

# Western Forester

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## Developing Approaches to Reduce Wildlife Damage to Forest Resources

BY DALE L. NOLTE

Wildlife impacts on forest resources can be extensive. Although damage is generally considered in terms of reduced productivity or delayed harvest cycles, attempts to replace trees after a harvest or a fire can fail because of foraging wildlife. Wildlife, particularly mammalian herbivores, can impede attempts to establish native plants to increase forest diversity, improve riparian areas, re-vegetate disturbed sites, restore endangered or threatened plants, or to create or improve habitat for wildlife. Foraging wildlife can be extremely detrimental if animals browse on plants before seedlings are well established, or if foraging is continuous or intense. Native plant projects are often destined to fail because target locations fall amongst animals with limited foraging options.

Managing resources to resolve problems is becoming increasingly difficult. The land base to produce timber is shrinking as increasing acreage is managed to provide suitable habitat for wildlife. Historical approaches to reduce problems are under increasing scrutiny with public demands for non-lethal and humane means to resolve animal damage conflicts. Conflicting management objectives also frequently impede attempts to resolve prob-



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

**NWRC Olympia Field Station conducts research on a variety of species that impact forest resources.**

lems. One forester may need to reduce damage on a timber stand, while concurrently an adjacent landowner is working to increase wildlife populations. The combined result is a critical need for increased and enhanced research and outreach programs geared to solving human-wildlife conflicts and improving wildlife damage management.

The Olympia Field Station in Olympia, Wash., is an extension of the National Wildlife Research Center (NWRC) based in Fort Collins, Colorado. NWRC functions as the research arm of the Wildlife Service Program, an agency of the United

States Department of Agriculture, Animal and Plant Health Inspection Service, charged with the responsibility of conducting research on a wide variety of wildlife management problems on a national and international basis.

Research conducted at the Olympia Field Station focuses on developing feasible tools and strategies to resolve problems associated with wildlife damage to forest resources. Applied studies are conducted to develop new products (e.g., repellents, attractants, delivery systems), assess new or existing techniques (e.g., efficacy, non-target impacts, long-term conse-

(CONTINUED ON PAGE 2)

# Reducing Wildlife Damage

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quences), and investigate forest management options to reduce resource vulnerability. Because new tools cannot be created without first having a fundamental understanding of the problem, research of a more basic nature is also conducted. Station personnel conduct studies to elucidate the role of chemical senses and experience on foraging behaviors, and perform field research to clarify the environmental and ecological factors influencing the occurrence, dispersal and population densities of targeted species. Results are used by a broad array of managers that develop management plans to protect forest resources from damage by wildlife.

The NWRC Olympia Field Station consists of an office/laboratory building and separate animal facilities. The animal facility enables scientists to house and conduct research with



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

**Several methods including fencing, barriers and repellents have been tested to reduce deer browsing.**

most mammals commonly found in the Pacific Northwest. Rodents can be maintained in individual pens for chemosensory assays or held in larger arenas that provide natural environments for behavioral work. Similar facilities are available for scientists to work with deer. These facilities have

been completely renovated over the past few years for the well being of research animals, to enhance research activities and to increase safety of employees. Pens are designed to permit flexibility to adjust to any special requirements posed by animals held at the facilities and to enable scientists to adapt facilities for experimental paradigms.

Field Station personnel are working to identify new non-lethal tools to remove targeted species causing damage and to evaluate and improve existing animal damage control technologies.

Physical deterrents are effective if they are constructed to completely impede access by offending wildlife. However, construction and maintenance are often cost prohibitive. Efforts are underway to identify less expensive materials and possibly reduced labor costs. Studies are also being conducted to improve our understanding of how materials used to construct barriers affect animals (e.g., attraction) and plants (e.g., microclimate), along with necessary strength, size and configuration for effective physical barriers.

Technology has provided a multitude of frightening devices and operating systems (e.g., acoustics, visuals, detection devices). Scientists are working to understand wildlife species responses to varied delivery intervals, paired consequences and varied responses depending on status (i.e., male vs. female, dominant vs. submissive, individuals vs. groups).

In addition, the station routinely evaluates efficacy of commercial repellents to deter deer browsing. Scientists continue to evaluate natural products (e.g., plant extracts, predator odors) to assess their potential as active ingredients in repellents. The Field Station recently completed a series of studies evaluating efficacy of an alternative feeding program to reduce tree girdling by bears, and assessing possible impacts on nutritional status and behavior of bears using feeding stations.

Developing non-lethal means to alleviate damage requires a thorough



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## Next Issue: Seedlings: The Next Generation



understanding of the underlying mechanisms governing foraging behavior. Although much information exists to describe foraging in a few model species (e.g., rats, sheep), little data have been collected for wildlife. Moreover, there is limited understanding of the factors that determine the effectiveness of most management strategies, including environmental context, forage and site selection by wildlife, and variables influencing animal movements and dispersal. All too often this limited understanding leads to the failure of management plans to achieve their intended objectives.

Several studies conducted at the Olympia Field Station have explored the roles that experience and chemical senses play in the foraging behaviors of various species. For example, a series of studies determined criteria used by black bears to select trees for girdling, and then related these criteria to silvicultural practices. Other ongoing studies are interpreting deer foraging response to active ingredients used in repellents. Scientists working at the station are trying to determine what role secondary metabolites (e.g., terpenes), contained in most conifers, have on wildlife foraging. A series of studies is investigating whether prior experience may cause animals to be more tolerant of metabolites and thus more likely to browse seedlings. Other studies seek to determine whether foraging preferences exhibited by deer among western redcedar

genotypes is correlated with terpene concentrations. Scientists also are investigating whether nutritional status of deer affect their ability to cope with secondary metabolites.

Scientists also are assessing potential baits to reduce rodent populations because non-lethal tools are not



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

**Deer are handled for both veterinary care and station research in the deer handler system at the Olympia Field Station.**

always feasible, such as when wildlife populations exceed the capacity of available foraging resources. Thus the most effective, yet humane and environmentally safe products need to be identified.

Although the Olympia Field Station's primary focus is to develop approaches to protect forest resources, its staff has emerged as the NWRC leaders in conducting research with aquatic mammals. Scientists, cooperating with several Wildlife Services state programs across the nation, are assessing differences in biological and behavioral differences between beaver in colder climates and beaver from areas where food is less limiting. Ongoing collaborative efforts are developing non-lethal approaches to alleviate problems associated with beaver in urban areas or destructive to wetland enhancement

projects. Other research is directed toward developing feasible approaches to protect native marshes by reducing destructive foraging by nutria.

NWRC Olympia Field Station personnel are dedicated to developing feasible tools and strategies to resolve problems associated with wildlife damage to forest resources. They also recognize that an effective program requires a continuous informational exchange with resource managers. The Field Station has benefited from resource managers providing guidance to identify emerging issues, establishing experimental priorities, and ensuring the practicality of results. Anyone interested in resolving wildlife impacts to forest resources is encouraged to contact the field station. ♦

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## Collaborative Research Team

The Collaborative Research Team (CRT) is a collaboration of persons interested in identifying feasible solutions to resolving wildlife negative impacts to forest resources. An informal structure is used to keep participants apprised of research results and to exchange information on emerging methods and strategies to prevent damage. The Olympia Field Station has relied heavily on input from this group while developing research objectives.

CRT has provided guidance on problems associated with a variety of wildlife species. Past bear research and ongoing mountain beaver research in particular have benefited from CRT activity. CRT participants also have solicited resource and fiscal support for select projects. Past CRT participants have represented private and industrial forestry, along with several state and federal agencies. Anyone interested in participating with the CRT should contact the NWRC Olympia Field Station at 360-956-3793.

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# NWRC: Providing World Leadership in Science-Based Problem Management

BY J. RUSSELL MASON

**T**he National Wildlife Research Center (NWRC) functions as the research arm of the Wildlife Services (WS) program, an agency of the U.S. Department of Agriculture, Animal and Plant Health Inspection Service. Located on the Foothills campus of Colorado State University, WS-NWRC helps WS manage wildlife conflicts by providing scientific information on damage or threats to human health and safety, and by developing new tools and management techniques. WS-NWRC research activities emphasize economically, environmentally and socially acceptable methods that reduce or stop wildlife damage effec-



tively without risk to humans, wildlife or the natural environment.

In existence since the 1920s, WS-NWRC has been the leader in wildlife damage research for 80 years. At the headquarters facility in Fort Collins, Colorado, and at field stations in Hawaii, Washington, North Dakota, Utah, Mississippi, Ohio, Florida and Pennsylvania, an interdisciplinary staff of 160 wildlife biologists, ethologists, economists, chemists, physiologists, statisticians, microbiologists, epidemiologists, veterinarians and others address the needs of the WS program and other stakeholder groups. In the near future, the WS-NWRC will add an Invasive Species Research Building to other outstanding facilities at headquarters. Current resources include 25 acres of outdoor research pens, an indoor wildlife testing building, and an office and laboratory complex. Headquarters' resources serve to complement the unique research and development capabilities of the field stations.

Investigations occur under the organizational auspices of the Mammal, Bird, Wildlife Disease, and Product Development Research Programs and in accordance with WS Research Needs Assessments (RNAs) that occur every five years. Needs identified by the RNAs are addressed using a multiyear, multidisciplinary project management system implemented by WS-NWRC since 1996. Projects are three to five years in duration, have clearly stated goals and objectives, and identify projected milestones and expected outputs that require mid-term and final project

reviews, as well as annual project updates. Project planning, implementation and reviews routinely involve input from WS operational personnel, outside scientists and stakeholders. WS-NWRC uses the process not only to achieve specific research objectives within broader administrative directives, but also to develop new research projects to address important emerging wildlife-human conflict issues. As existing projects are completed, new projects that address different aspects of some of the same issues, or entirely new areas of research, are developed to address research needs. In addition to its own staff, NWRC relies on individuals with additional specialties through cooperative ties with universities, not-for-profit research facilities, and other public and private research entities. Many staff have affiliate or research faculty appointments at universities nationwide and abroad.

NWRC has achieved an integrated, multi-disciplinary research program that is uniquely suited to provide scientific information and solutions to wildlife damage problems. Specific activities include:

- Assessing damage and other problems caused by wildlife, not only in agricultural settings, but also at airports, in cities, on military installations, and within state and national parks.
- Investigating the biology and behavior of problem animals. For example, much of what is currently known about coyote biology and behavior is a result of research conducted over many years at the field station in Logan, Utah. This research has served as the

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basis for developing and applying many strategies and techniques used today for protecting livestock from predators. Likewise, nearly all current data on the ecology and control of forest pest species such as the mountain beaver were developed by the staff of the field station in Olympia, Wash.

- Evaluating the impact of wildlife management practices on target species, non-target species and the environment. WS-NWRC designs studies to ensure that the methods developed to alleviate wildlife damage are biologically sound, effective, economical, and safe to the public and the environment.

- Developing and improving technology to reduce wildlife problems. A few examples of current projects include chemosensory repellents and attractants for birds and mammals; tactile repellents for aquatic rodents; management strategies to reduce bird hazards to aviation; toxicants for the control of invasive species such as

**WS-NWRC research activities emphasize economically, environmentally and socially acceptable methods that reduce or stop wildlife damage effectively without risk to humans, wildlife or the natural environment.**

brown tree snakes, Coqui frogs and nutria; barrier systems to manage disease transmission between wild and captive cervids; and techniques to reduce bird damage to fish hatcheries and cereal crops.

