SOCIETY OF AMERICAN FORESTERS

Western Forester

September/October 2005 Oregon • Washington State • Inland Empire • Alaska Societies Volume 50 • Number 5

The Rural Technology Initiative:
A Collaborative Technology Transfer Center Serving Rural Landowners and Communities

BY BRUCE LIPPKE, DONALD HANLEY AND LARRY MASON

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Increasing management complexity because of changing environmental regulations and the recognition that new research findings are well ahead of implementation in Washington state suggests the need for more rapid technology transfer to the state's rural landowners, tribes and communities. The Rural Technology Initiative (RTI) was established in January 2000 by a direct congressional appropriation to address these needs.

The scientific knowledge to manage forests is far ahead of the capacity to use technology in rural communities. Without the successful, timely transfer of needed forestry technologies, private forests will continue to decline in health and viability. Where forests are close to expanding population centers, increases in conversions to more profitable land uses will continue to result in public loss of important social, environmental and economic values.

A rural RTI advisory board representing non-industrial private forestland (NIPF) owners, tribal forest managers, forestry consultants, forest industry, labor unions, conservation and economic development districts, the USDA Forest Service, resource educators and local community organizations was established and sets priorities for technology transfer needs. RTI is funded by USDA-FS Cooperative Programs and other science and technology grants. RTI operates as a technology transfer partnership managed cooperatively through the University of Washington's (UW) College of Forest Resources (CFR) and Washington State University's (WSU) Cooperative Extension.

PHOTO COURTESY OF RTI

RTI staff members Kevin Ceder and Luke Rogers demonstrate forest modeling technologies for tribal forestry professionals at the 2004 Intertribal Council Meeting.

We hope that you find the articles in this issue of the *Western Forester* of interest. They represent just a small fraction of the work produced under the RTI banner to transfer emerging science and technology for sustainable forestry. Since its inception in 2000, RTI staff and students have produced 35 fact sheets, scores of scientific publications, quarterly newsletters, six Extension bulletins, more than 300 digital streaming video presentations on the Internet, and more than 250 scientific presentations and technology short courses. For 2005, the RTI website has averaged about 5,000 non-

(CONTINUED ON PAGE 2)

In This Issue: Rural Technology Initiative: Increasing technology transfer to rural communities

Western Forester

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Western Forester is published bimonthly by the
Oregon and Washington State Societies' Northwest Office

Please send change of address to:
Society of American Foresters
5400 Grosvenor Lane
Bethesda, MD 20814
301-897-8720

Rural Technology Initiative

(CONTINUED FROM FRONT PAGE)

university visitors each month. In 2002, RTI received the National Private Forestry Education award given by the National Woodland Owners Association (NWOA) and National Association of Professional Forestry Schools and Colleges (NAPFSC).

Additional information about RTI can be found at www.ruraltech.org and at http://ext.nrs.wsu.edu. Feel free to contact us or any of the individual article authors for additional information. ◆

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WSSAF Meeting to Focus on Wildfire

Living with Wildfire—Lessons Learned is the theme of the 2006 Washington State SAF annual meeting slated for April 6-8 at the Campbell's Resort on Lake Chelan in Chelan, Wash.

Hosted by the Mid-Columbia Chapter, the program committee is hard at work to bring members an interesting and informative meeting.

The field trip will be unique—no buses, no dusty roads and no long drives between stops. Instead, organizers are featuring a trip up Lake Chelan on the Lady of the Lake II that will include an ongoing dialogue on recent fires and their effects on the lake, the forests and succession following these fires.

Watch the *Western Forester* as additional details become available.

Next Issue: Forest Fragmentation


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Forest Stewardship Coached Planning Curriculum Incorporates LMS

BY ANDREW B. PERLEBERG
AND JAMES B. McCARTER

Andrew Perleberg

James McCarter

Washington State University and the Washington State Department of Natural Resources deliver a series of weekly classes, in cooperation with other resource management agencies, to assist owners of small-scale family forests in the development of forest stewardship plans.

Since 1994, WSU Extension and its partners have helped "coach" over 2,200 family forest owners to plan and implement forest practices to meet their ownership objectives. Landowners learn about fundamental resource protection and enhancement activities, and approximately half of the families develop a DNR-approved Forest Stewardship Plan. Because the landowners develop the plans themselves with decisions facilitated by their instructors, there is a high degree of implementation of their plans.

These "Coached Planning" short courses now include a new educational unit provided by the Rural Technology Initiative (RTI), which teaches participants how to use the Landscape Management System (LMS) as a management and planning tool for their property.

LMS is a computer program that simulates the growth and development of a forest over time and how things will change as a result of management activities. LMS can generate a number of useful outputs, including measures of stand structure such as basal area and stand density index; hazard variables such as wind firmness and fire risk; financial measures such as cash flow and soil expectation value; and other measures such as habitat quality and carbon sequestration. LMS can also generate images of a forest, using the Stand Visualization System (SVS, USDA Forest Service), so users can see visually what the results of a management activity will look like in the future.

PHOTO COURTESY OF WSU FORESTRY EXTENSION

Forest landowners learn to use clinometers as part of coached stewardship planning instruction.

First developed in the early 1990s at the University of Washington College of Forest Resources, the system's broad capabilities have made it a powerful management tool for large, complex landscapes. Now there is growing recognition of the usefulness of the system for smaller, family ownerships. Landowners can use LMS to simulate and explore the outcomes of a variety of different management choices. If the landowner is not satisfied with the results or wishes to explore other options, a click of the mouse puts the trees back on the stump, ready for a new simulation. This gives landowners the unique opportunity to "play" with their forest and can lead to more informed decision making.

LMS not only helps landowners develop management plans, but it also helps communicate management plans and objectives. LMS visualizations and other outputs can be a focal point for dialog between a landowner and family, and with foresters and neighbors. In many cases, younger family members get excited about the technological aspects of LMS, and thus LMS can potentially facilitate better communication between generations. Since LMS is developed and supported with funding from the USDA Forest Service, it is provided to the public at no charge.

LMS is a user-friendly program that is designed for a range of skill levels from novice to advanced. A new companion called the LMS Inventory Wizard is now available that makes it quick and easy for landowners to get their forest data into the system. The Inventory Wizard helps landowners collect and organize the information about their forest that is needed to run the program. This information can then be entered into the computer through easy-to-use on-screen forms. More information about the Inventory Wizard is available in the WSU Extension Bulletin *Inventory Wizard: A new tool that makes it easy to get started with the Landscape Management System*, EB 1983 (available for free download at http://cru84.cahe.wsu.edu/cgi-bin/pubs/eb1983.html).

LMS was first introduced to the Coached Planning shortcourse in 2003. At that time, getting data into the LMS system required a fairly complex understanding of data entry and spreadsheet maneuvering. In 2004, RTI delivered a more formal "how-to" lecture to introduce the Inventory Wizard during three-hour evening sessions. During these lectures, landowners learned how they can use LMS to help develop stewardship plans and how to get started with the Inventory Wizard. Participants also learned about common tree measurement tools and basic plot sampling procedures for collecting data in their own forests.

In the spring and summer of 2005, WSU Extension, DNR and RTI brought the LMS unit to the woods as a portion of their field day events. Landowners practiced tree identification and measurement skills with the assistance of coaches from WSU, DNR and RTI. Participants collected data using the Inventory Wizard as a guide, and at the end of the field day, they had the opportunity to practice entering the data into the computer and running LMS. Anecdotal evidence suggests that this applied version, rather than the in-class lecture, is a superior educational method for facilitating the transfer of this technology.

Family forest owners are capable of implementing many, if not all management activities (thinning, planting, pruning, etc.) on their land. Utilizing management and planning tools such as LMS will improve landowner understanding and confidence in the practices they elect to execute for achieving their objectives. LMS can also be useful for development of landowner forest plans required by counties for favorable forestry tax status.

To learn more about the Landscape Management System and training opportunities, contact the Rural Technology Initiative at 206-543-0827 or log onto www.ruraltech.org. To learn more about the WSU/DNR Forest Stewardship Coached Planning Shortcourse, contact your local WSU Extension office or visit http://ext.nrs.wsu.edu/. ◆

PHOTO COURTESY OF WSU FORESTRY EXTENSION

Andy Perleberg, WSU Extension, explains plot sampling to forest landowners.

PHOTO COURTESY OF WSU FORESTRY EXTENSION

RTI staffer Kevin Zobrist (far right) helps landowners create their own virtual forests in LMS.

