluntary and regulatory compliance markets for ecosystem services exist with demand from both public and private entities. The largest ecosystem service markets in the US are wetland mitigation banking credits, carbon offsets, conservation easements, hunting leases, and water quality/quantity credits.

In the Pacific Northwest, there are many examples of different forest owners and stakeholders benefiting from PES.

Carbon Offset Credits. The City of

Table 1. The total annual market for ecosystem service in the US likely exceeds $3.5 billion. These services are an increasingly important source of income for forest owners and their significance is likely to increase with growing demand for the diverse ecosystem services forests provide.

PES vehicle	Examples	Estimated Annual US Market Size
Tradable Permits	Carbon offsets	$133 million[1]
	Wetland mitigation banking	$3.5 billion[2]
	Water quality trading	$93 million[3]
Access Leases	Hunting leases	$400 million[4]
Easements	Conservation easements	235,000 acres[5]

SOURCES: [1]2017 TOTAL INCLUDES $93 MILLION COMPLIANCE MARKET AND $40 MILLION VOLUNTARY MARKET (CLIMATE TRUST AND CA ARB); [2]2016 TOTAL (FOREST TRENDS); [3]2015 TOTAL (FOREST TRENDS); [4]2005 TOTAL (MERCER ET AL. 2011); [5]TOTAL AREA IN 2018 (NATIONAL CONSERVATION EASEMENT DATABASE).

Astoria, Oregon, generated $1.8 million in net revenue for selling carbon credits from its forest within the municipal watershed. The credits were sold in the voluntary market in 2015 to The Climate Trust and the city is on track to raising an additional $1 million worth of carbon credits in 2020. The sale of carbon credits provided the city with revenue while meeting their watershed protection goals. In the California compliance market, more than 14 million forest carbon offset credits have been issued to the Confederated Tribes of the Colville Reservation on their Washington State lands. Green Diamond, a private timberland management company, has also sold forest carbon offset credits in the California compliance market through improved forest management on 600,000 acres in southern Oregon.

Hunting Leases. Recreational ecosystem services like hunting can provide forest owners a source of revenue without impacting commercial timber value. Timberland owners have been selling hunting leases for decades in the Eastern and Southern US and now the trend is growing in the Pacific Northwest. According to the company website, Weyerhaeuser is selling recreational access permits for many of its commercial timber properties in Oregon and Washington. Non-motorized access is $75-$100 per annual permit while motorized access that includes keys to locked gates ranges from $225-$395 for an annual permit. With potentially thousands of visitors per year to some of their properties, permits have the potential to generate millions in annual revenue for the company. The company is also offering exclusive leases to some parcels in Oregon for about $100 per acre per year.

Conservation. Working forest conservation easements restrict development rights and ensure sustainable forest practices, often with minimal impact on management. Easements may be purchased by a public agency, a private individual, or a nonprofit organization.

The Nature Conservancy alone has purchased land or easements on millions of acres across the Western US. Competitive grant funding from the US Forest Service Community Forests and the Forest Legacy programs has been awarded for fee simple acquisitions of timberland and easements from private timberland owners in support of working forests that prioritize ecosystem services in addition to commercial timber. For example, in 2018, the Trust for Public Land and Washington State's Department of Natural Resources purchased a 7,391-acre conservation easement on the Olympic Peninsula from Green Diamond to protect water quality, wildlife habitat, and recreation opportunities alongside continued commercial timber production. The conservation easement was purchased for $6.6 million with funding from the USDA Forest Service Forest Legacy Program. Conservation easement sales can be an important source of revenue for forestland owners and provide a mechanism for other stakeholders to secure ecosystem service values.

Incorporating ecosystem service values into forest management decisions may improve financial, environmental, and community outcomes, as the examples above demonstrate. However, ecosystem service markets are not a panacea. Unlike pure private goods, ecosystem services have public good qualities and are, to varying degrees, non-excludable (it is costly or impossible to exclude others from consuming the good) and non-rivalrous (when one person consumes the good, there is not less for others to consume), adding complexity to markets. Further, pricing some ecosystem services (e.g., spiritual value of sacred forests) is infeasible or may be undesirable.

Another challenge is the potentially high social and economic cost of establishing ecosystem service markets. For example, establishing regulatory carbon markets can be politically controversial, as we saw in Oregon with HB 2020, and comes with a regulatory burden—however, there is an expansive literature on the ability of market-based programs to achieve environmental targets more efficiently than through government regulation.

Finally, participation in ecosystem service markets may be cost-prohibitive for small landowners.

Despite these challenges, payments for ecosystem services through voluntary and compliance markets provide forest owners with an additional source of revenue, increasing the economic value of the forest and incentivizing the protection of environmental and social benefits. In the future, society's demand for ecosystem services from forests is likely to increase and diversify. Thus, as ecosystem service markets continue to develop and demand for these services grows, their importance as a revenue source is likely to increase. While the provision of ecosystem services may not be the primary objective for many forest owners, they do have the potential to add value to timberland assets, improve the social license to operate, and ultimately lead to better environmental outcomes across the landscape. ◆

Gwenlyn M. Busby, PhD, is director, Economic Research, and Austin Himes, CF, is area manager, Boardman, both for GreenWood Resources. Austin is an SAF member. They can be reached at gwen.busby@gwrglobal.com and austin.himes@gwrglobal.com.