- Conducting registration activities required by environmental protection agencies for the application of management chemicals and drugs. The center works closely with the Environmental Protection Agency, other regulatory agencies, chemical registrants and the private sector. Approved agents are manufactured, stored and distributed at a USDA sup-

ply depot at Pocatello, Idaho, or by the private sector. The WS program uses the latest chemicals and drugs in its field operations to improve its ability to manage wildlife problems.

- Transferring scientific and technical information. The center maintains a world-class scientific library of publications and research papers and makes its materials available to other researchers. Like all federal organizations, NWRC maintains an open-door policy and welcomes inquiries. ♦

*J. Russell Mason is the Mammal Research Program manager for NWRC in Fort Collins, Colorado. He can be reached at 970-266-6049.*

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# Wildlife Services Resolving Wildlife Conflicts

BY DAVE WILLIAMS AND  
ROGER WOODRUFF

**C**onflicts between humans and wildlife are a growing concern throughout the country, and as human and animal populations continue to expand, the problems are expected to increase. The United States Department of Agriculture's Wildlife Services program is the federal agency responsible for responding to and resolving wildlife-related problems encountered by the



**Dave Williams**



**Roger Woodruff**

public, private and commercial sectors of society. Although part of the Animal and Plant Health Inspection Service, Wildlife Services (WS) is a non-regulatory, service-based branch of the U.S. Department of Agriculture.

Every day, residents, industries, organizations and agencies call on Wildlife Services for expertise in protecting agriculture, property, natural resources, and human health and safety from damage or threats posed by wildlife. Managed by professional wildlife biologists, WS responds with effective, selective and humane strategies to resolve wildlife conflicts. In many cases, WS enables others to resolve wildlife conflicts affecting them through technical assistance by providing them with information or equipment. When resolving these conflicts is beyond the means of the individual, however, WS conducts direct assistance regarding wildlife at the damage site. WS also conducts

scientific research across the nation to develop answers to new problems posed by wildlife and to ensure that WS utilizes state-of-the-art science and technology.

Problems associated with wildlife in the Northwest are diverse and complex including economic, environmental, and health and safety concerns. WS responds to problems associated with timber production in the Northwest involving numerous wildlife species such as mountain beaver, black bear, stream beaver, ungulates (e.g., deer, elk), porcupine, pocket gopher and small rodents (e.g., voles, mice). Although reducing wildlife damage to agriculture remains the primary focus of WS, the agency also responds to other types of wildlife damage such as collisions between wildlife and aircraft, predation on livestock, damage to physical property, wildlife-borne disease transmission, threats to human health and safety, and protection of natural resources (e.g., threatened and endangered species).

WS uses an integrated approach in its wildlife damage management that consists of a combination of methods, including habitat management, harassment, exclusion and occasional removal of problem animals. WS works extensively with the National Wildlife Research Center (NWRC), the world's foremost leader in animal damage management research, to evaluate and develop new safe, effective, and environmentally friendly tools and techniques for resolving wildlife-related problems. As new tools are developed or improved, they are implemented in the field, and this information is also made available to the landowner or resource manager to help them more effectively reduce damage caused by wildlife. ♦

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# Bears Prefer Trees in the Spring

BY DALE L. NOLTE

**A**s they emerge from their winter den, bears need an energy source and food is relatively scarce. Concurrently, trees are breaking dormancy and starting to generate carbohydrates. Consequently, bears commonly girdle Douglas-fir trees during the spring to feed on the available carbohydrates. Bears strip bark from a tree with their claws, then feed on the sapwood by scraping it from the heartwood with their teeth. Scattered remnants of bark strewn at the base of a tree and vertical tooth marks are characteristic indicators of bear activity. Most frequently bears forage on the lower bole of trees, girdling the bottom three to five feet. However, some bears may climb and feed on the upper boles while sitting on lateral branches. Occasionally, a bear will strip an entire tree.

Damage inflicted by bears is extremely detrimental to the health and economic value of a timber stand. A single bear can peel bark from as many as 70 trees per day. Complete girdling is lethal, while partial girdling reduces growth rates and provides avenues for subsequent insect and disease infestations. Economic loss is compounded because bears select the



PHOTO COURTESY OF ERWIN AND PEGGY BAUER

**Bear damage occurs in the spring when bears emerge from their dens and energy demands are high.**

most vigorous trees within the most productive stands, and frequently damage occurs after implementing stand improvements such as thinning or applying fertilizer. The fiscal loss is further exacerbated because of the extended time, 20-plus years, necessary for a timber stand to return to its pre-damaged state.

Historically, management to protect timber resources from bear damage consisted of lethal removal. Although lethal removal continues, it is generally incorporated within a broader management plan. Animals are not generally captured and relocated because it is difficult to locate suitable sites or sites where resource managers want additional bears. Non-lethal approaches such as repellents, fences and frightening devices are impractical to protect timber stands. Efficacy has not been demonstrated for any of these techniques. Regardless, the disturbance to other wildlife species and potential environmental consequences if these tools were operationally implemented across large-scale timberlands should prohibit their consideration. An alternative feeding program has demonstrated efficacy to reduce tree girdling by bears. In addition, common silvicultural practices also can influence whether bears select to forage in a timber stand.

Scientists at the Olympia Field Station conducted a series of studies in western Oregon and Washington to determine forage selection criteria of black bears girdling trees during the spring and relate these criteria to silvicultural practices. Carbohydrate availability appears to drive bear choices among available trees. Bears select trees high in carbohydrates. Bears also prefer trees containing low terpene concentrations to those with higher concentrations. Subsequently, scientists examined how applying urea fertilizer, thinning stands and pruning trees can alter concentrations of these chemical constituents. Fertilization had a positive effect on tree growth and on carbohydrates the year after fertilizing, but did not change terpene concentration. Carbohydrates were similar in fertilized and unfertilized trees after the first year. The observed tree diameter increased in the absence of increased vascular tissue mass, which suggests a growth spurt the same year the treatment was applied. Trees in thinned stands also contained significantly higher carbohydrate concentrations, with only minor impacts on terpene concentrations. Thus, the net effect of thinning was an increase in the



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ratio of carbohydrates to terpenes in vascular tissue. These data support observations that increased bear damage is more likely to occur in fertilized stands shortly after treatment and in stands post thinning.

Pruning 40 percent of the live canopy significantly decreased vascular tissue mass and carbohydrate concentrations while having no impact on the terpene concentrations of vascular tissue. Thus, pruning decreased the carbohydrate to terpene ratio, rendering pruned trees to be less preferred to bears than unpruned trees. Bear preference for unpruned trees was later demonstrated in a survey of bear damage on a site where every other tree had been pruned. Four times as many unpruned Douglas-fir trees were damaged than pruned Douglas-fir, while the likelihood for bears to damage western hemlock was three times more on unpruned than pruned trees.

The NWRC Olympia Field Station also conducted a series of studies to evaluate the program providing alternative foods to bears to reduce tree girdling. Timber and wildlife managers posed several questions regarding efficacy and long-term consequences of the feeding program.

The station evaluated the efficacy of the program and conducted concurrent studies to assess select behavioral characteristics of feeding bears and impacts of providing supplemental feed on nutritional status of bears.

The efficacy study revealed the percentage of damaged trees in stands with foraging bears varied from two percent to 52 percent. When supplemental feeding was introduced on these stands, damage was reduced to approximately 10 percent of that sustained on untreated stands.

Concurrent experiments provided insightful data on bear use of feeding stations. Numerous bears fed at the stations, including females with and without cubs, yearlings and boars. Bear feeding bouts at the stations were generally short, less than 30 minutes. Bears generally fed alone, although two to three adult bears were observed at a feeder simultaneously and the feeding partners were not consistent. There was little antagonistic behavior observed

around the feeders, and no evidence that this behavior inhibited foraging opportunities at the feeders for long. On the rare occasion a bear was driven from a feeder it returned later that same day to feed, generally within an hour. Supplemental feeding also did not affect the home range sizes of bears in feeding areas, but it may



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

**A common characteristic of bear damage is loose bark lying at the base of girdled trees.**

serve to concentrate bears in a particular location. Bears consuming supplemental feed did gain a significant nutritional advantage while feeding, but this did not equate in long-term increases in age-specific body mass or fat content.

Regardless of the measures selected

to reduce bear damage, it is essential for managers to monitor activity. None of the approaches are without potential failure and bears can inflict extensive damage quickly. Our data suggests silvicultural practices can affect tree palatability. However, foraging is relative and although implementing or delaying a practice may alter available carbohydrates, bear damage can still occur. For example, thinning will increase potential for damage, but if choices are limited, then bears are likely to peel in unthinned stands. Our data also suggest that providing alternative foods can reduce damage and that the negative consequences of the program we evaluated were minor. Monitoring, however, is important because efficacy may be density dependent and damage has occurred in stands with feeders. Feeding also should be considered a long-term commitment. Pulling active feeders from stands while trees remain vulnerable to bears may lead to significant damage. ♦

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# Mountain Beaver: The Little Rodent with a Large Appetite

BY WENDY M. ARJO

**W**hile walking through open forest areas you might have found yourself falling into large holes that dot the landscape. After extracting your foot from the hole you may have noticed other holes nearby, some with clipped sword fern or forbs neatly arrayed around the hole. These symmetrical burrows are home to the



mountain beaver. The mountain beaver, considered the most primitive living rodent species, descended from a now extinct family of rodents over 30 million years ago. Seven subspecies of mountain beaver are recognized with one subspecies in coastal California currently listed as an endangered species. This semi-fossorial rodent, endemic to the Pacific Northwest and California, is among a variety of herbivores that retard growth and cause seedling deformities and mortality.

Mountain beavers are described as voracious in their dietary habits, with the predominant criteria for plant

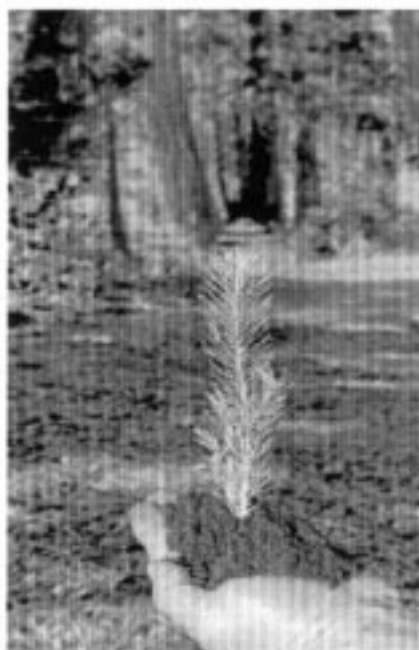


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**Mountain beaver are endemic to the West Coast.**

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Regardless of ownership size, optimizing site capacity composed of desirable, healthy trees is a constant challenge confronting forest managers. **Simplot** SoilBuilders is positioned ideally to provide professional expertise and nutritional products essential for meeting this challenge, just in case Mother Nature should need a helping hand.

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selection being availability. Ferns and salal are preferred foods, though bark and twigs of trees are readily taken when forage is limited. Douglas-fir does not appear to be a highly preferred forage of mountain beavers, yet establishment of Douglas-fir seedlings is often difficult in areas with mountain beavers. In most areas, damage by mountain beavers is limited to seedlings less than 1.5 inches in diameter. Multiple bites on the clipped seedling create a serrated edge, but more typically the diagonal cut of the seedling will indicate mountain beaver activity. In some areas, larger trees suffer basal barking and undermining of roots. Girdling by mountain beavers can be distinguished from bear damage because the damage is lower on the tree and mountain beavers leave horizontal tooth marks and claw marks. For a species that has been around for so many years, very little is actually known about its basic ecology. The Olympia Field Station is currently conducting several studies to expand our current understanding of this rodent species.