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Wildlife Habitat Modeling with the Landscape Management System: Using Technology to Assist Silvicultural Planning

BY KEVIN R. CEDER

Forests of the Pacific Northwest are home to a multitude of wildlife species. Society is placing increasing demands on forest managers to include provision of wildlife habitats in forest management plans. To meet these demands, several types of wildlife habitat models have been developed that use forest inventories to estimate habitat quality and quantity. Outputs from habitat models help assess tradeoffs between management alternatives and communicate consequences to stakeholders. To meet these assessment and communication needs, the Landscape Management System (LMS) has been programmed to link available habitat models with current and future forest inventory data (projected with forest growth and yield models) to estimate present and potential future habitat conditions resulting from management alternatives. Two types of habitat models have been used: Habitat Suitability Index (HSI) models and structure-based presence/absence models.

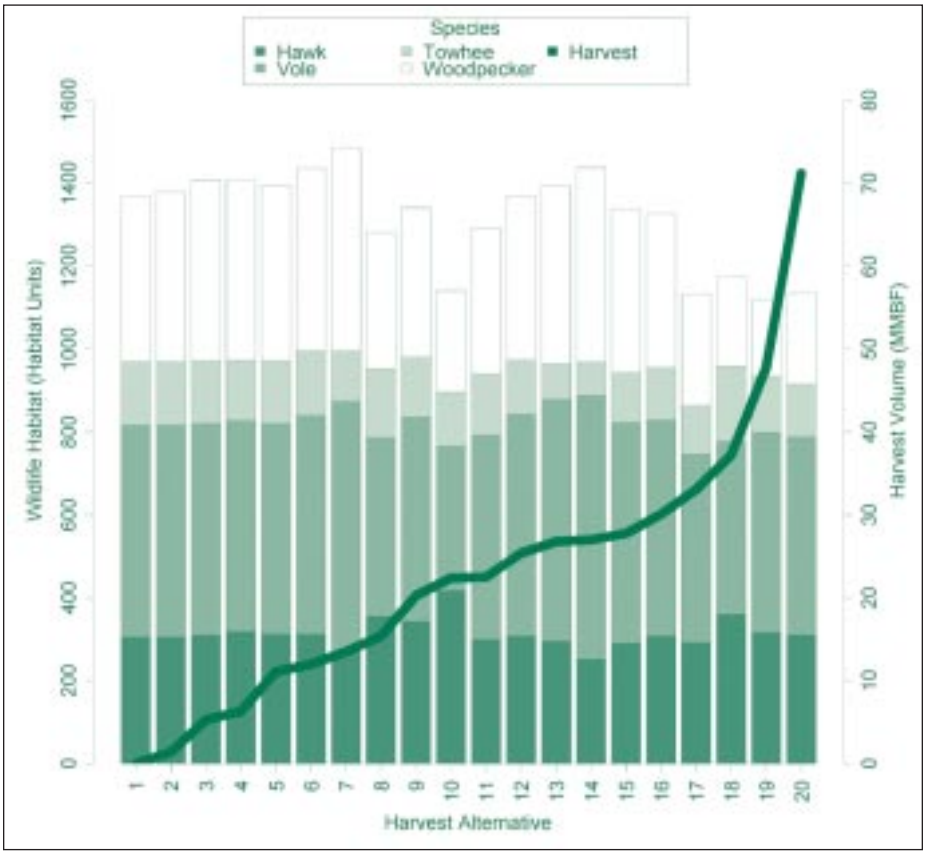
HSI models have been developed and published by biologists to assess habitat quality for feeding, breeding and cover needs for forest species based upon both live-tree and dead-wood inventory summary data (including average diameter, average height, canopy closure, species diversity and count). HSI habitat values reflect relative habitat quality based upon a nominal index of 0.0 (non-habitat)-1.0 (optimal habitat). Several HSI models that use live-tree and dead-wood inputs have been integrated into LMS to support research projects in the Pacific Northwest, Inland West, Northeast and Southeast regions of the United States. Species used include the pileated, red-cockaded, hairy and downy woodpeckers, American fisher, barred owl and eastern gray squirrel.

Another approach of assessment integrated into LMS is structure-based presence/absence models developed by the Interior Columbia Basin Ecosystem Management Project (ICBEMP) that classify areas as habitat or non-habitat stand structure classification. This structure-based habitat classification system relies on canopy closures in specific diameter-based strata in conjunction with forest type as inputs for source habitat matrices to determine if an area is habitat for species. This approach was used in an RTI investigation of forest fuels removals in Washington and Oregon. Species considered included the grizzly bear, Canada lynx, northern flying squirrel and Townsend's big-eared bat.

Integration of habitat models into LMS expands its analytical capabilities, allowing assessment of silvicultural pathways from a wildlife perspective in addition to other forestry, ecological and economic measures. By simulating many silvicultural pathways, tradeoffs among forest outputs provided by pathways can be examined.

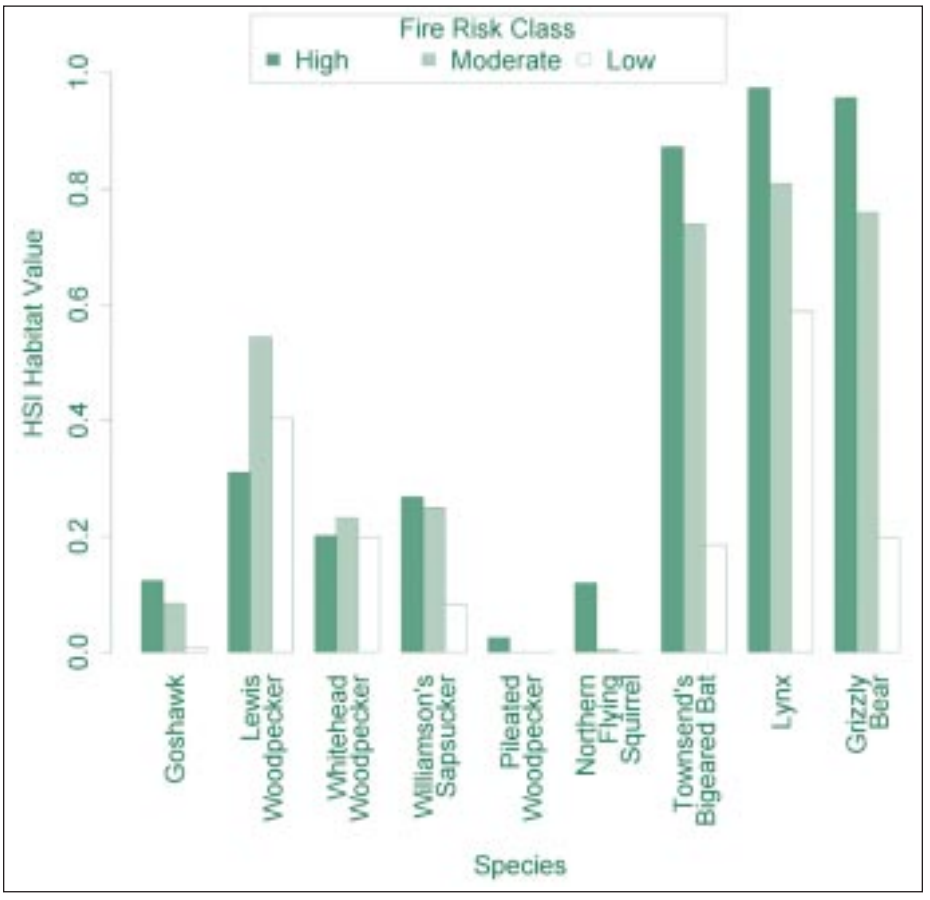
For example, on Satsop Forest in southwest Washington, habitats for Cooper's hawk, southern red-backed vole, spotted towhee and pileated woodpecker; harvest volume; and other measures were estimated for 20 silvicultural pathway alternatives over an 80-year planning horizon (see Figure 1). Some harvest alternatives (Alternatives 2-7, 13 and 14) provided as much or more overall habitat than no management (Alternative 1), indicating wildlife habitat can be

Figure 1. Wildlife habitat and harvest volume for 20 alternatives.



Habitat and volume production for 20 potential 80-year management alternatives for Satsop Forest.

Figure 2. Wildlife habitat by fire risk class, Okanogan NF



Habitat levels for High, Moderate, and Low risk stands on Okanogan NF. Wildlife species, left to right in each graph are: Northern goshawk, Lewis woodpecker, white-headed woodpecker, Williamson's sapsucker, pileated woodpecker, northern flying squirrel, Townsend's big-eared bat, Canadian lynx and grizzly bear.

improved with timber harvesting. Harvesting did not improve overall wildlife habitat in all alternatives. At high harvest levels overall habitat quantities decreased (Alternatives 8-12 and 15-20), demonstrating trade-offs between wildlife habitat and harvest volume.

As part of another RTI investigation, LMS, linked to habitat and fire risk models, was used to examine data from the Okanogan National Forest to assess habitat for northern goshawk, Lewis woodpecker, white-headed woodpecker, Williamson's sapsucker, Canada lynx, grizzly bear, pileated woodpecker, northern flying squirrel and Townsend's big-eared bat in relationship to fire risk. Initial habitat and fire risk relationships showed that areas with high and moderate risk provided more habitat for the majority of the species, especially northern goshawk, pileated woodpecker, northern flying squirrel, lynx and grizzly than the low-risk stands (see Figure 2).