Market Trends Affecting the PNW Forest Industry

BY JOEL SWANTON

It's been a crazy two years for the Pacific Northwest (PNW) log market. Beginning in 4Q2017, prices for domestic and export Douglas-fir logs in the region rose steadily before they spiked in 2Q2018 to their highest levels since Forest2Market began reporting them via our *Delivered Wood Raw Material Price Benchmark* for the Northwest US and Southwest Canada. Prices for Hemlock/Fir logs also followed the same trajectory, though they demonstrated less volatility at lower price points.

Log and lumber prices can often result in a significant **disconnect** in regional markets, and the PNW demonstrated this very dynamic during 1Q and 2Q2018: North American lumber prices peaked in tandem with log prices in 2Q2018 and, despite speculation that prices would remain high due to supply constraints, lumber prices corrected course and plunged for five straight months before hitting a floor in December 2018. The sharp correction was detrimental to many producers in the PNW and especially to British Columbia (BC), who were forced to curtail production or shutter operations altogether over the last year.

We're now nearing the mid-point of 4Q2019 and the log/lumber relationship is vastly different than it was at this time last year. Are PNW producers finally seeing some light at the end of the tunnel?

Log prices

In December 2017, the weighted average price for delivered domestic Doug-fir logs was $833/MBF. Those prices—along with export prices—rose steadily before peaking at $904/MBF in June, at which time they began a precipitous decline. A year later in December 2018, export prices diverged significantly from the downward slide of domestic prices and jumped nearly $30/MBF, or roughly 4%. Since then, export log prices have maintained a markedly higher price compared to domestic logs, suggesting some degree of domestic market softness. In fact, export logs have remained virtually flat since May 2019 while domestic logs have dropped roughly 7%. See Figure 1.

Douglas-fir logs on the mill scales.

PHOTO COURTESY OF FOREST2MARKET

As shown in Figure 2, in December 2017, the weighted average price for delivered domestic Hem/Fir logs was $688/MBF and export prices were $737/MBF—a difference of nearly $50/MBF. Unlike Doug-fir, prices for both products began retreating in 1Q2018 and they have trended downward ever since. A year later in December 2018, export and domestic prices were only $9/MBF apart. Since then, export Hem/Fir log prices have tracked just slightly higher than domestic logs and the current price disparity is roughly $18/MBF.

Lumber prices

To get a picture of lumber price performance compared to log price performance, we analyzed benchmark softwood lumber products using Madison's Lumber Reporter data for North America: Doug Fir Green Std&Btr 2x4, Hem/Fir KD Inland Std&Btr 2x4, and WSPF KD #2&Btr 2x4. Prices for all three products have tracked very similarly since December 2017, so we averaged and indexed them along with Doug and Hem/Fir

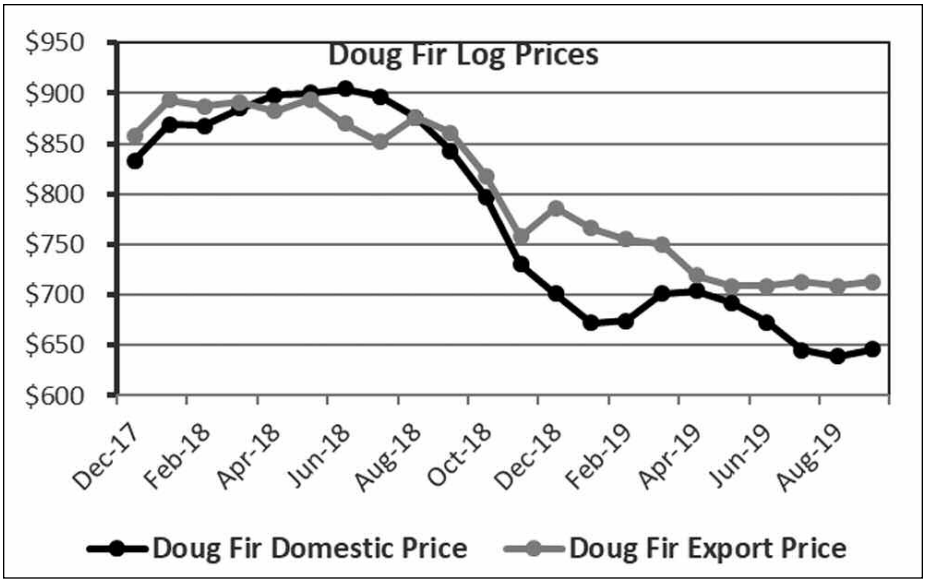


Figure 1.

prices to get a fair, but broad, representation of lumber price performance compared to log price performance in the PNW. (It's important to note that Figure 3 illustrates a total change in price as a percentage, not a change in actual dollars.)

As evidenced in Figure 3, lumber prices have declined at a much greater rate than log prices on a percentage basis since June 2018. However, while lumber prices have demonstrated some degree of volatility over the last year, notice the trend reversal that took place in July 2019. For the first time in over a year, lumber prices exceeded log prices in the PNW, and the trend seems to be holding. This is welcomed news for producers in the PNW, as log prices appear to be stabilizing at the same time, which provides an opportunity to improve margins after 18 challenging months.

Near-term outlook

Despite wild volatility and record-high log pricing during most of 2018, a rebalancing of the log/lumber market has largely taken place. There are four key dynamics to watch as we wrap up a transitional year and progress into 1Q2020.

1. Domestic log price decreases or increases are a delayed reaction to the extreme volatility of the lumber market. While lumber prices have exceeded log prices for three straight months on our index, we are approaching the slower homebuilding season and I don't suspect a significant disparity between supply and demand for domestic logs; these metrics should track much more closely in the near term. Inventory building in 1Q2020 may provide some lift to the domestic log market; however, I don't foresee Doug fir prices exceeding the $700/MBF mark or Hem/Fir prices exceeding the $560/MBF mark in 1Q.