A variety of environmental factors influence the diet selection of foraging animals. Perhaps the most significant factor in whether a plant is harvested is the availability of alternate choices. At the field station, researchers have the ability to house mountain beavers in large outdoor habitat pens in which



we can manipulate vegetation and populations. Researchers at the Olympia Field Station conducted a series of trials to determine the influence of available forage and population pressure on seedling damage, in addition to conducting standard cafeteria tests to determine mountain beaver food preference. In the cafeteria trials we determined that ferns, salal, cat's ear and salmonberry were highly preferred foods over Douglas-fir and western redcedar. Results from the habitat study showed that mountain beavers in pens without preferred forage damaged more seedlings than in pens with preferred forage. Population pressure did not have an effect on damage because mountain beavers moved to areas where there was preferred forage.

In addition to knowing basic food requirements, understanding how much area mountain beavers can cover and how far they can disperse to reinvade areas is also important information for forest managers to know. Our ability to draw conclusions on mountain beaver movements and home range use has been limited because of prior study sample sizes and available study methodology. The Olympia Field Station is conducting several studies to understand mountain beaver movements and dispersal patterns under varying vegetational characteristics.

Home range size for adult mountain beavers was previously reported as 0.08 to 0.5 acres with an average home range size of 0.3 acres. Several factors can affect home range size including population density, available forage, available cover and available water. To understand which of these factors may affect movements, we captured and radio collared 41 mountain beavers on two recent clearcuts on the Weyerhaeuser Twin Harbors Tree Farm. Captures included 12 subadults and 29 adults. Animals were radio tracked throughout a 24-hour period to determine locations and activity periods. Although most previous literature supported a nocturnal activity pattern for the mountain beaver, our data show that mountain beavers are active throughout a 24-hour period. Animals are usually active for an hour or two and then inactive for another

two. Home range sizes and core use areas (areas of intensive use) differed between our two study sites and were substantially larger than previously reported.

At the Upper Donovan study site home ranges averaged 10.28 acres ( $\pm 7.98$ ), and core use areas 1.98 acres ( $\pm 1.56$ ). Sylvia Creek home ranges and core use areas were smaller than the Upper Donovan, 2.89 acres ( $\pm 0.59$ ) and 0.59 acres ( $\pm 0.72$ ), respectively. Predation on the study sites was high (40 percent). Bobcats, coyotes and raptors are the main aboveground predators, and an unknown mustelid species, likely a mink or spotted skunk, the belowground predator. In addition to the observed home ranges that were larger than previously reported, we have found that mountain beavers can disperse over one-third of a mile to

are available hiding cover on this site. Upper Donovan, on the other hand, is dominated mostly by blackberry and salmonberry, with less down woody debris. In the absence of available preferred food, mountain beavers may travel considerable distances, as shown in this study, to forage on available plants (i.e., seedlings).

Seedling protection from mountain beaver damage has been limited to barriers, although these have met with limited success. Trapping is the most productive means to reduce mountain beaver populations, and hence, damage to new seedlings. With current information gained from mountain beaver movements and preference for food resources, alternative non-lethal methods to reduce damage may be implemented. For instance, managing for an alternate winter food source



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

#### Mountain beaver seedling damage.

establish new territories.

Preliminary results suggest that the difference in home range sizes between the two areas is a result of available forage. Sylvia Creek is dominated by forbs, but also harbors salal, sword fern and bracken fern, all preferred mountain beaver forage. In addition, large uprooted stumps and a preponderance of down woody debris

may help reduce the amount of damage by mountain beavers to newly planted seedlings. ♦

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# Is it a Pocket Gopher or Mole?

BY WENDY M. ARJO

**D**epending on where you are, the term "gopher" is applied to a variety of mammal species including ground squirrels, prairie dogs and moles. The true pocket gopher is actually very distinguishable once you recognize their appearance and sign, or indicators of the animal. Pocket gophers are burrowing rodents named for their external fur-lined cheek pouches. Unlike mole mounds, which have been characterized as miniature volcanoes, gopher mounds are fan-shaped in appearance. Pocket gophers are distributed throughout the Pacific Northwest, but occur more frequently in the drier climates of eastern Washington and Oregon.

Pocket gophers prefer roots and stems of herbaceous annuals and perennial plants that are often associated with early successional forests. Because of this preference, seedlings

become a very tempting target to a foraging pocket gopher. Commonly, gophers will prune seedling roots and often pull the entire seedling into their burrow. Stem clipping at ground level and girdling are also common with seedlings less than half an inch in diameter the most vulnerable. In deep snow conditions, aboveground girdling of larger trees can occur. Although aboveground girdling is easy to detect, damage by pocket gophers to root systems may go unnoticed until seedlings become discolored or tip over. Several factors have been noted that predispose a stand to pocket gopher damage: 1) current pocket gopher density; 2) soil suitability for burrowing; 3) topography; 4) herbaceous understory; 5) amount of adjacent border with preferred forage; and 6) site preparation.

Management practices to reduce pocket gopher damage include silvicultural practices, such as minimizing disturbance of an area, habitat manipulation, trapping, repellents, fumigation and seedling barriers such as Vexar tubing. Strychnine baiting is the most widely used method to reduce pocket gopher populations prior to planting seedlings. Baits are applied belowground to minimize

negative impacts on aboveground non-target species; strychnine-baited pocket gophers, however, may still pose a threat to subterranean predators such as weasels. In addition, pocket gophers and other small mammals using pocket gopher burrows may consume the bait and die aboveground.

The Olympia Field Station has conducted several tests to determine primary, secondary and tertiary risks that may occur while strychnine-baiting pocket gophers. Population responses of non-target species—golden mantled ground squirrels and yellow pine chipmunks—were monitored on two reforested sites in Oregon. Immediately after baiting, ground squirrel numbers declined; however, the following spring the population recovered. Yellow pine chipmunk populations were not reduced by strychnine baiting, but in fact increased in the treated plots the following spring. This increase may reflect an invasion of chipmunks in the absence of ground squirrels.

Regardless of ground cover, pocket gophers usually die belowground in the nest or close to it. This supports the notion that fossorial (living belowground) rodents baited belowground are unlikely to become secondary hazards. However, this does not entirely eliminate the chance of an occasional aboveground death or the potential for underground predators like weasels to encounter carcasses. Predator-prey interactions are largely unknown since subterranean predator activity is difficult to observe.

Artificial burrow systems were established to investigate interactions of weasels and pocket gophers at the Olympia Field Station. Weasels (80



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**Protecting seedlings from pocket gopher damage can be difficult since seedlings can be attacked from both belowground and aboveground.**

percent of those tested) readily killed and consumed healthy pocket gophers. All weasels ate strychnine-baited gopher carcasses after 72 hours, but no weasels died from secondary poisoning. Although weasels killed and cached gophers, caches were composed of single animals only. Most of the weasels sampled, but not entirely consumed, both fresh-killed gophers and five-day-old carcasses. Although caching behavior of weasels may increase their exposure to secondary poisoning of strychnine, this in turn may be minimized by the fact that the majority of weasels only sampled carcasses. If strychnine-baited pocket gophers die aboveground, secondary hazards to scavengers and tertiary hazards to insectivores (species that eat insects that cause decay of carcasses), may occur.

The fate of small mammal carcasses was determined on a study site in the Rogue River National Forest. Carcasses disappeared equally from both scavengers and insects. In addition, several insect species were sampled to determine strychnine concentration levels and any potential risks to insectivore species. Fly larvae and ants were found to contain high levels of strychnine; however, little risk is posed to insectivores due to the quantity of insects that would have to be consumed to acquire a lethal dose. Studies by the Olympia Field Station have shown that controlling pocket gopher populations with strychnine baiting poses relatively little risk to non-target species. ♦

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# Managing Ungulates to Protect Trees

BY DALE L. NOLTE

**B**ig game species, such as elk and deer, inflict the most widespread form of damage to forest resources. Elk may trample or pull seedlings without well-established root systems out of the ground. Browsing elk often splinter woody stems. During the spring, the stems may be stripped of bark below where they break the stem. Deer damage inflicted on seedlings is similar to elk damage. Woody stems are often splintered and the bark is stripped from twigs. New buds are generally clipped back to the previous year's growth. Deer do not pull seedlings as frequently as elk and their damage rarely occurs above six feet.

Planting seedlings immediately after

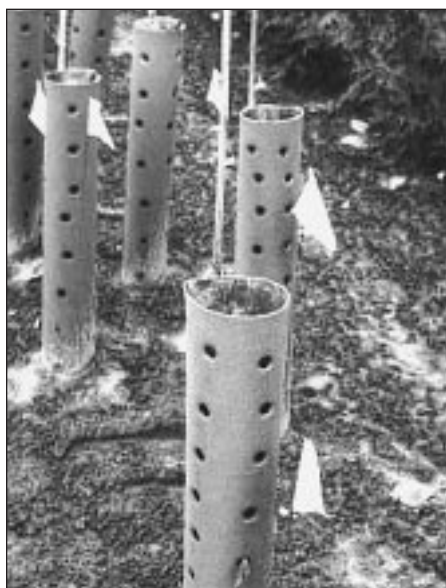


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**Strategies to reduce damage on smaller plantations may include barriers like Vexar tubing.**

harvest or other site disturbances before ungulates become accustomed to foraging in that area is the most economical and perhaps the better approach to reduce browsing. Unfortunately, this approach is not always feasible and ineffective where surrounding areas contain large ungulate populations. Hunting is the traditional means to suppress deer populations, but often impractical to solve specific problems. Fencing is the most effective method to impede ungulate

movements.

Fencing, however, can be cost prohibitive to install and to maintain.

Although individual barriers also can be expensive, when properly installed, tubes can protect seedlings from most wildlife species. Where ungulate populations are high and consistent, individual barriers may be reasonable long-term alternatives to reduce browsing.

Frightening devices, such as propane cannons and scarecrows, are generally ineffective. Some repellents will deter ungulates, but rarely for prolonged periods. Thus, repeated applications are generally necessary.

Traditional frightening devices are generally ineffective to deter ungulates for prolonged periods. However, devices activated by an animal's presence are generally more effective than permanent or routine displays. Further, a device affixed to an individual animal may generate greater responses from those individuals, and possibly from accompanying conspecific (others in the herd). For example, a device affixed to a matriarch elk that activates a signal (e.g., strobe and siren) and after a couple seconds delivers a mild shock to the matriarch, may be very effective to inhibit this animal from remaining in a protected site. Accompanying conspecifics pairing these signals with distress antics displayed by their leader may also avoid the area. Electric collars and ear tags have shown promise for deterring cattle from protected areas, such as riparian zones. Although effective, current technology prohibits operational use of these devices to deter ungulates from target areas. Technology more applicable for prolonged use with ungulates is being pursued by the NWRC Olympia Field Station.

An improved understanding of ungulate foraging ecology may provide



PHOTO COURTESY OF ERWIN AND PEGGY BAUER

**Elk can cause significant damage to seedlings.**

insight to reduce negative impacts of browsing on establishing seedlings. All plants contain toxins, and the amount of toxin an animal can ingest depends on the kinds and amounts of nutrients and toxins in the forages. The NWRC Olympia Field Station is trying to determine if nutritional status of ungulates affects their preference for Douglas-fir seedlings. Supplemental energy and protein increases the ability of animals to eat foods that contain toxins. Thus, supplemental nutrients offer the potential to increase intake of plants habitually avoided or to decrease intake of plants habitually eaten. Other studies are investigating potential to select for western redcedar genotypes that may be less preferred by deer because of high terpene concentrations.