These habitat-fire risk relationships lead to questions such as: Are current habitat levels, because of changes in forest structure caused by fire exclusion and suppression, reflective of historical levels? What will the effect on wildlife habitat be if forest managers perform fuel treatments to reduce the current fire risk? If habitats for some species are at high fire risk and need to be preserved, what are the most effective methods of creating low risk fuel and fire breaks to protect the high risk areas from wildfire? And, are current habitat levels for some species in the Inland West sustainable given the level of fire risk?

Increasingly, modern forestry requires selection of management approaches that integrate wildlife habitats, harvest volumes and other forest objectives. The use of LMS with habitat and other analysis modules can aid the planning process by providing foresters with user-friendly software that can simulate and analyze multiple silvicultural alternatives to determine which approach might best meet landowner and societal expectations. ◆

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Management Templates that Integrate Ecological and Economic Objectives

BY KEVIN W. ZOBRIST

One of the challenges of sustainable forest management is balancing multiple, sometimes competing objectives. Management strategies that achieve ecological objectives, but are not economically viable are unlikely to be implemented successfully, especially on private lands, which are often under threat of conversion. Likewise, management strategies that maximize economic returns, but degrade wildlife habitat and water quality are also unlikely to be sustainable. Management for ecological objectives is often compatible in some ways with timber production and economic goals, though there is usually some level of tradeoff. Management strategies that leverage these areas of compatibility and minimize the tradeoffs are likely to be the most sustainable.

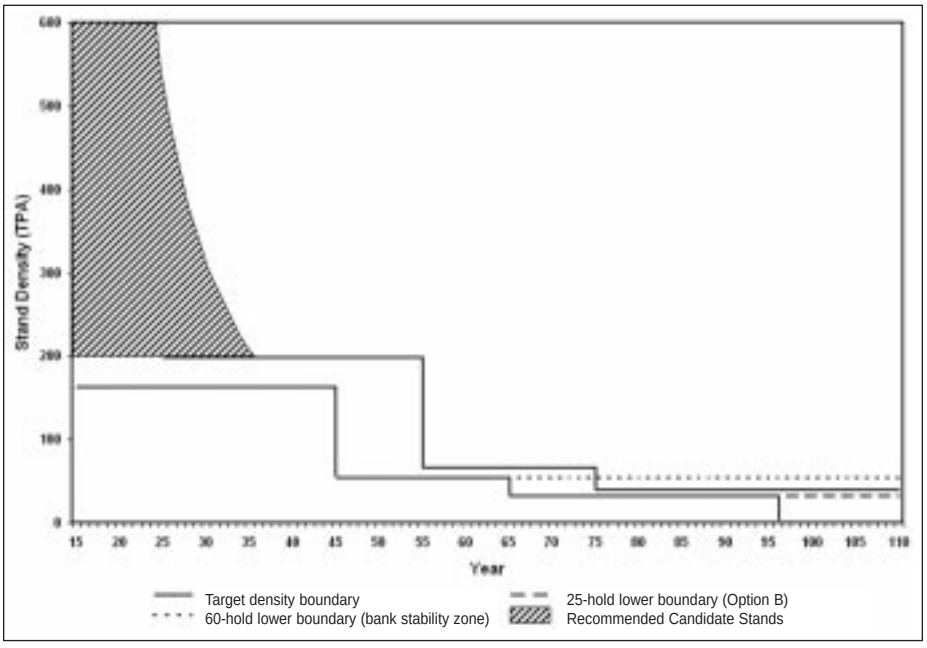
The Rural Technology Initiative (RTI) has developed a technology and data-driven process for identifying such management strategies that integrate ecological and economic objectives. These strategies can then become the basis for management "templates," which offer specific yet flexible management guidelines to aid managers and landowners with implementation. The key to this process is to identify the desired future stand conditions. As an example, ecological targets could be conditions that favor certain species of interest or the overall diverse conditions of older multi-story forests. Inventory data from actual stands that are representative of these desired conditions must then be identified as a reference dataset.

The distributions of key structure variables from the reference dataset, when considered for all sample plots, form a multi-dimensional management target. A statistical assessment procedure can then be used to evaluate whether an observed stand falls within that management target. Stands are determined to fall within the target zone if they have structure that is statistically similar to the reference conditions.

Potential management alternatives can be simulated using the Landscape Management System (LMS). LMS is a program that takes existing technologies, such as growth, treatment and visualization models, and integrates them under a user-friendly interface. LMS can simulate potential management alternatives over time and compare projected structure attributes to the desired target. LMS also includes a module called Economatic that can assess an alternative relative to economic performance metrics such as soil expectation value (the net return to land for a forest rotation repeated in perpetuity). These tools provide an objective, integrated assessment process for identifying management alternatives that perform well relative to both ecological and economic criteria.

The RTI template process was initially developed to address riparian

Figure 1. Example template for overstocked stands.



An example template for conifer thinning in western Washington riparian zones that defines a desired density range over time along with minimum thresholds for sensitive areas.

management challenges in Washington state. Regulations restrict management in riparian areas to protect aquatic resources. The goal of these regulations is to develop desired future conditions (DFC) that mimic older forests that have never been harvested, especially large conifers that provide shade, long-term large woody debris recruitment and terrestrial habitat. However, in some cases, such as young, dense, intensively-managed stands, imposed management restrictions may mean that thinning does not occur. DFC is delayed as overstocked forests are unable to grow large trees. At the same time, the lost harvest revenue may result in unsustainable economics, especially for small landowners. To accommodate situations like this, managers are allowed to deviate from the regulations under an approved alternate plan. The regulations further allow the development of templates to streamline the alternate plan development and approval process for common situations such as young, overstocked stands.

Using the approach described above, RTI developed an example template for overstocked stands (see Figure 1). This template was developed with sponsorship from the Sustainable Wood Production Initiative (part of the USDA Forest Service Pacific Northwest Research Station's Focused Science Delivery Program) as part of an effort to identify solutions to overcome barriers to sustainability (for additional information see www.fs.fed.us/pnw/about/programs/fsd/sustain-wood.shtml). The example template used a "biodiversity pathway" approach of heavy, repeated thinnings to accelerate the development of the DFC while still maintaining a viable economic return.

The National Commission on Science for Sustainable Forestry (NCSSF, www.ncssf.org) sponsored further development of this template, along with the application of the template process to address biodiversity issues in southern loblolly pine plantations. A desired condition to support greater biodiversity in the South is an open pine overstory with a rich, herbaceous understory similar to the natural, fire-maintained pine communities that historically dominated the region. Using the same tools and approach, an example southern template was developed that uses frequent thinnings and prescribed burning over longer rotations to develop the desired condition while maintaining an acceptable economic return through the production of high quality sawtimber and increased hunting lease opportunities.

The templates developed so far demonstrate the broad applicability of the template approach for achieving ecological and economic management objectives in multiple regions and ecotypes. RTI is continuing to develop riparian and upland management templates for both the South and the Pacific Northwest. More importantly, the tools are freely available so landowners and managers in any region can develop customized templates to address site-specific conditions and management objectives. More information about template tools and applications can be found at www.ruraltech.org. ◆

Kevin W. Zobrist is a research scientist and economist with the Rural Technology Initiative at UW. He can be reached at 206-543-0827 or kzobr@u.washington.edu.

Developing Metrics for Sustainable Management of Inland Northwest Forest Health

BY ELAINE ONEIL

As early as 1994, the Eastside Forest Ecosystem Health Assessment Team identified major threats and vulnerabilities in Inland Northwest forests, culminating in the publication of a number of USDA PNW Research Station General Technical Reports on the topic of forest health. In the ensuing decade, mortality levels and risks have continued to increase as indicated by insect and disease aerial survey results and wildfire statistics. Disturbance agents, including fire and insect outbreaks, are thought to be acting outside their historic range of variability, particularly for low- and mid-elevation forests. While many reasons abound for the increasing mortality, the synergistic affects of growing season drought, climate change and forest stocking levels that are beyond carrying capacity are influencing the cycles of insect and disease outbreaks as well as wildfire impacts. In the face of these impacts, numerous studies and reports have found that thinning susceptible forests in a proactive manner can produce environmental and economic benefits for Inland Northwest forests and communities.