2. The global trade and tariff situation has resulted in shifting trade flows in the log and lumber markets. As we recently noted, the US hardwood market has been hammered by Chinese tariffs, which has flooded the domestic market with inventory and driven prices down. Since July 2018, hardwood lumber exports to China are down $615 million compared to the previous year, which is an average of $154 million per quarter.

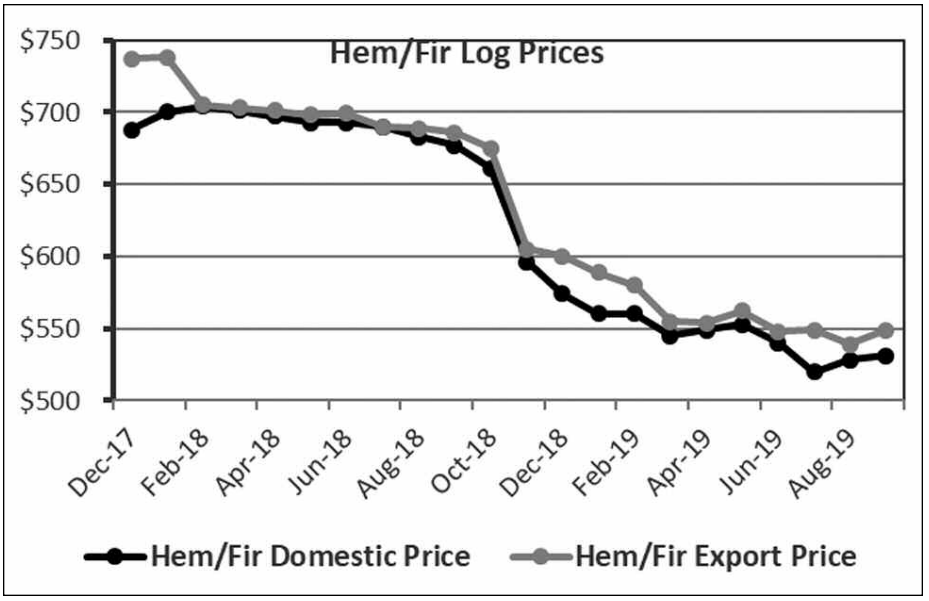


Figure 2.

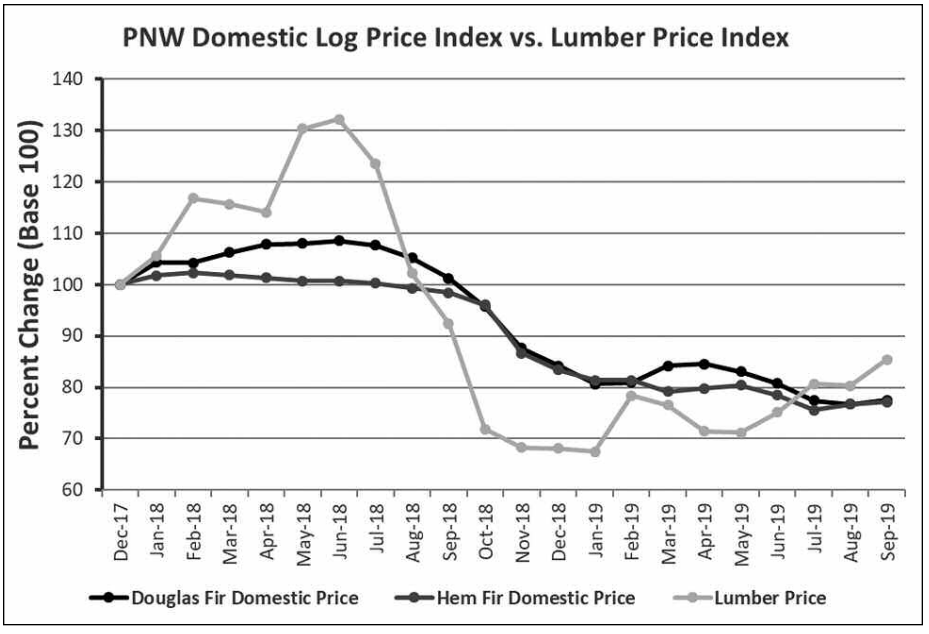


Figure 3.

3. The US PNW and BC were fortunate to experience a far less severe fire season in 2019 compared to 2018. This allowed log production and flow to sawmills to remain steady, stabilizing both supply and price.

4. Disappointing US housing starts have failed to really ignite a run on lumber that would drive market prices significantly higher. However, significant sawmill capacity reductions in BC are affecting lumber supply to the US market. Even with soft increases in demand, this should put upward pressure on lumber prices.

As domestic log prices continue to stabilize and lumber prices creep incrementally higher, the regional sawmilling industry is treading carefully and watching the very tepid housing market closely. Constant analysis of current market prices and market intelligence will be imperative to minimizing costs and maintaining profitability in a highly fluid and volatile market, especially as mills begin to build their inventories during 1Q2020. ◆

Joel Swanton is regional sales manager–Western North America, Forest2Market, based in Kennewick, Wash. An SAF member, he can be reached at joel.swanton@forest2market.com.