The NWRC Olympia Field Station is working to identify feasible approaches to exclude ungulates from target sites. Alternative fence designs have been investigated. In addition, scientists at the station routinely evaluate efficacy of marketed repellents. Concurrently, scientists are conducting parallel behavioral and chemical assays to identify potential natural aversive agents for new repellents. ♦

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# From Seedlings to Crowns: These Species Cover It All

BY WENDY M. ARJO

**D**amage to trees in the Pacific Northwest ecosystems can occur at any point in a tree's development.

Of the three genera of voles, *Microtus* is the largest and most destructive to western forest ecosystems. Voles, like many small rodent species, have the ability to produce numerous litters in a single year and females are mature 30-40 days after they are born. Average litter size is three pups, and females can produce a litter every 21 days. With this type of reproductive capability, it is easy to see why vole populations can rapidly expand in ideal habitats.

Voles can be a large problem especially on small tree farms where the understory is mostly comprised of grasses. Small holes and runways through grassy areas often signify vole presence. Voles feed on young tree roots, usually stripping them and leaving pointed tips. In addition, they will also feed on stems and cause some girdling of seedlings. Circular marks on girdled seedlings are characteristic of vole damage. Barriers around trees and rodenticides have



PHOTO COURTESY OF ERWIN AND PEGGY BAUER

**Snowshoe hares are widely distributed in the Pacific Northwest and leave large angular toothmarks (45°) in seedlings.**



PHOTO COURTESY OF ERWIN AND PEGGY BAUER

**Pikas are usually found in eastern Washington.**

been used to reduce vole damage. However, with rodenticides it is important to first reduce the vegetation so that the rodenticide can reach the runways. The best means of vole control is through habitat modification. Reduction of grasses and vegetation through mowing, plowing or herbicides reduces the attractiveness of an area for voles.

Hares, rabbits and pikas make up the family *Lagomorpha*. Pikas are restricted to the eastern drier areas, generally occurring in rock outcrops. Small piles of grass and other forbs in rockslides are good evidence of pika presence. In the Pacific Northwest, the snowshoe hare is the most widely distributed rabbit species. Hares leave large angular 45-degree toothmarks and sometimes wood chips at the base of damaged trees. Seedlings less than one-quarter inch are preferred; however, in winter, hares will feed on the bark of trees.

Several methods of control have been employed, including Vexar tubing to protect seedlings and hunting, both of which can be costly. Removing hiding cover with herbicides is another potential method to reduce damage; however, this may

affect habitat use by other wildlife. Success at reducing damage has been noted with planting larger seedling stock and with some repellents. The Olympia Field Station is continuing to test and develop additional repellents to reduce hare damage.

The porcupine is the second largest North American rodent (stream beaver is the largest) and has modified dorsal hairs better known as quills. With its muscular tail and long claws, the porcupine is well adapted for climbing trees. Porcupines feed on herbaceous foliage on the ground in the spring and summer, and in fall and winter can be found foraging on trees. Clipped needles, bark chips and quills at the base of trees are prime indicators of porcupine activity. Porcupines strip the bark from trees and leave horizontal teeth marks in addition to clipping stems.



PHOTO COURTESY OF ERWIN AND PEGGY BAUER

**Porcupines damage small trees. Damage is evident in larger trees as dead crowns appear.**

Young pole trees are preferred in the winter and crowns of trees are the most susceptible. Porcupine damage is then evident in the summer when the crowns appear dead. Although fencing does work to protect areas, it is time consuming and expensive. Trapping and hunting are the most reliable methods for reducing damage by porcupines. Further testing of porcupine-specific attractants is being conducted at NWRC. ♦

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# Developing Strategies to Alleviate Wildlife Damage to Forest Resources

BY DALE L. NOLTE

**D**oes the presence of wildlife always pose a problem when reforesting a site? Not necessarily. However, the potential impacts of wildlife need to be considered. The intensity or severity of impacts caused by wildlife will reflect the species and density of animals present, along with existing habitat conditions. Whether these impacts create a problem depends on the objectives of the producer and the resources available to achieve the original goal. Wildlife will not be a problem for projects with unlimited resources and time. The repeated plant and replant methods will ultimately lead to some form of success. However, wildlife can be devastating to projects with goals that require initial plantings to reach maturity. The most appropriate approach to reduce animal damage should reflect the overall objectives of the landowner, as well as conditions of the specific problem. All techniques are not feasible or appropriate for all situations. Several considerations need to be addressed. A producer should consider the following five steps before extending funds or implementing efforts. Although excessive time need not be devoted to each step, each should be given careful thought.

**1. Assess the severity and potential for additional damage to occur if no action is taken.** Assessing the potential for a problem is fairly simple if there is a history of similar projects in an area. Verifying past successes or reasons for failure will provide insight to the future. Projects being established in new areas will require some knowledge of the species and habitat present and how the project will alter dynamics of the current plant and animal interactions. Existing favorable habitat does not ensure that new plants will not be targeted by foraging wildlife. Foraging is relative and the desirability of planted species will dictate whether they are



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

**Before implementing a damage management program, a complete strategy should be developed.**

ignored or become lunch.

Concurrently, identify the correct culprit or the target species of your anticipated program. Unfortunately, the culprit is rarely seen. Therefore, the offending species probably will need to be identified solely on the basis of the resultant damage. Girdling low on the stem generally indicates rodents. Tooth marks can help determine size, and other signs may suggest what species is in the area.

For example, voles commonly leave marked trails, mountain beavers create frequent and open burrows, and pocket gophers close their burrows and create mounds. Porcupines are likely to strip the entire sapling or forage near the top of larger trees. Small seedlings clipped at a 45-degree angle are likely damaged by rodents or lagomorphs (hares, rabbits and pikas). Deer and elk are more likely to take bites from the foliage or will leave stripped ends. Larger girdled trees with vertical tooth marks and stripped bark lying at their base are

indicators of bear activity. Girdling by mountain beaver can be readily distinguished from bear girdling because the damage is low on the bole and mountain beavers leave horizontal tooth marks and irregular claw marks. Conical shaped stumps with large wood chips at the base are classic signs of beaver damage. Beaver girdling of large conifers can be confused with bear damage, but stripped bark will not be lying at the base.

**2. Evaluate the feasibility of available approaches to alleviate the problem.** All techniques are not feasible or appropriate for all situations. No action may be the appropriate action if you decide the problem is relatively minor. A few preliminary considerations will increase the success, or at least minimize potential of creating other problems. Conduct a check on legal ramifications for any action selected and ascertain that the action will not be potentially hazardous to non-target species, particularly to endangered or threatened species. An effective approach will



require familiarity with the behavioral traits and biological attributes of the target species. Assess how existing environmental conditions of the sites will affect the selected method and the consequences of the action to the environment. Determine whether the selected methods will achieve an acceptable degree of protection and if the situation warrants the anticipated expense. Public and neighbors' attitudes toward potential methods also need to be considered when choosing an approach.

**3. Develop a strategy to implement your efforts to reduce damage.** Your strategy may incorporate several methods at once, or utilize one method to stop the damage and another to limit future problems. Inquire among experts within the field if you need additional information or are unsure of specific requirements. Identify and obtain any required equipment, personnel, resources and safety equipment for your program. When necessary, acquire training or expertise in handling equipment or chemicals.

**4. Implement your program.** Although it may require time and effort, implementing the program should be straightforward, provided the prior steps were thoroughly covered. However, unanticipated problems or concerns may necessitate you to modify or select an alternative strategy. In that case, repeat the decision process incorporating the new information.

**5. Monitor consequences of your program.** Continued monitoring of the program is a particularly important activity. Determine whether your desired goals are being achieved and whether there are any unexpected negative consequences. Continue to evaluate the program until the resource is no longer vulnerable or conditions warrant terminating the program. ♦

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## New Decayed Wood Planning Tool Available

DecAID Advisor, a new snag, down wood and wood decay management advisory system for forests in Washington and Oregon, is now available on the website as an interactive program at <http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf>.

Decayed wood elements—snags, down wood, and decaying trees—are habitat for many organisms that live in terrestrial ecosystems and contribute to other aspects of ecosystem productivity and diversity. Maintaining an adequate level and mixture of these habitat elements is an important part of managing forest ecosystems, but can be a challenging task for any forest land manager.

DecAID Advisor is a product of several years' teamwork to synthesize wildlife data on species' use of decayed wood, inventory data on amounts of snags and down wood, and provide information on insects and pathogens associated with decayed wood.

The DecAID Advisor is a planning tool intended to help advise and guide managers as they conserve and manage snags, partially dead trees and down wood for biodiversity.

DecAID is organized around "vegetation conditions" that combine wildlife habitat type, vegetation alliance, structural condition (average tree size and canopy closure) and geographic location. It provides interpretation and advice on the roles of insects and pathogens in the creation and dynamics of dead wood, and the implications of snag and down wood management on ecosystem health, and offers mitigation considerations.

DecAID was developed for use across all land ownerships in Washington and Oregon. It is a collaborative product of USDA Forest Service and USDI Fish and Wildlife Service.

References on the DecAID Advisor are available at [www.fs.fed.us/wildecology/decaid/decaid\\_background/decaid\\_papers.htm](http://www.fs.fed.us/wildecology/decaid/decaid_background/decaid_papers.htm).

For additional information, contact Bruce Marcot at [bmarcot@fs.fed.us](mailto:bmarcot@fs.fed.us) or 503-808-2010, or Janet Ohmann at [johmann@fs.fed.us](mailto:johmann@fs.fed.us) of the USDA Forest Service, Pacific Northwest Research Station. ♦

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# The Role of Toxicants in Forest Management

BY WENDY M. ARJO

**A**lthough the emphasis of the Olympia Field Station is on the development of non-lethal methods to control pest species, sometimes lethal methods are necessary. Toxicants can be an effective means of quickly reducing high populations of some problem animals or maintaining acceptable population densities. Depending on their mode of action, toxicants are classified into three categories: fumigants, acute toxicants and chronic toxicants.

Fumigants are lethal gases that are injected into the burrows of target species. Operational use of fumigants is usually more expensive and hazards exist to non-target species that also inhabit burrow systems of the targeted animal. In addition, at least with pocket gophers, fumigants are not successful because gophers are able to plug burrows to prevent penetration of the gases.

Acute toxicants, like strychnine, are often lethal after a single dose. Although rather inexpensive because single doses are effective, bait-shyness may occur with sublethal doses, rendering the population reduction program ineffective. Bait shyness is condition avoidance

and when an animal eats a food, then becomes sick and subsequently refuses to eat the food associated with the illness.

Chronic toxicants, such as anticoagulants, require the animal to ingest multiple doses to produce mortality. Anticoagulants effectively block the enzyme necessary for the recycling of



PHOTO COURTESY OF ERWIN AND PEGGY BAUER

**At present time, there is not a registered toxicant to control mountain beavers. Thus, they are managed by trapping.**

vitamin K. Without sufficient incoming vitamin K, the ability to produce clotting factors is inhibited and hemorrhaging occurs. Unlike the acute toxicants, anticoagulants do not induce bait-shyness.

The most reliable method to control mountain beaver populations immediately before seedling plantation has been the use of Conibear 110 traps. This type of lethal control is becoming politically less popular, as indicated by the passage of Initiative 713 in 2000, which banned the use of all body gripping traps in the state of Washington. A similar measure did not succeed in Oregon.

Therefore, alternative tools to Conibear traps for reducing mountain beaver populations may be desirable. At present there is no toxicant registered for use to control mountain beaver. However, four products are registered for belowground application to protect agriculture crops: 0.5 percent strychnine, 2.0 percent zinc phosphide, 0.005 percent chlorophacinone and 0.005 percent diphacinone.