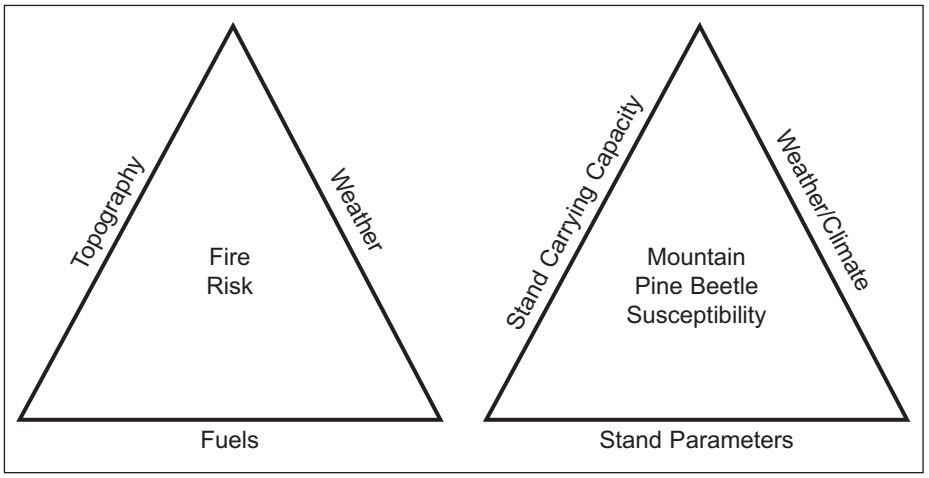
Effective thinning treatments to mitigate forest health impacts move stands away from stocking conditions that precipitate loss from insects, disease and fire, rather than toward a desired future condition (DFC) such as is used in western Washington riparian zones. This distinction between eastside and westside management emphasis is important, as it recognizes that the inherent natural variability in site carrying capacity, species mix, disturbance regimes and climatic variables across the landscape prevents any meaningful description of a single (or even a range of) DFCs for Inland West forests.

In the absence of a DFC, thinning strategies that result in conditions that meet both forest health and forest sustainability goals require a dynamic, flexible approach that is responsive to site-specific variables and forest health threats. Thinning strategies must consider residual stand density, volume, structure and species, as well as site-specific criteria that influence carrying capacity, timing for re-entry and current or future risks. These multiple considerations suggest that an approach that integrates site, stand and climatic conditions is needed to ensure stocking conditions are below thresholds that precipitate insect and disease attack or fire spread.

We are in the process of developing an empirical model that integrates these three elements for Mountain Pine Beetle or MPB (*Dendroctonus ponderosae Hopkins*) susceptibility. Field studies on MPB attacks in both lodgepole and ponderosa pine indicate a range of stand susceptibility thresholds that have been measured using stand parameters such as age, stand density, relative density, basal area and vigor indices. Based on these thresholds, a large number of treatment recommendations have been made. While the recommendations are effective in specific localities, their successful transferability to other places on the landscape remains elusive.

Our model incorporates stand carrying capacity to improve transferability in space, and climate for better predictive capability through time. The conceptual model is analogous to the fire risk triangle as shown on the left-hand side of Figure 1. The fire triangle is defined by its fuel loading, topography and weather legs. In fire management it is recognized that only the fuel leg of the triangle can be altered, but the other two legs are integral in estimations of risk and impacts during a fire event. The right-hand side of Figure 1 shows the mountain pine beetle susceptibility conceptual model with its legs identified as stand parameters, stand carrying capacity and weather/climate variables. In this model, stand parameters identify current stocking on the site, whereas stand carrying capacity reflects the inherent productive capacity of the soil moisture and nutrient matrix. As with the fire triangle, Figure 1 suggests that we can alter

Figure 1. A comparison of the elements used in fire risk rating and mountain pine beetle susceptibility rating.



stand parameters to reduce stand susceptibility to MPB, but that the treatment must incorporate site carrying capacity and climate for effective prediction and mitigation activities to ensue.

The model implicitly recognizes that it is not sufficient to determine historic carrying capacity alone, as it is also driven by changes in climate. The addition of climate variables into empirical equations is a key to ensuring that the model reflects both current conditions and predicted changes in Inland Northwest ecosystems to ensure long-term applicability.

The first step in model development is to derive current stand carrying capacity values using predictor variables such as slope, aspect, elevation, species, soils and long-term climate. The second step is to use those empirical equations to develop broad-scale mapping of potential carrying capacity by species using available GIS technologies. With future developments in remote sensing technology that can more accurately map stand parameters essential for assessing stocking, a spatially explicit susceptibility map could be produced for the Inland Northwest using remotely sensed data alone. While adequate funding and time would be needed to produce this susceptibility map, it would be a significant advancement over current forest health susceptibility assessment procedures. ◆

Elaine Oneil is completing her PhD while working as a research assistant with the Rural Technology Initiative at UW. She can be reached at eoneil@u.washington.edu.

Helping Forest Landowners Manage their Roads

BY ARA ERICKSON

Surface runoff from roads and the failure of road fill-slopes are considered among the leading causes of sedimentation associated with forest management activities. Fine sediment from run-off generated by poorly maintained and/or designed roads can be transported into adjacent streams, leading to water quality degradation and damage to aquatic life.

Based on research done by the Rural Technology Initiative, road upgrade and stream crossing costs can be very expensive and present potential economic hardship for forest landowners, depending on property size, cost of the road upgrades and when these costs are incurred in the harvesting rotation. One concern is that landowners may not have adequate cash available at the time of the upgrade, possibly compelling some landowners to harvest more than they would otherwise to pay for the costs. It was also estimated that road upgrades done early in the rotation could significantly diminish the net present value of that rotation. Furthermore, with high upgrade costs, the compound costs would likely exceed future timber revenues, indicating that some landowners could face upgrade costs greater than the value of their timber assets.

In addition to the potentially high costs of road upgrades, roads are often difficult, time-consuming and expensive to design and layout. To address some of these challenges, the Rural Technology Initiative developed a series of decision support tools for road engineers and landowners to use to design and properly place roads and culverts.

PEGGER

PEGGER is a computer program that automates initial forest road location and route projection ("road pegging") through the use of Geographic Information System (GIS) and digital terrain data. Forest planners can quickly analyze many road location alternatives and evaluate environmental and economic opportunities. PEGGER is designed to be a supplement to forest planners' existing toolkit of aerial photography, paper maps, clinometers, compasses and global positioning units.

PEGGER was designed to require no training, minimal setup time and a simplified user interface, and includes detailed and seamlessly integrated help files, tutorial and sample datasets.

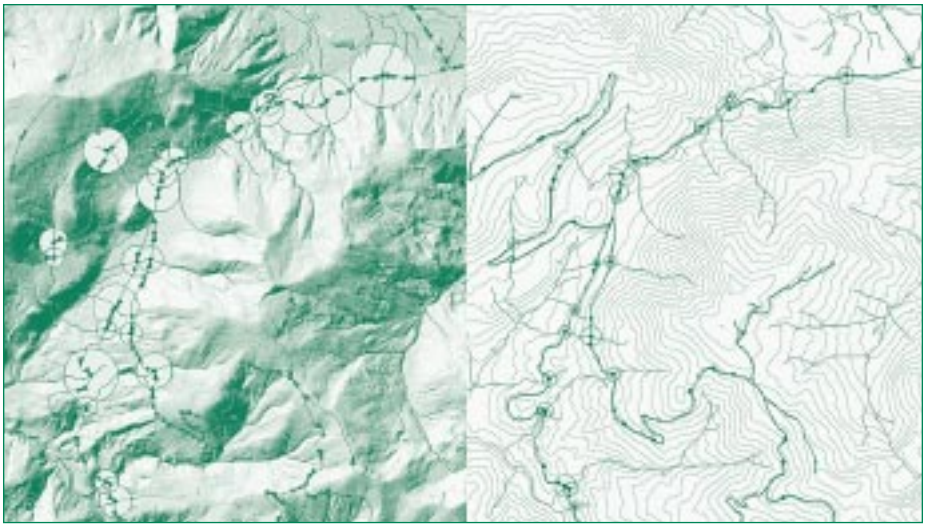
PEGGER imports topography as digital contours—much like using a paper contour map—and the user supplies a few parameters: the road layer they would like to edit, the contour layer they would like to use, and a confirmation of the detected contour interval. The user locates the desired beginning and/or endpoints of the new road given operational parameters. Using standard tools available in the GIS (ruler and identify) the user estimates the necessary grade for the road. To start a road the user "shift-clicks" on the location where they wish to begin and then enters the desired grade. To "peg" the road, the user only has to click in the general direction in which they wish to go to project the route into the GIS. If the road fails to reach the desired end point, the previously pegged segments can be quickly deleted and a new road with an adjusted grade can be attempted. Done manually as forest engineers have done for years, this method of trial and error meant changing the divider spacing and erasing undesirable segments from the paper map. Now multiple grade trials can be accomplished with GIS in a fraction of the time.