Forestry on State Lands in Oregon Takes Center Stage in Court

BY TAMARA CUSHING

I never thought I'd be willingly sitting in a courtroom for multiple days completely engrossed. Yet, I've found myself giddy with excitement and ready to get back in there! I moved to Oregon from South Carolina, and a forestry matter would not have made it to the courtroom in the south. This was a chance to witness an interpretation of forest policy. This is the trial that has been anticipated since shortly after I arrived in Corvallis in 2014. As it has been in the newspaper regularly since 2016, I've used this with my OSU forestry students as a current event because the results will matter. The results may change the way state forest lands are managed in Oregon. Some of you likely know pieces of the story. For those who don't, let me bring you up to speed about this high-stakes lawsuit pitting counties against the state forestry agency. Be aware, I am not a lawyer, and I have done my best to present this very complicated matter in a way that is digestible.

During the Depression, many private owners did not have the ability to pay the property tax on their land and so abandoned it. This resulted in the counties owning property, but still not receiving the much-needed tax money. In 1941, the Forest Acquisition Act provided an arrangement by which counties could deed tax-forfeited forestland to the Oregon Department of Forestry (ODF). The department would manage these lands and split revenues from these lands with the counties. Initially, only a few thousand acres were transferred, but ultimately over 700,000 acres were transferred to ODF.

Nobody is arguing any of that information about ownership. This is a class-action lawsuit involving 14 counties and over 100 taxing districts in Oregon (note that Clatsop County opted out of the class-action suit). The counties that receive revenues from harvests conducted on these lands contend that more timber could have been harvested and thus more revenue returned to them. One of the issues in this lawsuit is over three words: Greatest Permanent Value (GPV). The power of three little words in an agreement. So, let's return to when the land was deeded to the state in the 1930s, '40s and '50s. Within the Forest Acquisition Act (1941) is the following language: "manage the lands acquired pursuant to ORS 530.010 to 530.040 so as to secure the greatest permanent value of those lands to the state." While the agreement included the words "greatest permanent value," it did not define what value was based on. The counties are arguing that GPV, when the agreement was initiated, meant generating timber revenue as the primary goal. The state maintains that social, economic, and environmental goals must be balanced, and revenue from timber was never the primary focus of GPV.

So why has this just now come up if the land was deeded in the 1940s and 1950s? In the late 1990s, the Oregon Board of Forestry adopted a definition of GPV via an administrative rule that provided for a balance of social, economic, and environmental benefits to the people of Oregon across the landscape. A new forest management plan was adopted in 1998 that provided for multiple values to forest management. The counties contend that since 1998 the state was not producing an amount of revenue from timber that was at the level the forest could produce if timber was the primary objective. The counties are arguing that the Department of Forestry has breached the contract with them since they are not managing for GPV as defined by the original agreement. The period of the breach is from 1998 until current day.

Unfortunately, time has passed and organizational knowledge has been lost—nobody involved in the drafting of the 1941 document is still with us. This means we don't know what GPV meant in 1941 when the agreement commenced and are left to interpret that language today. Both parties are presenting their respective interpretations. The counties presented information to support a definition of primary goal of timber revenues. The state presented information to support a definition of a broad suite of forest resource values. For the counties to prevail, they will need to demonstrate that GPV meant timber revenue in 1941 and that the state deviated from that definition. The state needs to provide information to show that the definition of GPV meant multiple resource values, and possibly that the GPV rule written in

Case Update: Jury Favors Counties

Editor's note: While the Western Forester *was in its proofing stage, the jury decision on this case was made. What follows is an update from author Tamara Cushing.*

After nearly a month of listening to testimony from experts on timber valuation, harvest scheduling, growth and yield, and wildlife habitat, as well as hearing from county commissioners and Oregon Department of Forestry leaders, a jury handed down a verdict for the counties.

Earlier the judge had ruled that one of the counties (Klamath) was to be excluded, leaving 13 counties and over a hundred taxing districts in the lawsuit. The jury awarded a total of $1.1 billion in past and future damages. The future damages assume that the state will continue to manage as they have been. The state will now determine how to approach next steps, which will most likely include an appeal.

While there has been much coverage by the press over this case, I recommend reading accounts from the *Albany Democrat Herald*. Their reporter sat in the courtroom every day and presented the most balanced accounts of what occurred in the courtroom.

PHOTO COURTESY OF TAMARA CUSHING

A 1.4 billion class action lawsuit is being played out in Linn County Circuit Court.

1998 was neither a deviation nor unacceptable to the counties.

The challenging part of this lawsuit for me is acknowledging what a forester or resource manager would view as good stewardship of the resource while judging compliance with a contract made many years ago with the counties. This is a jury trial. If the jury decides the state has not upheld the agreement, then a decision will be made about damages to be awarded to the counties. The counties have asked for $1.4 billion to compensate for past and future harvest levels that differ from the current management harvest levels.

At the time of this writing, the jury has heard about the history of state forestlands in Oregon, growth and yield models, harvest scheduling, clearcuts versus thinnings, timber sale logistics, economics of timber sales, and timber valuation, among other topics. From my standpoint, I see 14 jurors, two county commissioners, a reporter, and at least half a dozen legal staff plus one judge who are learning about forestry. On the first day of the trial a picture of Gifford Pinchot was shown on the screen as the expert testified about what conservation meant in the early part of the 1900s.

The educator in me is excited to have a room of voters who are learning just how complex forest management can be. They are hearing that forestry involves science and that foresters aren't just cutting all of the trees. However, this lawsuit is costing both parties a lot of money and time (expected to be a three-week trial and undoubtedly the outcome will be appealed). Regardless of the outcome, there will be potentially far-reaching implications. The management of our state forestlands will either continue on its current path of balancing all resource values or it will change to reflect a timber revenue priority. So, while there will be a verdict and one of the parties will be deemed the "winner" it may be years before we see the ultimate outcome of this trial. ◆

Tamara Cushing, a forest economist, is Starker Chair of Private and Family Forestry at Oregon State University in Corvallis. She also serves as SAF vice president. She can be reached at tamara.cushing@oregonstate.edu. The views expressed in this article are hers alone, with acknowledgement that she is not a lawyer.