Scientists at the Olympia Field Station conducted a series of tests to assess mountain beaver acceptance and subsequent fate when offered bait containing these four toxicants. We found that zinc phosphide and strychnine were not effective because animals became bait-shy after initial exposure. Diphacinone and chlorophacinone were readily consumed by the mountain beaver, although diet played a role in efficacy. Diets high in vitamin K, the antidote for anticoagulants, decreased efficacy, where as efficacy increased when animals were limited to natural vegetation. Daily baiting is not practical for managers, so we also investigated the efficacy of a single large baiting with chlorophacinone. All animals succumbed to chlorophacinone baiting after 21 days. Chlorophacinone appears to be the only registered bait to pursue for possible mountain beaver control registration. ♦

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# Fencing Out Big Game Species

BY DALE L. NOLTE

**F**encing is the most effective approach to deter big-game movements. However, cost to install and maintain effective fences can be prohibitive. Further, fences across rough terrain can be impractical.

Although simple designs can effectively deter deer and elk from some sites, more complex designs are necessary if the protected resource is highly desirable or if normal transitory patterns, such as migratory routes or paths to water, are disrupted. The task becomes more daunting if your desire is to construct an impenetrable fence.

Fences less permeable for elk and deer are a minimum of eight feet high and preferably 10 feet high. Woven wires are more effective than strands of smooth or barbed wire. A combination of woven wire below and strand wire placed immediately above it provides additional height and can be effective. An electrified fence provides better protection than a similar non-electrified fence. Building a double or slanted fence adds depth, making it more difficult for ungulates to jump over. A series of small intermittent fenced-in areas, or exclosures, may be more effective to impede ungulates than a long extended barrier. The smaller exclosures do not block access to resources or impede migratory movements as severely as a continuous fence.

Fence materials need to be visible to reduce risk of animals running into them. Long stretches of smooth wire or even woven wire can create hazards to wildlife. Attaching flagging to wires can greatly reduce risks.

Although wire needs to be stretched tight, materials with some give when struck will further reduce risk to animals, along with reducing need for repairs.

NWRC Olympia Field Station scientists conducted a study to assess desirable fence attributes of an elec-

from a highly visible and durable wire. Our results indicate that wire spacing between lower wires should be no more than nine inches, but wires located higher on the fence could be spaced at greater distances. Intermittent bars to prevent wires from spreading may improve efficacy. Interspersing a ground wire between lower strands may also further reduce deer crossings. Although probably



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

**Fences at least six feet high that are constructed of durable, visible and electrified wires can be effective in deterring deer.**

trified fence to impede black-tailed deer. Fences were constructed at four-, six- and eight-foot high with varied wire spacings. Not surprisingly, efficacy to deter deer was highly correlated with the animal's motivation to cross a fence. Black-tailed deer tended to go through rather than over fences. However, animals that jumped fences did so repeatedly and with ease. Closer wire spacing, approximately nine inches, reduced crossings. Although highly motivated deer can jump eight-foot fences, during these trials six-foot fences deterred deer. Therefore, a less expensive fence could be a viable tool to restrict ungulate browsing. We suggest that the fence be constructed

not adequate for all deer or highly motivated deer, a six-foot fence may restrict most. Such a fence may be more practical if the fence could be dismantled and materials used at another site as trees became less vulnerable to browsing. Electric fences installed in remote areas could be powered by solar panels. ♦

*Dale L. Nolte is field station leader for the National Wildlife Research Center's Olympia Field Station in Olympia, Wash. He can be reached at 360-956-3793 or dale.l.nolte@aphis.usda.gov.*



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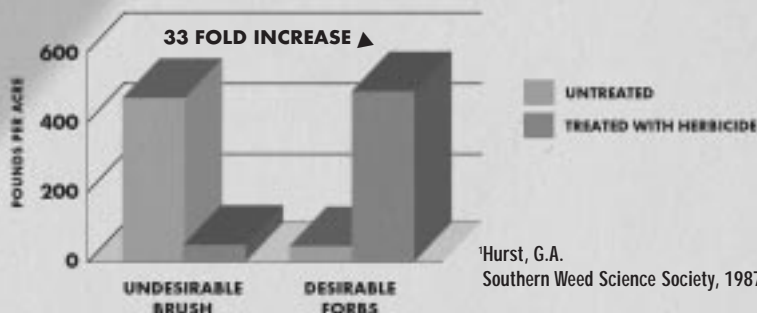
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<sup>1</sup>Hurst, G.A.  
Southern Weed Science Society, 1987





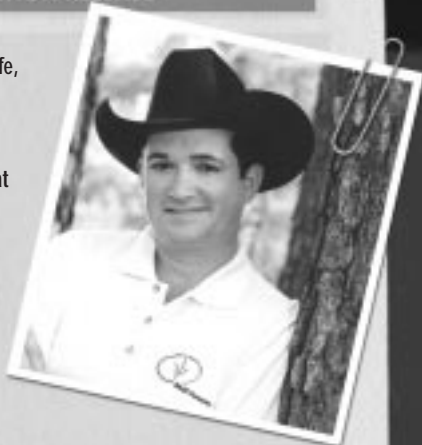
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# Repellents are Socially Acceptable Tools

BY DALE L. NOLTE

**T**he likelihood of a particular plant being consumed by an animal depends on its palatability, along with the availability and relative desirability of alternative foods. Repellents, therefore, can be applied to plants to render them less attractive than the alternative foods. In theory, animals then select for plants or foraging areas other than those protected with repellents. Repellents are socially acceptable non-lethal tools to reduce wildlife damage. New products are continually entering the market, but their efficacy varies greatly. Unfortunately, availability or even registration of these products does not equate to effectiveness. Some repellents contain aversive agents at concentrations below avoidance thresholds. Others may contain active ingredients to which the offending animal is indifferent.

## Types of repellents

Repellents may be incorporated into the plant (systemic delivery), permitted to permeate an area (odor delivery) or applied directly to a plant (contact delivery).

**Systemic repellents** are compounds absorbed then translocated throughout the plant, rendering the foliage less desirable. Systemic delivery is ideal because compounds contained within the plant cannot be washed off and aversive agents are moved to new foliage as the plant grows. Unfortunately, few, if any products have effectively incorporated systemic repellents into a plant at concentrations that did not harm the plant.

**Area repellents** are products that

create a chemical barrier that animals will not cross, or products that permeate an area with an odor, rendering it undesirable and avoided by animals. Several products continue to be marketed as containing offensive odors that deter deer for various distances. However, outside of anecdotal evidence or testimonials, there is no evidence suggesting efficacy of odor delivery. Scientists at the

entists conducted a series of studies to compare efficacy of commercially available deer repellents. These products represented various active ingredients with different modes of action, such as “fear”-aversive conditioning, pain and taste.

**Fear-inducing repellents** contain degrading proteins that emit sulfurous odors, such as whole egg solids or animal by-products. Our tests



PHOTO COURTESY OF NWRC OLYMPIA FIELD STATION

**Deer in plots to assess the effectiveness of repellents.**

Olympia Field Station assessed products advertised as “odor” repellents and determined one of the products repelled all deer at any distance. Further, the greatest mean distance avoided for most products was less than three inches and no product was effective at a distance greater than a yard.

**Contact repellents** are products topically applied or attached directly to a plant. If the goal is to reduce consumption of plants, available evidence suggests that chemical repellents are most effective when they are applied directly to a plant.

NWRC Olympia Field Station sci-

demonstrated that generally the most effective products were those containing active ingredients (e.g., animal proteins) that produced sulfurous odors. However, not all repellents with sulfurous odors are effective in deterring deer for extended periods (greater than 12 weeks).

**Conditioned avoidance** occurs when ingestion of a food is paired with nausea or gastrointestinal distress. Animals generally restrict their intake of a food if it is associated with illness. Efficacy of repellents based on conditioned aversions, however, is generally limited because animals must be trained to avoid these mate-

rials. Therefore, damage inflicted on seedlings during training or subsequent sampling can be extensive. The use of conditioned-based repellents is especially problematic if the damage is inflicted by a transitory or migratory species such as elk.

Active ingredients such as capsaicin, allyl isothiocyanate and ammonia cause pain or irritation when they contact trigeminal receptors in the mucous membranes of the mouth, eyes, nose and gut. An inherent problem with using pain-inducing repellents is that they are universally aversive to all mammals. Few commercial repellents have effectively incorporated trigeminal irritants as active ingredients. Most likely, current repellents that depend on pain to induce avoidance are ineffective because the active ingredient is present at an inadequate concentration.

Bittering agents are often used to induce a **bad taste**. Unfortunately, while omnivores normally avoid bitter taste, herbivores are generally indifferent, at least at the concentrations used in most repellents.

Repellency is always relative and thus, always susceptible to failure. Many factors other than aversive properties impact the efficacy of a repellent to reduce damage.

Ultimately, avoidance of the protected plant is affected by 1) the number and density of animals inflicting

problems; 2) mobility of the problem animals; 3) prior experience of animals with foods and familiarity with surroundings; 4) accessibility of alternative sites; 5) the availability of alternative foods in relation to treated plants; 6) the palatability of the treated commodity relative to alternative food; and 7) weather conditions.

Materials with good efficacy demonstrated under stringent conditions, such as protecting a highly palatable plant in the midst of dense animal populations with few alternative foods, in all probability will be effective under less stringent conditions. However, the reverse is rarely true, thus it is difficult for someone to predict the efficacy of repellents in the field by extrapolating from empirical data, and more worrisome to take even truthful anecdotal or testimonial evidence as indicators of repellent performance.

At present, few repellents are available that effectively deter deer browsing. The most effective repellents generally are topically applied proteins protecting plants for approximately three months depending on weather conditions. Some reduced efficacy may continue beyond this period, but there is generally a continued decline. We have not worked with any repellent that has demonstrated the ability to protect plants for six months. ♦

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*Dale L. Nolte is field station leader for the National Wildlife Research Center's Olympia Field Station. He can be reached at 360-956-3793 or [dale.l.nolte@aphis.usda.gov](mailto:dale.l.nolte@aphis.usda.gov).*

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## Looking for More Information on Wildlife Damage?

The National Wildlife Research Center's Olympia Field Station and Western Forestry and Conservation Association will be sponsoring a conference next spring on wildlife damage management for foresters. Topics will include an overview of animal damage controls and management tools for specific species. The Olympia Field Station will also host a field demonstration of wildlife damage to assist forest managers in identifying damage on timberlands.

To get on the mailing list to receive more information, send a note to Richard Zabel at [richard@westernforestry.org](mailto:richard@westernforestry.org).

## Oregon Timberland Ownership Data Available

Executives, managers and appraisers frequently need the ability to print professional quality timber ownership maps for reports and presentations. Unless they have been proficient with a GIS system, they have had to rely on someone else or another department to provide the maps. Fortunately, the technology and the data are now available for anyone to print their own maps.

Atterbury Consultants, Inc. has developed a data set of timberland ownership for all of Oregon. It is available in ArcReader format, allowing users to print ownership maps of the entire state or any portion of it. The data includes the top 30 private timberland owners in Oregon, plus state and federal ownership by agency. It also includes all sections, townships and county boundaries, as well as major highways and cities.

This data set includes the ESRI ArcReader software at no charge. This software allows the user to print maps at any scale. Data layers can be turned on and off. Executives and non-GIS users will find the ownership data and software very helpful in making professional looking maps for reports and presentations. Maps can be printed in portrait or landscape mode. They can also be easily exported in Microsoft Word format for easy insertion into reports.

The Atterbury Ownership Data Set comes in an ArcReader Published Map File (PMF) format. Users have unlimited ability to print maps but may not change the map data itself.