Although PEGGER was not designed to optimize route locations, it has been shown that once a route location has been chosen with

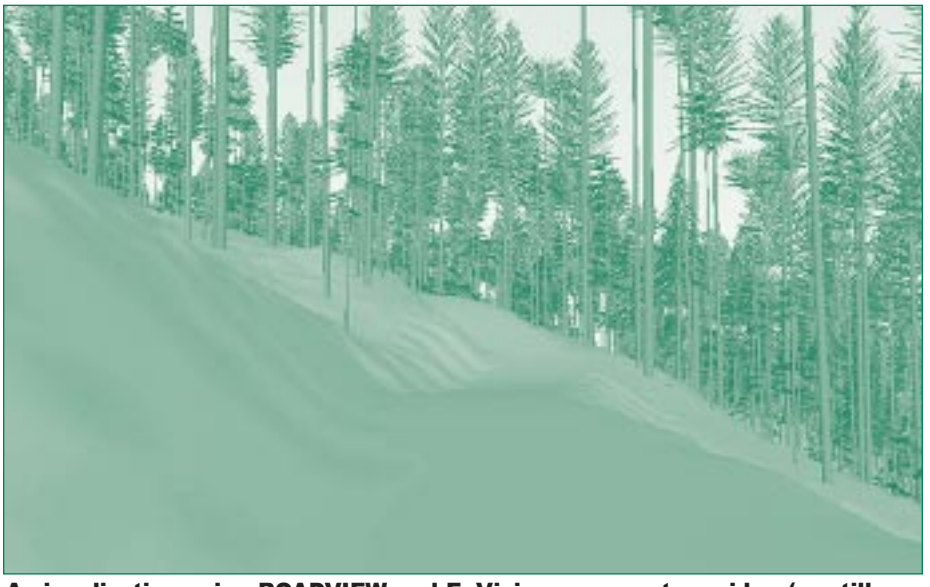
PEGGER, RoadEng© cut and fill program can be used to produce an optimal design. By quickly pegging multiple routes and analyzing them in RoadEng©, a preferred alternative can be selected based on environmental, economic or visual concerns.

ROADVIEW

ROADVIEW, a companion program to PEGGER, was developed to assist in communicating forest road design concepts to those outside of the forestry profession. ROADVIEW takes the preliminary route location generated by PEGGER and creates an approximate 3-D model of the road's cuts, fills and running surface. Utilizing the Landscape Management System (LMS) in combination with a visualization program such as EnVision can produce realistic representations of the visual impacts associated with right-of-way clearing and road construction.



The left-side image shows the initial sediment delivery (25.18 tons/yr) of the West Tahoma road network, and the right side image shows the sediment delivery (6.33 tons/yr) after redesigning the cross drain system. The redesign, using CULSED, shows a 74 percent reduction in sediment from the original design. Circles are proportional to the sediment delivered at the respective locations; dots represent stream crossings and cross drains; and arrows indicate direction of sediment flow along roadside ditch.



A visualization using ROADVIEW and EnVision can create a video (or still image) of driving down a pegged road.

CULSED

CULSED is a GIS-based decision support tool for cross-drain culvert design developed to evaluate the sediment delivered to the stream at each cross-drain location based on road and stream geometry, terrain morphology and user input sediment-producing road characteristics.

CULSED gives users the ability to add, move and remove cross-drain culverts, thereby dynamically evaluating the total sediment impact to the stream network from the analyzed road system. Culverts can be represented with graduated symbols proportional to their sediment delivery. The question of minimizing sediment delivery is thus transposed to a question of minimizing symbols on screen. The total sediment delivered by the road is displayed at all times during the analysis stages and changes with every locational modification performed to the cross drain system.

CULSED is implemented as an ArcGIS© extension that integrates with the standard ArcGIS© package enabling access to all the existing functionality while maintaining a familiar interface and ease of use. Running CULSED requires at minimum a GIS road layer, a stream layer and a digital elevation model.

RTI'S Impact on Road Management

The Rural Technology Initiative has developed software programs providing computerized road layout assistance and assessment of the efficiency of cross-drain layouts, developed case studies that identify the cost of required changes to roads and culverts, and produced an Extension Bulletin, *Roads on Small Acreage Forests*, that describes basic road principles for small acreage forests in Washington. PEGGER, ROADVIEW and CULSED are available for download at no charge. To access the RTI roads software and learn more about the Rural Technology Initiative's involvement in road management, visit www.ruraltech.org/projects/roads/. ◆

Ara Erickson is a forestry researcher with RTI at the UW. She can be reached at 206-543-7418 or arake@u.washington.edu.

Streaming Video Available on RTI Website

BY MATTHEW McLAUGHLIN AND PATRICIA COHN

Matthew McLaughlin

Patricia Cohn

As technology increases the ability of websites to convey ideas, information is now carried across the Internet through a relatively new medium—streaming video. RTI is pioneering the use of this technology in forestry education and furthering the goal of increasing access to forestry technology and information. This technology has helped RTI and Washington State University (WSU) Forestry Extension reach and educate family forest landowners and natural resource professionals throughout Washington.

A screen capture of a streaming video presentation on the Internet. The video plays in the upper left-hand corner with interactive controls and table of contents below it. The corresponding slides that have been synchronized with the presentation appear to the right of the video and table of contents.

How Streaming Video Works

Streaming video technology decreases the time it takes to watch video on the World Wide Web. The underlying concept of streaming video is fairly simple. Instead of downloading the entire video file before watching it, the user is able to watch smaller sections of the video while receiving the rest of the file. This is accomplished by "streaming" the video file over the Internet in small data packets. A media player on the user's computer deciphers the data packets as they arrive and presents them seamlessly to the viewer. The end result is close to real-time viewing.

Using Streaming Video at RTI

The Rural Technology Initiative first experimented with interactive streaming video at our annual review meeting in January 2003. Digital video footage was taken of each presentation, synchronized with the corresponding slides, and after editing, was then posted for viewing on the RTI website. This demonstrated that the technology is a powerful tool for sharing information and ideas. It incorporates a speaker's oration and body language with informative slides and makes the complete presentation available over the Internet and on CD/DVD-ROM upon request.

Since then, RTI has gone from experimenting with streaming video technology to making it a major mode of outreach with skilled film crews at both WSU Forestry Extension and the

University of Washington College of Forest Resources. RTI has also developed an online tutorial to help hasten adoption of streaming video by rural educators. Streaming video dramatically increases the accessibility of information presented at seminars, conferences and workshops and makes it available to a worldwide audience. Our growing collection of streaming video presentations continues to attract more users. In 2003 there were 338 unique viewers that visited our streaming media server. Through June of 2005 there were 631 unique viewers—a sign that using this media as a form of outreach is growing in its effectiveness.

RTI has published hundreds of presentations to the Internet since we began using streaming video. With teams on both sides of the state, we are able to cover topics that are specific to eastern and western Washington as well as subjects with a wider appeal. From fire ecology to stream protection, wildlife habitat to timber sales, dealing with forest regulations, to the effects of international markets—there's something to pique the interest of many small forest landowners.

Streaming video enables RTI to spread information through an easy-to-use online medium and it adds a visual element to the website that is both attractive and effective. To view the streaming video presentations and online tutorial, visit the online RTI Streaming Video Directory at www.ruraltech.org/video/ and the WSU Forestry Extension Video Site Map at http://ext.nrs.wsu.edu/Video/Sitemap.htm. ◆

Matthew McLaughlin leads the RTI Streaming Video Program at UW. He can be reached at mrm2@u.washington.edu. Patricia Cohn leads the RTI Streaming Video Program at WSU and can be reached at pcohn@wsu.edu.

Classified Ads

Classified advertising rates are 75 cents per word with a minimum $25 charge and are perfect for job positions, equipment for sale and general forestry-related announcements. Contact Lori Rasor at 503-224-8046 or rasor@safnwo.org to reserve your space in the next issue.

Resiliency of Interior Dry Fir-Pine Forests

BY RICHARD EVERETT AND DAVID BAUMGARTNER

Management strategies to protect salmon habitat and other endangered species on westside forests are based on our understanding of the history of forest disturbances and attempts to create a desired future condition by restoring more old-forest conditions along streams while remaining economically viable. This becomes more difficult in the dry forest regions because there are few stands left considered desirable targets. The Rural Technology Initiative asked for help in understanding the disturbance history of dry forest regimes and finding pragmatic management treatments to restore forest health and contribute to sustainability.

The 300- to 400-year structural history available in the live trees, snags and logs of interior dry fir-pine forests is evidence of forest resiliency to various disturbance events. Numerous peaks and troughs in tree establishment and mortality during this period indicate that no forest condition was sustainable in the long term. Rather, a continuous cycle of new tree recruitment to fill fire-opened growing space and subsequent fires that controlled stocking levels resulted. The historical open forests are a testament to the effectiveness of frequent low-severity fires in maintaining low stocking levels.