2020 PNW SAF Forestry Leadership Conference

January 31-February 1, 2020—Communication: Telling Your Story!

Forestry and natural resources professionals and students from the Pacific Northwest are invited to participate in the 2020 Leadership Conference on January 31 and February 1, at The Heathman Lodge in Vancouver, Washington. Participants will gain insights through leadership lessons from experienced leaders and learn effective communication skills.

DRAFT SCHEDULE

DAY 1—FRIDAY, JANUARY 31

9:00 am	Registration and Networking (Continental breakfast provided)
9:30	Introductions and opening remarks—**Wes Tracy**, WSSAF Chair
9:45	Keynote Address: The Language of Leadership—**Koshare Eagle**, Washington State Dept. of Natural Resources
10:45	Break
11:00	The Language of Leadership (continued)—**Koshare Eagle**
Noon	Lunch (provided) with Leadership Lessons from **Paul Davis**, Vice President, Weyerhaeuser Western Timberlands
1:00 pm	Negotiations—**Gordon Gibbs**, Gibbs Consulting
1:45	Interactive Session—Listening Skills
2:15	Networking Break
2:45	Working with the Press—**Andrea Watts**, Associate Editor, *The Forestry Source*, SAF and **Jennifer Mengarelli**, Farm Girl Marketing
3:45	Marketing Yourself—**Andrea Watts** and **Jennifer Mengarelli**
5:00-6:00	Leadership Icebreaker—**Student-led activity**
6:00	Dinner (provided)—Keynote: Different Leadership Styles—**Speaker TBD**

DAY 2—SATURDAY, FEBRUARY 1

7:00 am	Networking (Continental breakfast provided)
8:00 am	Address from the SAF President—**Tamara Cushing**, SAF President
9:00	Intergenerational SAF Member Panel—**TBD**
10:00	**Concurrent Sessions:** • SAF Advocacy: Using SAF Policy Statements in Communications—**TBD** • Preparing for an Interview—**TBD**
11:30	Closing Comments: Leadership Action Items for 2020 and 2020 SAF Calendar—**WSSAF, OSAF, AKSAF Leadership**
Noon	Lunch (provided) and closing icebreaker
1:00	Concurrent State Executive Committee Meetings

LODGING

The Heathman Lodge, 7801 NE Greenwood Drive, Vancouver, WA, is a rustic hotel featuring 182 guest rooms and a Northwest mountain lodge setting. The group rate is $148 plus tax for single or double occupancy, and $10 for additional persons. Group rates are honored for Thursday, January 30 and Friday, January 31. To make a reservation call 360-254-3100 by January 10, 2020 and mention "SAF Leadership Conference" to receive the group rate. https://www.heathmanlodge.com/

REGISTRATION

The registration fee for professional members is $160/person, $200/person for non-members, and $50/person for students. A late fee of $25 will be charged after January 8. Register online at https://bit.ly/2T5JW0D or fill out and mail the form below.

QUESTIONS?

Program: Wes Tracy, wes.tracy@weyerhaeuser.com
Registration: Melinda Olson, 503-224-8046, melinda@forestry.org

SAF CFE HOURS

4.0 Category 1 and 5.5 Category 2 hours are available.

REGISTRATION FORM – 2020 SAF PNW Leadership Conference

January 31 & February 1, 2020—Heathman Lodge • Registration includes all materials, Friday lunch & dinner, and Saturday lunch.

Name _____ SAF Chapter _____

Address _____ City/State/ZIP _____

Email _____ Day Phone _____

List any special dietary needs _____

$_____ $160/person: SAF Member Conference Registration by January 8

$_____ $200/person: Non-Member Conference Registration by January 8

$_____ $50/person: SAF Student Conference Registration (no late fee required)

$_____ $25/person: Late Fee after January 8

$_____ **TOTAL ENCLOSED**

METHOD OF PAYMENT IF MAILING REGISTRATION

☐ **Check** (enclosed) ☐ **Credit Card** (Visa/MasterCard)

Card Number: _____

Expiration Date: _____ Sec. Code: _____

Make checks payable to: ***Washington State SAF***

Register online at https://bit.ly/2T5JW0D or complete registration form and mail to: PNW SAF Leadership Conference, SAF Northwest Office, 4033 SW Canyon Rd., Portland, OR 97221. Visa and MasterCard accepted. Checks payable to Washington State SAF. Contact Melinda Olson, SAF Northwest Office, 503-224-8046, melinda@forestry.org, with questions. Full agenda at www.forestry.org.

Calendar of Events

2020 Western Region COFE Seminar, Jan. 9, Best Western Boulder Falls Inn, Lebanon, OR. Contact: WFCA.

Washington State SAF Legislative Reception, Jan. 16, Hands on Children's Museum, Olympia, Wash. Contact: Wes Tracy, wes.tracy@weyerhaeuser.com.

7th Annual Mapping the Course Conference, Jan. 23, Heathman Lodge, Vancouver, WA. Contact: WFCA.

Basic Road Design Workshop, Jan. 28-31, Corvallis, OR. Contact: FEI.

Pacific Northwest SAF Leadership Conference, Jan. 31-Feb. 1, Heathman Lodge, Vancouver, WA. Contact: Melinda Olson, 503-224-8046, melinda@forestry.org. See page 18.