For more information, contact Jon Aschenbach at 503-646-5393 or [jaschenbach@atterbury.com](mailto:jaschenbach@atterbury.com). The ArcReader program is also available by downloading free of charge from Atterbury Consultants at [www.atterbury.com](http://www.atterbury.com). The introductory price for the Oregon Timberland Ownership data set is \$395.00. ♦



# Wildlife Damage: An Assessment of Damage Potential

BY MIKE DYKZEUL

**W**ildlife is an integral and desirable component of the forest ecosystem. Considerable efforts are applied to ensure healthy habitats and enhanced fauna diversity. Eradicating problem species is not an acceptable option, nor is it a goal. However, the negative impacts of wildlife on forest resources can be extensive. Wildlife can inhibit attempts to replace trees after a harvest or fire. The full impact of wildlife on forest resources is frequently difficult to assess because of complexity of the resource, which is inherent because of the spatial and temporal scale of forests. Assessing impacts is further complicated by the diversity of wildlife species that forage on forest flora and the varied management approaches employed by individual landowners within a geographic area.

The Committee on Animal Damage Survey of the Western Forestry and Conservation Association initiated the most thorough measure of wildlife damage to forests in the Pacific Northwest in 1963 and 1964. Briefly, 165 Douglas-fir plots placed on newly established plantations in Oregon and Washington were monitored for animal damage for five years; subsequently 45 plots were selected and monitored for another five years. This study compared survival and growth of protected and unprotected seedlings. Although substantial time has elapsed since the study, the figures are indicative of current potential damage levels if no damage reduction measures are implemented or allowed. Unfortunately, no comparable study has been conducted since.

Not surprisingly, the study revealed that the extent and severity of damage varied among regions, but occurred frequently throughout both



states. Overall, some animals damaged 30 percent of the seedlings. Species inflicting the damage, ranked by plot frequency, were deer (96 percent), lagomorphs (75 percent), grouse (51 percent), mountain beavers (25 percent), elk (21 percent), microtine rodents (6 percent), pocket gophers (4 percent), domestic livestock (4 percent) and miscellaneous animals (11 percent). Porcupines or bears did not damage seedlings during the first five years of the study.

These numbers may not accurately portray current damage frequency because of changes in silvicultural practices. Deer and elk damage remains common. Planting larger seedling stock has reduced, but not eliminated problems associated with lagomorphs, while reduced site preparation, such as broadcast burning, has increased the potential for high mountain beaver populations. Thus, the estimate that 30 percent of planted seedlings are damaged probably remains reasonable if no preventive practices are implemented (e.g., baiting, trapping, repellents, barriers). However, actual damage may be greater or less depending on the region, individual stand characteristics and silvicultural techniques employed.

Regarding growth loss to trees, the study showed that trees protected from animal damage were 33 percent taller than unprotected trees after five years. This figure also probably accurately reflects current impacts.

At the request of the Oregon Forest Industries Council, Doug Brodie, forest economist from Oregon State University, separated the Oregon portion of the data collected during the 1963-64 study and translated the economic damage into present day (2000) values to project current potential timber value loss in Oregon because of animal damage. He offered the following projections:

- Animal damage reduced board foot growth by nine percent over a normal rotation or 92 board

feet/acre/year.

- 134,000 acres were planted in Oregon in 1997.

- At a stumpage price of \$450/thousand board feet, the annual reduction in yield is \$41.40/acre/year or \$2,484 per acre at the end of a 60-year rotation.

- Assuming a planting rate of 134,000 acres/year and a 60-year rotation, annual financial loss in Oregon is \$333 million.

- Using a four percent real discount rate, the average losses justify a present net worth expenditure of \$236/acre on damage prevention, more in high hazard areas and less in low hazard areas.

- Growth loss/year is 740 million board feet, assuming a harvest of 8.2 billion board feet (this harvest assumes continued harvest on federal lands, the value would be reduced by half under a no federal harvest scenario).

- Total impact of above resource value at four percent real discount rate is \$8.3 billion, which is the total predicted reduction in value of the forest asset if no animal damage management is practiced.

Overall, wildlife can inflict severe damage to forest resources. The economic loss caused by damage inflicted to timber resources in the Pacific Northwest alone is several hundred million dollars annually. Total potential forest resource loss if wildlife related problems were ignored has been estimated at over \$8 billion in Oregon. Managing resources to resolve these problems is becoming more difficult. The land base to produce timber is shrinking as efforts to provide habitat for wildlife have increased, particularly for threatened or endangered species. The declining land base further restricts options, while increasing the necessity to protect remaining resources. ♦

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*Mike Dykzeul is director of Forest Protection for the Oregon Forest Industries Council in Salem. He can be reached at 503-371-2942 or [mike@ofic.com](mailto:mike@ofic.com).*

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# Making SAF the Professional Organization

BY DARREL KENOPS

**O**n an early summer weekend, Ann Forest Burns and I joined with our SAF Council colleagues in a hearty welcoming of our new SAF



Executive Vice-President Michael Goergen. Michael is a refreshing, talented and energetic leader. He, we and our National SAF staff pledged to help SAF be "the best professional organization that is."

Immediate Past SAF President David Wm. Smith, CF, made a presentation on increasing organizational effectiveness. He challenged Council and all SAF leaders and units to:

- Keep our mission out front. Good begets better!
- Recruit and prepare those who will and can lead.
- View the past as an inspiration, not an impediment.
- Pursue excellence. It begins in the board room.
- Vision, innovation and thoughtful planning are the keys to our future.

Gary Schneider, CF, chair, House of Society Delegates (HSD), briefed council on progress being made regarding several 2002 HSD recommendations. Among the items discussed during a recent convener call were a recommendation that "Back to the Basics" communications strategy include visible linkages on SAF web pages for school teachers to use "lessons learned" from SAF units; that 60- and 70-year SAF recognition pins be available; and taking steps to assure that SAF members in remote locations such as Alaska have access to SAF continuing education opportunities and testing for the SAF Certified Forester program. An SAF grassroots tie to the SAF national strategic outcomes was suggested as a focus for HSD in 2003.

Forest Science and Technology Board (FS&TB) representative Steve Fairweather cautioned SAF to avoid

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**Vision, innovation and thoughtful planning are the keys to our future.**

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the appearance of endorsing one particular firm's products or services in its development and delivery of the field seminar series. Steve also provided an informational report on the progress of the SAF Science Fund, which will support working group activities. To be set up in a manner similar to the Foresters' Fund, the Science Fund could become operational in 2005. As this concept develops, additional information will be forthcoming.

Council took several actions and heard briefings on many topics, including:

1. SAF Code of Ethics—we were briefed by Dinnie Sloman, Ethics Committee chair, and Council will continue to explore this topic.
2. Reviewed and considered adoption of the SAF Accreditation Handbook to be used in 2004/2005.
3. The Volunteer Structure Task Force will provide a progress report in December 2003 with a final report and recommendations during summer 2004.
4. Reviewed a business plan to assure the success and financial feasibility of the 2004 SAF Leadership Academy.
5. Established a Planned Giving Gift Acceptance Committee for property and land.
6. Added membership to the SAF/Renewable Natural Resources Center Negotiating Committee.
7. Membership: Retain existing and recruit new members. Keep up your good work!
8. Updated on Forest Practices Regulation Task Force from Committee on Forest Policy Chair Michael Mortimer.
9. Revised SAF Investment Committee charter to reflect current and future needs.
10. Received a "clean" financial opinion from the third-party auditors. SAF is in the top 25 percent of non-profits with low overhead. Eighty-three cents on the dollar is spent on program delivery.

Policy Committee Chair Michael

Mortimer shared his committee's 2003 work plan. Key topics to be addressed are: needs for forestry research; international trade in forest products; communities and forests; sustainability and active management; and Bureau of Land Management and Forest Service personnel situation. Council considered, but did not adopt, a policy position on active forest management.

Another Policy Committee key development is the work done on the 2002 Farm Bill Implementation, where our SAF Certified Forester program could be recognized as a certified technical service provider under this statute.

John Helm's recent testimony on forest health before the House Agriculture Committee on Forest Health was well received, and the 1997 Forest Health and Productivity—A Perspective of the Forestry Profession Report, led by current SAF Vice President John Bueter, was provided to members of Congress due to its relevancy to today's situation. Many SAF members in the Pacific Northwest were instrumental in preparing this report.

Finally, Council passed, favorably, a modest dues increase that will appear on our 2004 dues billings. In 2002, dues accounted for 33.79 percent of annual revenues. Non-dues revenue sources account for 57.76 percent and contributions and grants 9.45 percent. This increase will help us to provide quality program delivery to SAF members and units, as well as keep us vital in working with allies and other key organizations and elected officials interested in and committed to forestry and SAF. ♦

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*Darrel Kenops, Oregon's Council representative, can be reached at [dkenops@attbi.com](mailto:dkenops@attbi.com). District 1 Council member Ann Forest Burns, representing the Washington State, Inland Empire and Alaska societies, can be reached at [aforestburns@msn.com](mailto:aforestburns@msn.com).*

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# Oregon Foresters have Successful Meeting in Salem

BY MICKEY BELLMAN

Oregon foresters gathered like yellow jackets to a picnic on May 7-9 to attend the annual Oregon SAF meeting hosted by Salem's Capital Chapter. Like so many birds of a feather, the foresters flitted about greeting old friends and finding new ones with whom to share camaraderie and science.

An afternoon at the State Capitol Building allowed the foresters to see the Legislature in session. While the

rhetoric flowed inside the legislative chambers, some 40 SAF members greeted the legislators as they viewed the forestry exhibits.

Thursday was filled with listening and questions as foresters attended panel workshops led by prominent scientists sharing their expertise on spotted owls, forest fires, salmon and biodiversity. Keynote speaker Jim Brown from the Governor's Natural Resource Office welcomed everyone as he spoke about forestry, jobs and the rural communities affected by



**SAF Vice President John Beuter energizes Oregon annual meeting attendees.**

changing forest policy.

The day passed all too quickly as the banquet dinner plates were set out and foresters donned sports coats and ties. John Beuter, SAF vice president, served up a main course speech that was passionate and stirred the pride of all the foresters in the room.

Meanwhile, in an adjacent room, the Capital Chapter was overseeing a silent auction for the benefit of the Foresters' Fund and Oregon's Talk About Trees Program. While SAF members sipped wine and nibbled on hors d'oeuvres, they good-naturedly bid against one another to raise money from the donated items and raffle.

On Friday morning it was time to board buses and head out of town into the Salem countryside. Nearly a hundred foresters traveled to the Blue Den Ranch owned by the Bentz family, National Tree Farmers of the Year for 2002. The Blue Den Ranch is



**Capital Chapter members worked long and furious to plan this year's annual meeting. Left to right, top—Alan Maul, Greg Miller, Joe Misek, Foxie Proctor and Al Cronk. Bottom—Bill Peterson, OSAF chair, Rex Storm and Dennis Creel.**



**Antique mowers are displayed at the Bentz's Blue Den Ranch.**



**Clint Bentz tosses fish food into one of his hatchery ponds.**



managed by Clint Bentz. Amidst the 700-acre tree farm was a trout hatchery that annually raises 50,000 rainbow trout, a portable sawmill, an immaculate barn to house a collection of antique hand tools, and a yard full of antique farm equipment. When Clint is not maintaining all this or working his full-time CPA job, he also managed to harvest about 200 MBF of logs, thin and reforest his stump-ranch-turned-forest.

The final stop of the day was a tour of the Oregon Garden and the new Rediscovery Forest. Located in Silverton, the horticultural garden has become a magnet for Oregon tourists. The garden boasts a wide variety of flowering plants and shrubs, but the foresters were drawn to the new forest that is still under



**Clint Bentz explains operations on his family's award-winning Blue Den Ranch in Scio.**

development. On just four acres, the garden plans to exhibit 10 different forest types and offer equipment demonstrations as visitors stroll the paved walkways. The trees had once been planted for Christmas trees, but they were already 30 feet tall and exhibiting the beneficial effects of intensive management.