When fire cycles lengthened in the late 1800s, the forests' biological potential was no longer suppressed by frequent fire. This first stage of change in forest structure in response to the longer fire cycle—and increased potential to utilize site resources—was the dramatic increase in understory trees. Open-niche space for tree recruitment was no longer just single tree or small cohort replacement patches, but entire unburned landscapes. In the dry fir-pine forests of eastern Washington, tree densities increased to an average of twice the historical levels, and Douglas-fir establishment increased greatly in ponderosa pine stands that were previously restricted by fire. By the start of effective fire suppression around 1910, tree numbers were already well on their way to their maximum density.

The second stage of forest adjustment to altered fire regimes, the process of self thinning, has been ongoing for some time. Fire suppression has allowed for the continued growth and persistence of dense stands. Dry forest structures no longer controlled by fire reflected the competition for limited site resources within and among canopy layers. In the 1930s, self thinning of both overstory and understory trees became evident as snag and log abundance increased. The rate of dead wood accumulation continued to increase and eventually mortality exceeded recruitment after tree densities peaked in the 1960s. It should be noted that significant portions of live trees from stands in the 1860s are now part of the deadwood, and that there is more basal area in deadwood now than there was in live trees in historical stands.

Tree densities have declined significantly below maximum levels, but are still greater than historical levels in most dry forest stands. Although we have had significant tree mortality in recent decades, live tree basal area is an order of magnitude greater than in the 1860s. The source of increase in live tree basal area is not the abundance of post-fire recruitment, but the continued growth of trees established prior to the last low-severity fire event. In these dry forests, competitive resource allocation control of stocking and basal area is obviously at much higher levels than when controlled by frequent fire events. Also, deadwood abundance is much greater under slow decay loss in the absence of fire.

Trees greater than 20-inch DBH are more numerous now than in the 1860s. Fire maintained low tree densities in the historical open dry forest stands, but there was a standing crop of understory trees between fire events. In the absence of fire, this historic understory has had 140 years of uninterrupted growth. The current abundance of large trees exceeds the range of variability among stands in the late 1800s.

Without management inputs, interior dry fir-pine forest stands have self thinned to below 1910 tree densities, significantly increased stand basal area and produced more large-diameter trees than were present historically. The forest would appear to have a measure of resiliency and is adjusting to the fire suppression disturbance regime. As a result, land managers have an abundance of live and dead forest structures to work from in the creation of future forests that meet multiple public expectations.

Given sufficient time, the self adjustment of these forests might create a forest structure compatible with the mixed- to high-severity fire regime that we have created through fire suppression. However, the forest is in a transition paradox where the more stands self thin and bring tree densities and basal area in agreement with available site resources, the greater the fire hazard from dead and down wood. Unfortunately, fire ignition sources remain much the same today as historically and frequent fire starts are the norm. In recent decades this has led to larger fires of

greater severity in this forest type.

The present concern is that current "fire suppression" forest structure is so out of balance with the inherent fire regime that forest resiliency to severe fire events is questionable. Aboveground biomass in live and dead wood subject to combustion is significantly greater than what occurred historically. The unanswered question is how to buy time for both the self-correcting processes of the forest and mitigating land management actions to improve forest health and reduce fire hazard before catastrophic fire events remove our future options. At the minimum we know that thinning to reduce crown bulk density in canopy layers of overly dense stands will improve forest health and reduce the fire risk to increase our future options—even if they do not completely restore the historic range of forest structures. ◆

Richard Everett, disturbance ecologist, R&C Environmental Research, can be reached at everettr001@hawaii.rr.com. David Baumgartner is Natural Resources Program director, WSU Extension, Pullman. He can be reached at Baumgartner@wsu.edu.

Green River Community College Student Chapter to Host Mentoring Night

The SAF Student Chapter at Green River Community College is hosting a "Mentoring Night" chapter meeting for the South Puget Sound SAF Chapter on November 17. Mentoring Night separates the typical crowd of students and professionals, and matches them one-on-one for the evening. Students with an interest in silviculture can sit and talk with silviculturalists, those interested in engineering can talk with engineers, and those interested in public relations/communications can talk with professionals with those experiences.

However, the students need the professionals to attend the meeting to learn something of what the future holds for them! You are the key ingredient to make Mentoring Night a success. The students will prepare a barbeque dinner beginning at 6:00 pm. SAF members from other chapters are encouraged to attend to support the next crop of foresters and forest technicians.

Mentoring Night was tried last fall and "awesome, wow, incredible, informative, personable, and gave us a sense of community I never knew" were a few of the words and phrases that were buzzing in the forestry classrooms the next morning. Mentoring Night is only one example why the Green River Student Chapter tied for third place for SAF Student Chapter of the Year.

For more information on Mentoring Night, contact Dick Hopkins, Green River Community College student advisor, at 253-833-9111 x4509 or dkhopkins@greenriver.edu. ◆

Humor Reward Given!

As advertised in the May/June issue of the *Western Forester*, the staff of the *Western Forester* has reviewed submitted forestry/forester jokes and determined a winner of the Jokester award.

Oregon SAF's Lena Tucker (and incoming chair for 2006) came in tops with this joke:

A group of friars were behind on their belfry payments, so they opened up a small florist shop to raise funds. Since everyone likes to buy flowers from the men of God, a rival florist across town thought the competition was unfair. He asked the good fathers to close down, but they would not.

He went back and begged the friars to close. They ignored him. So, the rival florist hired Hugh MacTaggart, the roughest and most vicious thug in town to "persuade" them to close.

Hugh beat up the friars and trashed their store, saying he'd be back if they didn't close up shop.

Terrified, they did so, thereby proving that: Hugh, and only Hugh, can prevent florist friars.

Lena was presented with a check for $50 at the September Oregon SAF executive committee meeting—after she read the joke the group. She has donated the award to the Louisiana SAF, who will pass it along to an SAF member affected by the hurricane. And many thanks to Charley McKetta, the now-known benevolent forester who provided the impetus for the idea, as well as the reward money. ◆

WANTED: ARTICLE IDEAS FOR FUTURE WESTERN FORESTER ISSUES

Below is a list of themes for the upcoming issues of the *Western Forester*. Ideas for articles related to the theme, in addition to non-theme articles, are welcome. As theme articles are solicited many months in advance of the deadline, please consider this when sending suggestions to the editor at rasor@safnwo.org or fax 503-226-2515.

Issue Date	Title	Potential Submissions	Deadline	Reader Availability
January/ February 2006	Annual Meeting Publicity	Information on state society annual meetings.	December 5, 2005	First week of February 2006
March/April 2006	Who Owns the Forest?	In progress	February 15, 2006	First week of April
May/June 2006	International Markets' Influence on Western Forests	International market effects on western forests; global change agents; international forest conservation; biodiversity issues.	April 17, 2006	First week of June
July/August 2006	Research Focus TBA	In progress	June 12, 2006	First week of August
September/ October 2006	Healthy Forests Initiative at Year Five: What's Happened?	Planning for landscape-scale fuel treatments; Wildland urban interface (WUI): Are we making a meaningful difference?	August 14, 2006	First week of October
November/ December 2006	Beyond Biomass: Regional Specialties of Pacific Northwest Forests	PNW forest ownership, current and projected uses; Biomass: who, what, where; Columbia Basin forests; specialized forest industries in a highly specialized region.	October 16, 2006	First week of December
January/ February 2007	Community Forestry: How Your Public Gets Involved	Community involvement in public land issues; rules for engagement; the art of compromise and other social commitments to solving problems at the local level.	December 4, 2006	First week of February 2007
March/April 2007	Annual Meeting Publicity	Annual meeting info for respective state society meetings.	February 12, 2007	First week of April
May/June 2007	Ecological Solutions: Business and Stewardship	Overview of ecological services; carbon markets; forest sequestration and case studies; wetland mitigation; habitat credits.	April 16, 2007	First week of June

Calendar of Events

UNIVERSITY-SPONSORED EVENTS

Course	Dates	Sponsor	Location
Hinkle Creek Watershed Study Conference	Oct. 6-7	OSU	Roseburg, OR
Oregon Forest Cluster Economic Strategy Workshop	Oct. 17	OSU	Portland, OR
Third Annual Precision Forestry Symposium	Oct. 24-26	UW	SeaTac, WA
Advanced Variable Probability Sampling	Nov. 1-3	OSU	Corvallis, OR
Groundwater under the PNW	Nov. 2-3	WSU	Stevenson, WA
Mixed Severity Fire Regimes	Nov. 17-19	WSU	Spokane, WA
ArcGIS Training Workshop	Dec. 4-6	UW	Eatonville, WA
How to Dry Lumber for Quality and Profit	Dec. 5-8	OSU	Corvallis, OR
Introduction to GIS in Natural Resources with ARCGIS	Dec. 8-9	OSU	Corvallis, OR
Regeneration of Interior Forests	March 21-23	OSU	Bend, OR

OTHER EVENTS

Beginning Forest Road Design Using RoadEng 4, Oct. 7 or Oct. 20-21, Corvallis, OR. Contact: LEI.