Oregon Chapter of the Wildlife Society Annual Meeting, Feb. 5-7, Eugene, OR. Contact: ortws.org/2019-annual-meeting.

82nd Annual Oregon Logging Conference, Feb. 20-22, Eugene, OR. Contact: oregonloggingconference.com/.

Cable Logging Workshop, Feb. 25-28, Corvallis, OR. Contact: FEI.

Forest Health in Oregon 2020: State of the State, Feb. 26-27, LaSells Center, Corvallis, OR. Contact: Shannon Murray, shannon.murray@oregonstate.edu.

Cable Logging Workshop, Mar. 17-20, Coeur d'Alene, ID. Contact: FEI.

OSU Variable Probability Sampling Workshop, Mar. 23-27, LaSells Stewart Center, Corvallis, OR. Contact: blogs.oregonstate.edu/variableprobability/.

Environmental Forensics—Site Characterization and Remediation, Mar. 24-25, Tukwila, WA. Contact: NWETC.

NWSA 91st annual meeting, Mar. 24-27, Eugene, OR. Contact: www.northwestscience.org.

International Mass Timber Conference, Mar. 24-26, Portland, OR. Contact: www.masstimberconference.com/.

Washington State SAF annual meeting, April 6-8, Leavenworth, WA. Contact: Andy Perleberg, andyp@wsu.edu.

Fundamentals and Best Practices for Forest Inventories, April 9, Springfield, OR. Contact: WFCA.

Oregon SAF annual meeting, April 15-16, Keizer, OR. Contact: Julie Woodward, woodward@ofri.org.

Collaborative Negotiations and Conflict Management for Environmental Professionals, May 6-7, Portland, OR. Contact: NWETC.

2020 SAF National Convention, Oct. 28-Nov. 1, Providence, Rhode Island. Contact: www.eforester.org/SAFConvention.

Contact Information

FEI: Forest Engineering Incorporated, 3895 NW Lincoln Ave., Corvallis, OR 97330, 541-754-7558, office@forest-engineer.com, www.forestengineer.com.

NWETC: Northwest Environmental Training Center, 1445 NW Mall St., Suite 4, Issaquah, WA 98027, 425-270-3274, nwetc.org.

WFCA: Western Forestry and Conservation Association, 4033 SW Canyon Rd., Portland, OR 97221, 503-226-4562, richard@westernforestry.org, www.westernforestry.org.

Send calendar items to the editor at rasorl@safnet.org.

We Remember

Steve Woodard
1929-2019

Steve Woodard, 90, passed away in Cottage Grove, Ore., in September. His commitment to family, forest management, and education was evident throughout his life.

Steve was born and raised in Cottage Grove, surrounded by extended family who worked in the timber industry. At age 17, he quit high school to join the Army and serve during WWII. He was stationed in Alaska and helped with the construction of the base and airfield at Fort Richardson. After returning home, he married Helen Lionberger and together they raised four daughters. Steve worked in the woods as a choker setter, faller, and scaler before he decided that he wanted to become a forester, and in 1959, he moved his family to Corvallis to attend Oregon State University.

Steve earned his B.S. in forest management at OSU in 1963, followed by a master's degree in forest science. As a graduate student, he was hired to advise undergraduate forestry students and teach classes in forest mensuration and protection. He formed many life-long friendships with students and faculty at OSU.

After six years as an instructor and researcher at the College of Forestry, he became a district forester for the Industrial Forestry Association. His job included being a liaison for many timber companies and mills in western Oregon as well as overseeing the tree farm program in western Oregon.

In 1971, with all his daughters graduated and on their own, Steve and Helen moved back to Cottage Grove. He bought his grandfather's 200-acre tree farm from his siblings and Weyerhaeuser, consolidating ownership for the first time since the early 1950s. The two of them settled into the historic log cabin on the tree farm and began remodeling and improving the cabin and actively managing the forest. They both loved the location and lifestyle.

Steve made another job change in early 1973 as Lane County Extension forester until 1991 when he retired. He served forestland owners by teaching classes, conducting field trips, talking with service clubs, organizing tours, promoting outdoor teaching opportunities for students, and writing instructional publications. If there was a way to help people learn how to manage their forestland to meet their goals, he did it, often with the help of the many contacts he had with the forestry community in Oregon.

Shortly after the birth of their fifth grandchild in 1985, Steve's beloved wife Helen passed away. She would have been proud of his accomplishment in 2004 when he was selected as the Oregon Tree Farmer of the Year.

Steve had an ongoing interest in forestry in other parts of the world. He welcomed tour groups from many parts of the world, showing them forests, mills and forestry programs in Oregon. His six-month sabbatical was in Saltillo, Mexico, working with a college of forestry. Both before and after retirement, he helped organize and lead many tour groups from Oregon to other countries to learn about their forests and management. His second wife, Bettie, was with him during much of his international travel.

Steve was a member and Fellow of the Society of American Foresters and he served as Oregon SAF chair and Emerald Chapter chair. He was an active member of Oregon Small Woodlands Association and a member of numerous other forestry organizations that are dedicated to the stewardship of forests, forest research, or forestry education. He served as a director on many boards over the years, including Oregon Forest Resources Institute, Keep Oregon Green, and Eastern Lane Fire Protective Association.

His impact as a teacher and mentor in forestry started early in his life and lasted throughout his lifetime. His generosity and love of learning was infectious, shared and appreciated by the hundreds of people that he worked with over many decades. Steve's final gift to science and education was at the time of his death by making a "whole body donation" to OHSU.