Weary foresters returned to Salem and the annual conference was over. Old and new friends parted to return to



**Oregon annual meeting tour participants viewed a pruning demonstration at Oregon Garden Rediscovery Forest.**



**OSAF meeting participants drive up the price of the silent auction items. The Foresters' Fund generated \$3,482, which will be split between the national Foresters' Fund and Oregon Talk About Trees program.**

—PHOTOS COURTESY OF MICKEY BELLMAN—

their own forests in all corners of the state. Plans are already taking form for the 2004 SAF Conference to be held in Ashland at Southern Oregon University on May 5-6. See you there! ♦

*Mickey Bellman, a member of the Capital Chapter, is a private consulting forester and freelance writer from Salem, Ore. He can be reached at 503-589-4530 or [ginny@ncn.com](mailto:ginny@ncn.com).*

## OSAF Annual Meeting Presentations Available

PowerPoint presentations from the 2003 Oregon SAF annual meeting, *Fire, Water, Politics and Foresters*, are available upon request. Please contact Dennis Creel ([denniscreel@hamptonaffiliates.com](mailto:denniscreel@hamptonaffiliates.com)) and include the name of the talk(s) you would like to receive, as well as how you would like to receive them (email, CD).

- Howard Sohn: New Opportunities for Oregon's Forests
- Mark Labhart: The Tillamook Burn—Lessons Learned from the Experiment
- Bill Lafferty: Oregon Fire Protection Changing Course
- Brian Schlaefli: Management on a Checkerboard—The Timbered Rock Fire
- Larry Irwin: New Science on Spotted Owls
- Tom Link: The Biscuit Fire—Southwestern Oregon
- Vic Kaczynski: Fish Recovery and Forestry
- Paul Adams:
  - Study Proposal: Soil Disturbance, Runoff and Erosion after Post-fire Salvage Harvest in Central Oregon.
  - After the Fire: Management Issues and Options
  - Fire in Oregon's Forests: Watershed Effects
  - Post-fire Salvage Harvest: Effects on Watersheds and Scientists
  - Wildfire Effects on Forest Watersheds

# Oregon Recognizes Hard-Working Members

BY LESLIE BATTEN

**T**he Thursday evening banquet of the Oregon SAF annual meeting was capped off by the annual awards ceremony that honored 10 dedicated volunteers. Jim Rombach was the master of ceremonies.

The Tough Tree Award, presented to a member (or group of members) having demonstrated sustained, excellent performance in an extremely adverse work climate, was awarded to Bill Lecture and Bill Hunt.

Bill Lecture, a member of the Tillamook-Clatsop Chapter and a forester with Oregon Department of Forestry in Astoria, was recognized for his role in an ODF-private land exchange. Amid very vocal objections by a handful of local residents as well as national environmental groups, Bill responded to inaccurate and, at times, very personal attacks on the sale and himself.

Bill Hunt, a member of the Shasta-Cascade Chapter and a forester with Oregon Department of Forestry in Klamath Falls, was co-recipient. Bill was recognized for his work serving on four fire teams during the 2002 fire season, and meeting the challenge of allocation of resources among the fires. Congratulations, Bill and Bill!

The Tillamook-Clatsop Chapter, this year's Chapter Achievement Award winner, has continued to attract new members while national numbers have flattened out. Their service to the community includes continued main-



**Jim Rombach (right) congratulates Oregon SAF leaders (from left to right) Bill Lecture, Tough Tree Award; Jay Holland, Forester of the Year; and John Tillotson, 2002 chair of the Tillamook-Clatsop Chapter, representing his chapter for Chapter of the Year honors.**

tenance and improvement of the Slim Schrager Arboretum Trail, which started as a Foresters' Fund project several years ago. The chapter has had a very strong voice in OSAF policy formulation through its policy and legislation chair as well as the chapter chair's participation at the state executive committee level. The Tillamook-Clatsop Chapter has a national SAF award winner in Tom Parke, the 2002 Presidential Field Forester.

Dick Felgenhour, member of the Siskiyou Chapter, received an Appreciation Award for continued service on the OSAF Executive Committee and his development of a membership recruitment plan for OSAF, implemented by the Siskiyou Chapter in 2002.

The OSAF Research Award was presented to Stephen Fitzgerald,

Oregon State University extension forester and member of the Central Oregon Chapter, for his outstanding service to both the forestry profession and the broad public in Oregon through his recent leadership and technical contributions on the issue of wildfire and fuels management on forestland. Stephen was the lead organizer, editor and author for *Fire in Oregon's Forests: Risk, Effects and Treatment Options—A Synthesis of Current Issues and Scientific Literature*, published by the Oregon Forest Resources Institute. Stephen also organized a major conference and field tour in concert with the release of this report, with participants including forestry professionals, community leaders and interested citizens, as well as members of the



**Howard Heiner (right) received the Oregon SAF Lifetime Achievement Award and a Ken Brauner print from Jim Rombach.**



**Stephen Fitzgerald (center) received the OSAF Research Award for his outstanding leadership and technical contributions related to wildfire and fuels management from Jim Rombach (left) and Bill Peterson (right).**





**Awards chair Jim Rombach (center) congratulates Columbia Gorge Chapter representative Larry Hoffman (left) and Blue Mountain Chapter representative John Herbst for their fine efforts in planning the 2002 OSAF annual meeting in LaGrande.**

news media who provided national coverage of the event.

Michael Milstein, reporter for *The Oregonian*, received the Media Appreciation Award for his work on reporting the 2002 fire season as well as forestry issues in Oregon.

This year's Forester of the Year is Jay Holland, member of the Tillamook-Clatsop Chapter and forester for Longview Fibre in Seaside. Jay has been an SAF member for 23 years and has served as membership chair, program chair, chair-elect and chair of his local SAF chapter. He was chair of the Clatsop Economic Development Councils' Forestry and Wood Products Committee for three years; served as an officer on two watershed councils in Clatsop County; and currently serves as chair of the Lower Nehalem Watershed Council. Jay's been a "technical expert" as part of Project Learning Tree, has hosted Boy Scout tree plants on company property, is actively involved in his church, and is a church elder. Congratulations, Jay!

The Lifetime Achievement Award is presented in recognition of lifetime contribution to the SAF and lifetime achievement in the forestry profession. This year's recipient is Howard Heiner, member of the Siskiyou Chapter and 50-year member of SAF, who continues to contribute not only to the forestry profession but globally as a forester and a humanitarian. Howard's forestry achievements began in Libby, Montana, as forester for St. Regis Paper Company. After 13 years, he began his lifetime

commitment to the Methodist Church as a forestry consultant in Bolivia and Chile. He was also field director of the Ali Matan Refugee Camp in Somalia, where he directed a plantation project to grow firewood for refugee women. In Nicaragua as well for CARE, FAO and CEPAD, Howard's focus was on agro-forestry and fire protection, and he was awarded a meritorious citation by the Nicaraguan president. Howard returned to the states in 1990, but remained involved in international forestry with joint projects between the International Society of Tropical Foresters and the United Methodist Church.

Howard became an SAF Fellow in 1995, served as chair of the SAF International Forestry Working Group, and was awarded the OSAF Tough Tree Award in 2000. He currently serves as a member of the Ashland Watershed Stewardship Alliance, the City of Ashland ad-hoc Forestry Advisory Group, and the Jackson County Resource Lands Review Committee and Resource Advisory Committee, as well as the Medford BLM Resource Advisory Committee. Howard remains active in the Siskiyou Chapter as a member of its executive committee. He earned his BS in forestry from



**Recently named SAF Fellows who attended the annual meeting were Dick Courter (center) and John Poppino (right), flanked by OSAF Chair Bill Peterson.**

the University of Idaho and his master's degree in forest economics from the University of Washington. ♦

*Leslie Batten is past chair of the Oregon SAF, website coordinator and chair of the SAF National Communications Committee. She can be reached at 503-295-4024 or [leslieb@swiftnet.com](mailto:leslieb@swiftnet.com).*



**Dick Felgenhour (right) receives a special award of appreciation for his service to Oregon SAF from Bill Peterson (left) and Jim Rombach (center).**



**The Oregonian reporter Michael Milstein (right) receives the OSAF Media Appreciation Award from Jim Rombach.**

—PHOTOS COURTESY OF MICKEY BELLMAN—



# Duffield and Lathrop Recognized at Washington Meeting

BY LESLIE BATTEN

**W**ood Markets: Are We Growing the Right Kind of Wood? was the theme of this year's 2003 Washington State Society of American Foresters



PHOTO COURTESY OF HANK KIPP

**Kelley Duffield (left) receives the Forester of the Year award from last year's award winner, Dave Malsed.**



PHOTO COURTESY OF WES WASSON

**Ellie Lathrop was recognized as WSSAF's Volunteer of the Year for 2003 for her exceptional work in organizing this year's annual meeting.**

annual meeting in Kelso. This very timely topic was addressed by a variety of speakers, including SAF member and state representative Ed Orcutt; Dave Bowden, senior vice-president of timber of Longview Fibre Company; Kevin Binam, director of economic services for the Western Wood Products Association; John Perez-Garcia of CINTRAFOR; and Glen Pearson of Pacific Lumber and Shipping. The Awards Lunch was emceed by 2003 WSSAF Chair Nancy Peckman, who recognized the volunteer efforts of several members as well as the chapter of the year.

The awards ceremony began with Ann Johnson receiving the WSSAF past chair recognition award for her year as 2002 chair.

The Ol' Pinchot Award, which recognizes the state society that raises the most money per capita for the national Foresters' Fund, was awarded to WSSAF for raising \$1,181 at the local level and \$1,560 at the state level during the 2002 WSSAF annual meeting. Karen Temen, Bill Horn and John Garth received special recognition for their fundraising efforts.

Arnie Arneson was nominated

for the John A. Beale Memorial Award, which recognizes outstanding effort, over a sustained period of time by an SAF member, in the promotion of forestry through voluntary service to SAF. Arnie was presented with a plaque in recognition of his nomination.

The WSSAF Outstanding Volunteer Award went to Ellie Lathrop of the Longview Chapter for stepping forward to take the lead for the 2003 WSSAF annual meeting. Thank you, Ellie!

For the second year in a row, the Southwest Washington Chapter was named Chapter of the Year. In addition to holding 10 chapter meetings with over 30 members in attendance, seven members are on the WSSAF executive committee. The chapter raised over \$500 for the Foresters' Fund, and raised over \$2,000 for the Children's Miracle Network through Log-A-Load for Kids. Nancy Peckman, state chair and Southwest Washington Chapter member, testified before the Board of Natural Resources soon after taking office, and the chapter sponsored the SAF booth at the Southwest Washington Fair.

The 2003 WSSAF Forester of the Year is Kelley Duffield of the South Puget Sound Chapter. Kelley has, among many other things, re-energized the University of Washington Student Chapter, resulting in over 35 new student members. She has served the South Puget Sound



**WSSAF annual meeting attendees, left to right, Dean DeBell, Jeff DeBell, Hank Kipp and Keith Jayawickrama take a moment at the WSSAF annual meeting.**

Chapter as chair and newsletter editor, and was leader of the 2002 WSSAF annual meeting planning committee. Her volunteer efforts also include running the SAF Continuing Forestry Education program for WSSAF. Congratulations, Kelley!