Professional Timber Cruising seminar, Oct. 18-19, Beaverton, OR. Contact: Atterbury.

SuperACE Users' seminar, Oct. 20, Beaverton, OR. Contact: Atterbury.

Fritch Mill Tour and Certified Markets Discussion, Oct. 20, Snohomish, Wash. Contact: Sandy Kaylor at 360-668-5838 or sandy@fritchmill.com.

PNW Integrated Vegetation Management Association annual meeting, Nov. 8-9, Portland, OR. Contact: WFCA.

Volcanic Ash-cap Forest Soils of the Inland Northwest, Nov. 9-10, Coeur d'Alene, ID. Contact: WFCA.

Science and Management of Headwater Streams in the PNW, Nov. 17-18, Corvallis, OR. Contact: WFCA.

Oregon Tree Farmers awards luncheon, Nov. 21, World Forestry Center, Portland, OR. Contact: Anne Hanschu at 503-357-2551 to RSVP for lunch.

Sustainable Wood Production Symposium, Nov. 30-Dec. 1, Vancouver, WA. Contact: Bob Deal at 503-808-2015 or rdeal@fs.fed.us.

Western Forestry Conference, Dec. 6-7, World Forestry Center, Portland, OR. Contact: WFCA.

Forest Roads: Advancements in Science and Technology, Dec. 13-19, Eugene, OR. Contact: WFCA.

China's Boom: Implications for Investment and Trade in Forest Products and Forestry, Jan. 18-20, 2006, Vancouver, BC, Canada. Contact: conferences@forestprod.org or www.foresprod.org.

Joint Washington State/Oregon SAF Leadership Conference, Jan. 20-21, 2006, Kelso, WA. Contact: Don Hanley at 206-685-4960 or dhanley@u.washington.edu.

Forest Leadership Conference, March 1-2, 2006, Toronto, Canada. Contact: conference@ forest-leadership.com or 888-274-4344.

WSSAF Annual Meeting: Living with Wildfire—Lessons Learned, April 6-8, 2006, Campbell's Resort, Chelan, Wash. Contact: Jerry Gutzwiler at jrgutzwiler@genext.net.

Contact Information

Atterbury: Atterbury Consultants, Inc., 3800 SW Cedar Hills Blvd. #120, Beaverton, OR 97005, 503-646-5393, jaschenbach@atterbury.com.

LEI: Logging Engineering International, Inc., 1243 West 7th Ave., Eugene, OR 97403; 541-683-8383; www.leiinc.com.

OSU: OSU College of Forestry Outreach Education Office, Peavy Hall 202, Corvallis, OR 97331-5707; 541-737-2329; http://outreach.cof.orst.edu/.

UW: Bob Edmonds, College of Forest Resources, Box 352100, University of Washington, Seattle, WA 98195; 206-685-0953; bobe@u.washington.edu; www.cfr.washington.edu/events.

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

WSU: Washington State University, 800-942-4978 or wsuconf@wsu.edu.

Send calendar items to the editor, *Western Forester,* 4033 SW Canyon Rd., Portland, OR 97221; fax 503-226-2515; rasor@safnwo.org. The deadline for the November/December 2005 issue is October 17, 2005.

Assessing Market and Non-market Forest Values: A Fire Risk Example

BY LARRY MASON

Forest managers are challenged by public demands for multiple values from forests, many of which are not readily reflected in the market place even though all forest management decisions carry a cost. A broader accounting of market and non-market forest values is needed to better understand cost/benefit trade-offs associated with complex and sometimes competing management expectations. What does it cost, is it worth it and how will it be paid for? These are questions that beg for greater attention if private and public values are to be successfully integrated.

A highly visible example of a forest value disconnect that has led to unnecessary public costs can be found in the forests of the Inland West. As a consequence of large intense forest fires over recent years, considerable public attention is being directed at how to reduce hazardous fuel loads from the overly dense forests that characterize the region.

In many cases, removal of the many small trees that make up these fuel loads is known to be costly. While large trees can be removed for lumber and other product values as reflected in the market, the market value for the smaller logs may be less than the harvest and hauling charges, resulting in a net cost for thinning operations that are needed to lower fire risk. Many scientific studies have shown, however, that forests thinned to remove fuel loads are unlikely to experience crown fires. Failure to remove these small logs results in the retention of ladder fuels that support the transfer of ground fire to a crown fire.

Many market and non-market values are associated with reduction of fire risk that should be important to forest managers and to society at large. Perhaps most obvious is the escalating cost of fighting forest fires, which nationally has been in the billions of dollars during recent years. Similarly, there is the value of avoiding facility losses and fatalities that result from forest fires. Communities value a lower fire risk and reduced smoke. Forest fires destroy visual aesthetics, limit recreational opportunities and can damage valuable timber and water resources. The United States Congress has historically placed a high value on species protection as evidenced by laws such as the Endangered Species Act and the National Forest Management Act, yet irreplaceable habitats for threatened and endangered species may be lost when forests burn. Fires also convert the carbon stored in forest biomass to smoke, reducing the opportunity to produce long-lasting pools of carbon stored in forests and products while adding to atmospheric carbon and global warming. Fires consume biomass that otherwise could be used for clean energy conversion and green energy credits.

To illustrate how the relative costs and benefits of investments in hazardous fuels removal treatments to reduce risk of crown fires might be considered, a table is provided to compare the calculated present value per acre of anticipated future costs/losses associated with wildfire against the cost of investments made today to thin forests and reduce fire risk. Insurance companies use similar calculations to develop risk-exposure estimates to determine profitable rate schedules.

For this example, we will assume that that all acres of forests with a present high risk, if left untreated, will burn sometime in the next 30 years, while all those forests considered at moderate risk will burn in the next 60 years. If there is an equal probability of each acre burning in any year during the assigned interval, then for approximation purposes we can assume that an average time for

Table 1. Summary table of estimated costs and benefits from fire risk reductions.

Treatment Benefits	Present Value Per Acre	
	High Risk	Moderate Risk
Fire fighting costs avoided	$481	$231
Fatalities avoided	$10	$5
Facility losses avoided	$150	$72
Timber losses avoided	$772	$371
Regeneration and rehabilitation costs avoided	$120	$58
Community value of fire risk reduction	$63	$63
Regional economic benefits	$386	$386
Total Benefits	**$1,982**	**$1,186**
Treatment Costs		
Operational costs	($374)	($374)
Forest Service contract preparation costs	($206)	($206)
Total Costs	**($580)**	**($580)**
Positive Net Benefits from Fuel Removals	**$1,402**	**$606**

all acres to burn is equivalent to one-half the interval (either 15 years or 30 years for the examples above). Once a discount rate is assumed (5 percent for this example), the present value of future costs can be estimated with a discounting formula where V_0 equals the present value (in other words, at time 0), V_n equals the future value at time n years and i equals the discount rate.

$$V_0 = \frac{V_n}{(1 + i)^n}$$

Table 1 shows calculations for a partial list of values at risk and costs for thinning administration, harvest and haul to be charged against the cumulative present value of future losses.

In this example, failure to invest in fuels removals translates to a public liability of either $1,402/acre or $606/acre. This exercise would suggest that public investments in forest health are prudent expenditures. For more information on this work and other aspects of forest thinnings to reduce fuel loads, see the full project report, *Investigation of Alternative Strategies for Design, Layout and Administration of Fuel Removal Projects,* available on the RTI website at www.ruraltech.org.

The rise of markets for organic foods, carbon credits and green energy illustrate that there is a growing awareness on the part of consumers that investments in health and environmental improvements are worthwhile and warranted. A major challenge for forestry in the 21st century will be to extend this consumer understanding in support of the broad values that society has come to expect from forests. RTI is developing methodologies to better understand and assign economic values to resources such as forest health, habitats, water quality, and others, and represents an important contribution to development of future investment policies for sustainable forestry.

Larry Mason is the project coordinator for the Rural Technology Initiative at the UW. He can be reached at larrym@u.washington.edu or 206-543-0827.

New Product! RD1000 Electronic Relascope Just Released

This new instrument replaces the old-style Spiegel relaskop. The RD1000 includes basal area factors from 1 to 127. It works in all light conditions, but is especially good in low light stands such as dense coastal hemlock stands. With distances input either manually or from an Impulse 200 laser rangefinder, the unit can calculate the diameter of a tree at any point on the bole.

For determining in and out trees on a plot, the RD1000 stabilizes very fast when looking above or below horizontal. It can also calculate the height from the stump to any diameter on the tree, including total height.