Survivors include daughter Patty of Carnation, Wash.; Brenda of Drain, Ore.; Shelly of Houston, Texas; and five grandchildren as well as his wife Bettie, Cottage Grove, Ore., and her three children and her eight grandchildren.

Bob Schramek
1932-2019

Robert Wayne Schramek passed away peacefully on August 26, 2019, in Port Townsend, surrounded by family.

On October 12, 1932, Bob was born in Minneapolis, Minnesota, to Frank James and Clara Schramek.

Bob was a creative child, with a natural talent of drawing, sculpting, carving, and painting. In Minnesota, outdoor sports rule. He learned to ski, ice skate, snowshoe and ski jump in the local city parks. The family was full of dedicated sport hunters, so Bob learned to duck hunt early. Later, the hunting expanded to deer in northern Minnesota. However, fishing was his passion. He learned to tie his own flies, build his own canoe, and paint many pictures of nature.

Bob carried this love of nature his whole life. Bob graduated from the University of Minnesota in 1954 with a degree in forestry and started his career with the United States Forest Service.

Bob came to the Olympic National Forest in 1954 and was stationed Quilcene. At that time, Bob met and married Dorothy Preston in 1955, and they experienced 64 years of marriage.

With his career as a forester, the family moved from Quilcene to eastern Oregon, to Elllensburg, to McKenzie River, Oregon, to southwestern Virginia, and then Colorado and California. Bob retired in 1986 and moved to Eugene, Ore., and then to Port Townsend in 1990.

Robert was a member of the Masonic Lodge for over 50 years. He belonged to the Society of American Foresters and was active in the Puget Sound Chapter.

Bob is survived by his wife, Dorothy; three daughters; five grandchildren; and two great-grandchildren. ◆

Forest Health Conference Slated for February

The Forest Health in Oregon: State of the State 2020 conference will be held February 26-27 at the LaSells Stewart Center on the campus of Oregon State University. This biennial conference and scientific update is a great opportunity to hear from researchers and members of the forestry community about the current condition of Oregon's forests, forest health trends, challenges, current research, and silvicultural solutions. Geared to foresters, forest managers, woodland owners, students, policymakers, and others with an interest in forest health, the conference will provide a blend of current information and practical applications.

On the first day of the conference, participants will hear from speakers about trends in tree mortality related to drought, weather, and climate; how insects and disease are affecting forests in Oregon; and connections between biodiversity and forest health.

On the second day, the morning will feature a new session on collaboratives, partnerships, and social connections to forest health. Participants will also hear from researchers and practitioners about silviculture and forest operations implications when managing for forest health. The afternoon session will focus on fire in Oregon, including discussion of fire refugia and pre- and post-fire dynamics in both dry and moist forest types. The conference will close with a synthesis of current trends and the future of forest health in Oregon.

Questions related to the program can be directed to Dave Shaw, OSU College of Forestry, dave.shaw@oregonstate.edu.

Visit the conference website at www.forestry.oregonstate.edu/cpe for registration and additional information. ◆

Policy Scoreboard

Editor's Note: To keep SAF members informed of state society policy activities, Policy Scoreboard is a regular feature in the Western Forester. *The intent is to provide a brief explanation of the policy activity—you are encouraged to follow up with the listed contact person for detailed information.*

Three Initiative Petitions Rejected...But.. On September 24, Oregon Secretary of State Bev Clarno rejected Initiative Petitions 35, 36, and 37 for failure to comply with the Oregon Ballot Measure "single subject requirement." All three of these measures would have placed significant restrictions on active forest management in Oregon. Measure 35, the most comprehensive of the measures would have: 1) established 100 ft harvest buffers on fish bearing streams and 50 ft buffers on most other waterways; 2) established a 500-foot buffer for forest aerial applications from any water of the state on forestland; 3) required notification to Oregon Department of Forestry of forestland pesticide applications 14-21 days prior to an application; 4) required approval of written plans before harvesting on locations classified as landslide hazards; 5) restricted voting rights of Board of Forestry members who derive a significant portion of their income directly from companies subject to the Forest Practices Act; and 6) reallocated 2/3 of OFRIs revenues to fire suppression. The petitioners are appealing the Secretary's decision and concurrently are reworking their petitions to be compliant with the decision, so we can expect to see these issues covered in new initiative petitions in the 2020 general election.

The Healthy Forests and Wildfire Reduction Plan. A group of foresters and forest landowners have submitted a package of initiatives for the November 2020 election that are intended to protect the rights of landowners to actively manage their forestlands. Called the Healthy Forests and Wildfire Reduction Plan, these initiative petitions: requires forest management be guided by peer-reviewed science; add forestry experts to Oregon's State Board of Forestry; and compensates property owners when government activities unfairly destroy or devalue their property.

Judge Overturns Lincoln County Oregon Aerial Application Ban. On September 23, Lincoln County Circuit Court Judge Sheryl Bachart issued a decision invalidating the aerial herbicide spray ban passed by Lincoln County voters in May 2017. The basis of the judge's decision is that the Oregon State Pesticide Control Act preempts county ordinances with respect to herbicide use. Presumably this decision will affect bans being considered in other Oregon counties.

Contact: Mark Buckbee, Oregon SAF Policy Committee co-chair, buckbeefamily@msn.com. ◆

You won't want to miss the 2020 SAF state annual meetings!

Both the Washington State and Oregon meetings will feature informative presentations, field trips, and opportunities for networking. Mark your calendar today! Information will be posted on www.forestry.org as it becomes available.