For more information, contact Jon Aschenbach at 503-646-5393 or visit www.atterbury.com. ◆

National Ballots Due October 21

National election materials for 2006 have been mailed to all voting members. An interview-style article with vice-presidential candidates John McMahon and Tom Thompson can also be found in the September issue of the *Forestry Source*.

In 2006, current SAF President John Helms will move to the office of immediate past-president and Oregon State Forester Marvin Brown becomes president.

Running for District 1 Council representative is Kirk David and Dave Yates. The elected council representative will replace Ann Forest Burns, whose three-year term ends at the end of 2005. Rick Barnes, Council representative for District 2 (Oregon), is in the first year of his three-year term.

Several districts also have Fellow elections. District 1 Fellow nominee is Richard Hauver; District 2's Fellow nominee is Blair Moody.

Ballots must be returned to the National Office by October 21. ◆

OFRI Board Re-elects Miller

The board of directors of the Oregon Forest Resources Institute (OFRI) has elected Greg Miller of Salem, Weyerhaeuser Company's government affairs manager for Oregon and California, to a second one-year term as its chair. The board also elected Carol Whipple, who owns and manages the Rocking C Ranch, a family forage and timber growing operation at Elkton, as its vice chair.

OFRI's board appointed Miller to a vacated board position in 2002, and the State Forester reappointed him to a three-year term in 2004. He represents large producers (companies paying the timber harvest tax on more than 100 million board feet annually). The board appointed Whipple to a producer-at-large position in 2001, and in 2004 the State Forester reappointed her to represent small producers (those who pay the harvest tax on less than 20 million board feet annually).

OFRI is funded by a portion of Oregon's tax on timber harvests. Its board includes representatives of small, medium and large producer classes and small woodland owners plus members representing employees and the public. The dean of the Oregon State University College of Forestry is an *ex officio* member.

The Oregon Legislature created OFRI in 1991 to improve understanding of forestry and the state's forest resources and to encourage sound forest management. Key OFRI programs include forest tours, conferences and forums, support for scientific research, publications, teacher workshops and classroom education as well as training workshops and other educational programs for forest landowners. ◆

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.

OSAF Refines and Considers Old-Growth Position Statement. The OSAF Policy and Legislation Committee is closing in on a final draft of a position statement on "Managing Mature and Old-Growth Forests." The nature and complexity of this topic have extended the development process, but the lengthy discussion and review have also served to more fully address the issues involved and generally sharpen the statement content. The goal is to have a final draft of the position ready by the September 9 meeting of the OSAF Executive Committee for its consideration and potential approval. Also noteworthy is the interest shown by some national SAF leaders in OSAF's efforts to address this important topic, which may help influence a similar initiative by the national SAF Committee on Forest Policy.

Members are encouraged to use OSAF's position statements to help convey their professional forestry views to key decision makers and the interested public. All active position statements are posted at www.forestry.org. A draft of the position on old-growth can be found in the "members only" section of the OSAF site. Contact: Paul Adams, OSAF Policy chair, 541-737-2946; paul.adams@oregonstate.edu.

Forest Issues Subdued in Lengthy Oregon Legislative Session. A flurry of forestry-related bills caught OSAF's attention early in the 2005 Oregon Legislative season, but those of greatest concern did not survive the lengthy session. Chair Sue Bowers sent a letter and email to key legislators expressing concerns about two of these bills, and in April she and other OSAF leaders hosted an information booth at the Capitol, which included a handout with OSAF's views on these and two other bills under consideration. Another issue that elicited a prompt negative response from OSAF was Governor Kulongoski's nomination of Les AuCoin to the Board of Forestry. AuCoin eventually withdrew himself from consideration following a controversy that confirmed some of OSAF's concerns. Current information about the Board of Forestry is available at http://oregon.gov/ODF/BOARD/index.shtml.

OSAF did not take a position on HB 2729, but OSAF member and State Representative Chuck Burley helped sponsor and lead its successful passage, which now allows local communities to issue bonds to fund the acquisition of forestlands. Also notable late in the session was SB 1072, which supports greater state involvement in federal land management decisions and encourages biomass utilization on these lands. This bill passed both the House and Senate, but at this writing had not been signed by the governor. Information on all 2005 bills can be found at the Oregon Legislature website at www.leg.state.or.us/bills_laws/. A list of bills signed by the governor can be found at http://governor.oregon.gov/Gov/action.shtml. Contact: Paul Adams, OSAF Policy chair, 541-737-2946; paul.adams@oregonstate.edu.

Fire Policy—Pulaski Tunnel Trail Dedication. The "Big Blowup" of 1910 burned three million acres in northern Idaho and western Montana, leaving 85 people dead in its wake. According to his-

torian Stephen Pyne, today's "fire exclusion" policy is rooted in this event ("Year of the Fires: The Story of the Great Fires of 1910," Viking, New York, 2001). Forest Service Ranger "Big Ed" Pulaski became an American hero by saving the lives of all but six of his 45-man fire-fighting crew by leading them into a mine tunnel and ordering them to lie facedown as the fire roared past. He kept them in the tunnel at gunpoint, and suffered burns and blindness trying to beat back the flames. The blindness proved to be temporary, although he suffered physically the rest of his life. Pulaski later designed the fire-fighting tool still used today that bears his name. On August 20, the 95th anniversary of the Great Fire, the U.S. Forest Service dedicated a newly cleared trail to the restored mine adit, just a short hike from the picturesque town of Wallace on I-90 in northern Idaho's Silver Valley. The Pulaski Tunnel Trail project is community driven, and the first tangible result of The Pulaski Project, which also has plans for a Wildfire Education Center and Museum in the Silver Valley. See www.pulaski-project.org. Contact: Jay O'Laughlin, IESAF Policy chair, 208-885-5776; jayo@uidaho.edu.

Federal Payments to Counties. The Pulaski Project (see above) has produced a 27-minute film "Forests in Crisis" featuring two interrelated policy items: 1) reauthorization of the Secure Rural Schools and Community Self-Determination Act of 2000, which expires in 2006; and 2) the "Big Blowup" as an influence on fire suppression policy and the unintended consequence of uncharacteristically high levels of hazardous fuels that feed intense large-scale wildfires across much of the western landscape. The film may be viewed as streaming video online at http://craig.senate.gov/fp.htm?/i_west.htm#forestsincrisis (click on Fire Management heading under Western Agenda items, then click on Forests in Crisis at the end of the statement).

Risk Assessment for Decision-Making Related to Uncharacteristic Wildfires. As promised in the Jan/Feb 2004 Policy Scoreboard, proceedings from the November 2003 conference in Portland has been published in the international refereed journal *Forest Ecology and Management* (Vol. 211, No. 1-2). Reprints of papers on "Policy issues relevant to risk assessments, balancing risks and the National Fire Plan" and "Policies for risk assessment in federal land and resource management decisions" are available from author Jay O'Laughlin, IESAF Policy chair, 208-885-5776; jayo@uidaho.edu.

Federal Land Issues in Idaho. To hear about issues firsthand, Sen. Larry Craig (R-ID), Agriculture Undersecretary Mark Rey and Interior Assistant Secretary Rebecca Watson held "Public Lands Listening Sessions" in several Idaho locations in July. The top three issues: 1) keeping motorized access to federal lands open and conflicts with non-motorized recreation; 2) de-listing the gray wolf; and 3) opposition to recreation user fees. A detailed summary is online at http://craig.senate.gov/fp.htm?/i_west.htm#forestsincrisis (see subheadings under Western Agenda items).

Win a Copy of "Year of the Fires." Answer the following two questions correctly and win a copy of Stephen Pyne's book cited above: 1) Name the state (there is only one) with a higher percentage of federal lands than Idaho, which is almost 64 percent federal land; 2) Name the forest fire of October 1871 that killed more than 1,000 people. The first person to contact Jay O'Laughlin at jayo@uidaho.edu with the correct answers gets the book. ◆

Leadership Conference Slated for January 20-21

Hold the dates of January 20-21 for the 2006 joint Washington State and Oregon Leadership Conference to be held in Kelso, Wash.

The conference is open to all SAF members including new members and those new leaders at the chapter and state level that wish to learn more about the workings of SAF. A hard-working committee from the two states has assembled guest speakers and other program items that will be interest to all SAF members.

The registration will should be in the $90 range and will include all meals and breaks while in Kelso—a smart investment for your SAF future!

Invited speakers include Marvin Brown, Oregon state forester and new SAF National president; Rita Neznek, SAF associate director for National Policy; Rick Barnes, District 2 Council representative; Rod Brevig, past-chair of the House of Society Delegates (invited) and the newly elected District 1 Council representative.

The agenda and registration information will appear in the next issue of the *Western Forester*. Questions about the conference can be directed to Don Hanley at 206-685-4960 or dhanley@u.washington.edu. ◆

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

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