Washington State SAF—April 6-8 • Leavenworth, WA
Hosted by the Mid-Columbia Chapter

Oregon SAF—April 15-16 • Keizer, OR
Keizer Community Center • Hosted by the Capitol Chapter

Buckbee Elected to SAF Board

Elections for national and some state officers occurred in the fall of 2019, with newly elected officers starting their roles in 2020. Here are the results.

In Oregon SAF, Jeremy Felty, a forester for the Oregon Small Woodlands Association and Oregon Tree Farm System, was elected chair-elect. Katie Nichols was elected delegate-at-large; she is a forest engineering operations assistant at Lone Rock Timber Management. Both have significant SAF experience at the chapter level. Jeff Grogan, a forester for Weyerhaeuser, will serve as chair in 2020, and Meghan Tuttle, also of Weyerhaeuser, moves into the past chair position. Members also voted on and approved two position statements, titled "Active Management to Achieve and Maintain Healthy Forests" and "Landslides on Forest Lands."

In Washington State, Wes Tracy, a Weyerhaeuser forester, moves into the chair position for 2020 and Jenny Knoth moves to past-chair. An election of a chair-elect will take place soon.

Alaska SAF offi-

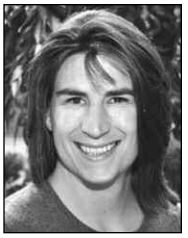

Jeremy Felty


Katie Nichols

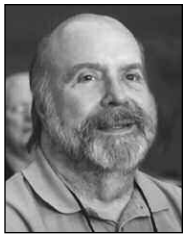

Jeff Grogan


Meghan Tuttle


Wes Tracy


Jenny Knoth

cers serve two-year terms. John Yarie will serve his second year as chair, with Ed Morgan serving as chair-elect.


John Yarie


Gene Kodama

On a national level, Tamara Cushing, a forest economics professor at Oregon State University, will serve as SAF president in 2020. John McNulty moves into the immediate past president slot. Henry "Gene" Kodama of Summerville, South Carolina, was elected vice president for 2020.

In addition, four new board members were also elected to three-year terms on the SAF Board: Mark Buckbee of Roseburg, Ore., replaces Mike Cloughesy in District 2; Tara Bal, Houghton, Michigan, District 5; Anne Jewell, Mechanicsville, Virginia, District 8; and William "Buddy" Stalnaker, Nacogdoches, Texas, District 11.

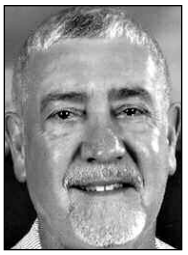

Mark Buckbee


Tara Bal

The member referendum to add a young professional representative to the SAF Board of Directors passed. This new non-voting board position will begin in 2021.

SAF's Board of Directors provides leadership and direction to SAF to ensure the achievement of its mission to advance the science, technology, education, and practice of forestry. Included among the Board's duties are reviewing annual and long-range budget projections; serving as a communications link among the members of their voting district; reviewing SAF national office programs as they relate to the mission, representing SAF to the public, and evaluating the CEO's performance.


Anne Jewell


Buddy Stalnaker

For a directory of the current board, visit https://tinyurl.com/SAFBoard2019.

Congratulations to all. ◆

SAF Northwest Office Seeking New Manager and Editor

BY JEREMY DOUSE, CF

The Northwest Office of the Society of American Foresters is looking for a new manager/editor to work with SAF members and leadership in this three-state partnership between the Oregon, Washington State, and Alaska Societies. This contract, half-time position is needed to run operations, develop and maintain budgets, provide continuity and support to volunteers, assist with conference management, and produce and edit the *Western Forester* publication four times a year.

The current manager/editor, Lori Rasor, has accepted a new position. She is taking a position with the national SAF office and will continue to work with state and regional societies on a number of different programs. She has done an outstanding job for us and we wish her well in her new position working at the national level.

This position is an exciting opportunity for someone interested in managing nonprofit organizations, has experience with forestry and natural resources in the Northwest, is a self-starter, and knows how to manage budgets. This person will make contacts and collaborate with other organizations around the Northwest and nationally, and will identify key issues and themes while working with subject matter experts on developing quarterly issues of the *Western Forester*.

The ideal candidate will be an SAF member that is knowledgeable of opportunities and challenges currently facing SAF; however, this is not a requirement and all candidates will be considered. We are also looking for someone that can work independently and develop a vision for this three-state partnership, motivate volunteers, promote membership in SAF, and develop new ways to generate revenue. Ideally, the candidate would have experience editing natural resources-related newsletters or publications.

In the Northwest, SAF has goals of growing this organization, influencing policy makers on forestry issues, and educating the public about active forest management and issues facing forests in the Northwest. The manager will administer programs that will accomplish these goals and will work closely with the SAF Northwest Office Committee and other sub-committees that help manage this organization.

Historically this position has been stationed in the Portland area, but we are opening it up to anyone who has home office capabilities in the three-state area of Oregon, Washington, or Alaska that is qualified and can meet the scope of service.

If this sounds like you, or someone you know, please review the RFP at www.forestry.org and respond by 5:00 p.m. January 15, 2020. Any questions about the RFP may be directed to Lori Rasor at rasorl@safnet.org or 503-224-8046. ◆

Jeremy Douse, CF, is a forester for the Alaska Division of Forestry in Fairbanks, and serves as chair of the SAF Northwest Committee for 2019. He can be reached at jeremy.douse@alaska.gov.

SOCIETY OF AMERICAN FORESTERS
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4033 S.W. Canyon Road
Portland, Oregon 97221

Non-Profit Org.
U.S. POSTAGE
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PORTLAND, OR
PERMIT NO. 16

PRINTED ON
RECYCLED PAPER