Six Golden Members were recognized at this year's ceremony: Alex Goedhard, Thomas Orr, Duane Simmons, William Henke, Jack Markley and Donald Reukema. ♦

*Leslie Batten is past chair of the Oregon SAF, website coordinator and chair of the SAF National Communications Committee. She can be reached at 503-295-4024 or [leslieb@swiftnet.com](mailto:leslieb@swiftnet.com).*



PHOTO COURTESY OF WES WASSON

**Fundraising whizzes Karen Temen and Bill Horn show off the Ol' Pinch Award, which was awarded to the Washington State SAF for raising the most money per capita for the national Foresters' Fund.**



PHOTO COURTESY OF WES WASSON

**Southwest Washington Chapter members Terry Orton and Karen Temen accepted the Chapter of the Year award during the WSSAF annual meeting.**



PHOTO COURTESY OF HANK KIPP

**District 1 Council Representative Ann Forest Burns (right) addresses awards ceremony participants while Dave Malsed and Nancy Peckman look on.**



PHOTO COURTESY OF HANK KIPP

**Nancy Peckman (left) presents Ann Johnson with the Chair Award for her efforts as WSSAF chair in 2002.**

## Henke Receives Golden Award



**Admiralty Inlet Chapter Chair-elect Steve Ricketts presents Bill Henke with his 50-year SAF Golden membership certificate during a chapter picnic on June 21.**



# Two National VP Candidates Announced

**T**wo candidates are running for the position of vice-president of the Society of American Foresters in 2004: Tim Kaden and John Helms.

Tim Kaden, CF, is land use planner for the Delaware Department of Natural Resources, Division of Parks and Recreation. He also served as forest resource planner, budget unit manager, deputy state forester, forest utilization forester, fire supervisor and field forester, and was with the Forest Service for 25 years.

He served as Council representative for District 7 from 2000-2002; was chair of HSD in 1998, and chair of the Allegheny SAF from 1994-1997. Kaden was a Presidential Field Forester Award recipient in 2002. He has served in various positions at the local chapter level.

Kaden has set five goals if elected SAF vice-president including strengthening and directing the delivery of our educational and leadership resources to the membership via all channels of communication; continuing the flow of information to the public and into the legislative processes at all levels of government; and never compromising the standards of excellence that identifies our

membership for professional competency and ethical standards with our public.

John Helms is professor emeritus, Forestry, University of California, Berkeley, where he was professor of silviculture for 30 years. He served as chair of the department of forestry for four years, and was a forester with the Tasmanian Forestry Commission, Australia, for six years. He has served in various capacities at the national SAF level: He is in his final year as Council representative for District 3; he served two terms as chair of the forest science and technology board; he was program chair for the 1991 national convention in San Francisco; associate editor of *Western Journal of Applied Forestry* for seven years; and vice-chair and chair of the D2 silviculture working group for four years. His professional accomplishments include providing testimony at the 2003 congressional hearings on the Forest Health Initiative, the 2002 California state legislature on the proposed Old Growth Tree Preservation Initiative Statute, and at the 1997 congressional hearings on Forest Health in the United States. He edited the 1998 version of *The Dictionary of*

*Forestry*, was chair and member of several committees to conduct peer reviews of research programs in California, Oregon and Colorado, reviewed the forestry development program for the Yakama Nation and, for nearly 40 years, published over 100 scientific and technical articles on silviculture, forestry and tree physiology. Helms was elected SAF Fellow in 1997 and received the John Beale Memorial Award in 1999.

Helms feels that forestry around the world is at a threshold of opportunity, and rapid change in public attitudes toward forest resources makes the potential role of SAF increasingly important. As SAF vice-president, Helms wants to help lead SAF's effort in carrying out that role and build on momentum established by past presidents and councils; and to strengthen SAF so it is fully recognized and respected for its mission to serve employers, the public, and to enhance professional forestry.

Watch your mailbox for information in September. Ballots will be mailed September 1 and must be received by the national office by October 24. ♦

## Admiralty Chapter Cuts for Dollars

**T**he Admiralty Inlet Chapter organized a wood cutting excursion on June 7 and raised nearly \$400 for chapter activities. Olympic Resource Management allowed access to their burn piles, where 3 1/2 cords were cut and loaded, and sold to a private individual. ♦



**Left: Dick Atkins cuts firewood. Right: Roger Harding loads firewood.**

PHOTOS COURTESY OF STEVE RICKETTS



# Working Forests Topic of Alaska Meeting

BY SUE RODMAN

**T**he Alaska contingent gathered in Anchorage during the annual state meeting held April 23-26. A day of technical sessions worth CFE credits initiated the meeting. Lectures covered a broad base of subjects including conservation planning, tapping birch trees, natural resources education and invasive plants.

Presentations were also given on the recently introduced birch leaf miner and urban and forest tree diseases common to Alaska. The birch leaf miner is spreading throughout Anchorage and outward to adjacent communities. Pesticide use has increased; however, a biological control agent is planned for 2004: *Lathrolestes luteolator*, a parasitic wasp that entomologists hope will curb the leaf miner population.

Conference speakers came from NRCS, USFS and state forestry and provided a wealth of knowledge for the audience.

Thursday's sessions were opened by Chair Dick Coose. A management perspective of forestry in Alaska was offered by Jack Phelps, special assistant to Governor Murkowski and former executive director of the Alaska Forest Association. While national and international markets do limit Alaska's wood products industry concerning availability and quality of wood, Alaska has options to promote both its hardwood and conifer markets. Through coordination with state and private entities, investment in Interior birch stands now could produce a future market with higher grade lumber. This concept also applies to spruce stands, as Alaska is only in the initial recovery stages from the spruce bark beetle epidemic. Forest management in its basic form is needed here; the high rates of defect and decadence cannot be ameliorated through avoidance.

With the reality of continued economic decline presented by Jack Phelps, the federal contingent proposed its ideal future of the Alaskan timber industry with a positive senti-



PHOTO COURTESY OF KEN WINTERBERGER

**The Alaska Wilderness Products Birch Mill stop was a highlight of the Alaska SAF annual meeting field trip. The group discussed the mill and its potential with Ron Barker.**

ment. Steve Brink, deputy regional forester for Region 10, presented goals for our forests that included 100 percent wood utilization. Some options considered were a wood and chip incineration facility that would complement a 200 million board foot sawmill with double shift capacity, 10-year contracts with timber contractors, and completion of Alaska Native Settlement Claims Act (ANSCA) entitlements. Some of these goals could be achieved through stewardship contracting and completion of the power transmission line grid through southeast Alaska.



PHOTO COURTESY OF KEN WINTERBERGER

**Sue Rodman describes management of the Coyote fuel break. Located on the west side of Campbell Tract, this tour stop illustrated a large hardwood fuel break.**

Both Phelps and Brink gave assignments to Alaska SAF chapters: Get involved and provide forestry expertise to governing officials. The marriage of science and policy is critical in management implementation. This session was rounded out with presentations from two state SAF dignitaries: John Sandor and Dick Coose.

John Sandor gave a 30-year outlook for Alaska SAF (posted at [www.aksaf.org](http://www.aksaf.org)). This hopeful and positive list was highlighted with John's wager that a sound environment is absolutely dependent on a sound economy.

Dick Coose queried the group on our leadership interests and stressed that SAF members have a duty to be professional advocates in forestry and natural resource issues.

Additional sessions on Friday afternoon and evening covered fire management, fire history through dendrochronology, and wood products sciences. Saturday's tour covered fuel treatment projects for the Anchorage Wildfire Mitigation Program and the new birch lumber mill in Birchwood, Alaska Wilderness Products. ♦

*Sue Rodman is chair of the Cook Inlet Chapter in Anchorage. She can be reached at 907-267-4902 or [rodman-su@ci.anchorage.ak.us](mailto:rodman-su@ci.anchorage.ak.us).*

# Alaska's Gasbarro Takes Peace Corps Award

BY SAMIRA JAFARI

**A**TLANTA—For Tony Gasbarro of Fairbanks, retirement wasn't a chance to slow down and relax. Instead, the retired forestry professor took the opportunity to become a Peace Corps volunteer and help rebuild the earthquake-stricken communities of El Salvador.

On June 26, Gasbarro, 64, received the Lillian Carter Award, which recognizes Peace Corps volunteers over age 50, from former President Jimmy Carter.

Gasbarro, who worked in El Salvador from 1996 to 1998, served in the Dominican Republic between 1962 and 1964 after graduating from Colorado State University.

On his most recent Peace Corps assignment, he worked with the Association of Human Development to help a small village called La Montañona start a timber harvesting program on its 800 acres of pine forest.

"My job was to train the people of my village to maintain their forests on a sustainable basis so there would be more employment opportunities for the village people," he said.

After serving in El Salvador, he returned to the U.S. to raise money so the children of the village, where public education goes only through sixth grade, could go to high school.

Though Gasbarro quit working as a Peace Corps volunteer five years ago, he continues to help build two new Salvadorian communities recovering from earthquakes that in 2001 killed more than 1,200 and caused massive damage to buildings across the country. He said the hard work gives him a rush.

"I've never felt so good and so turned on about living," he said.

Gasbarro was among 29 former volunteers nationwide nominated for the award.

The Lillian Carter Award, established in 1986 in honor of the former president's mother, is given every other year to outstanding senior volunteers. Lillian Carter signed up with the Peace Corps in 1966 as a health worker in India. She was 68 at the



**Yukon River Chapter member Tony Gasbarro receives the Lillian Carter Award in recognition of his volunteer efforts with the Peace Corps from Former President Jimmy Carter.**

time of her service.

Of Gasbarro, Carter said, "He represents in a remarkable way the legacy of my mama."

Of the nearly 7,000 Peace Corps volunteers currently serving, about seven percent are 50 or older. The oldest volunteer still serving is 84. ♦

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*Samira Jafari is with the Associated Press. This article was reprinted from the Anchorage Daily News. Tony Gasbarro is a member of the Yukon River Chapter and chair of the Alaska SAF Communications Committee.*

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## Thomas Says Northwest Forest Plan Not Fulfilling Promises

**O**n June 30 Former USDA Forest Service Chief Jack Ward Thomas publicly stated that the Northwest Forest Plan is not fulfilling its promises to either the people or the environment.

Thomas, who helped write the original plan nearly a decade ago, was called in by Jack Blackwell, the agency's regional forester for the Pacific Southwest, to serve as a consultant to a team charged with reviewing the Northwest Forest Plan performance on four northern California national forests: the Klamath, Six Rivers, Shasta-Trinity and Mendocino.

The review found that thinning projects to promote old-growth characteristics in younger stands inside late successional reserves—areas of forest in which commercial logging is prohibited to provide habitat for endangered species like the spotted owl—have not been carried out, leaving them vulnerable to fire. The review also found that thinning has been performed on only three percent of the 546,600 acres proposed for treatment.

For more information about the Northwest Forest Plan, visit the Forest Service's Pacific Southwest Region website at [www.fs.fed.us/r6/nwfp.htm](http://www.fs.fed.us/r6/nwfp.htm). ♦



## Guest Editorial

# Managing Forest Fire Risk in Oregon

BY STEPHEN A. FITZGERALD

**A**s the 2003 wildfire season progresses, policymakers, forest managers and the public are again asking what can be done to reduce the threat posed by catastrophic wildfires to lives, communities, resources and watersheds and to promote healthy, fire-resilient forests. Already, more than 300 homes have been consumed this year in Arizona. As the summer progresses and the forests dry out, the stage is set for the same scenario here in Oregon—again!



Finding a solution will require an informed citizenry willing to accept specific fuel treatments that include timber harvest—and willing for society to assume a significant share of the costs.

The forests of Oregon have fundamentally changed in the last 100 years—particularly the drier pine and mixed-conifer forests of eastern and southwestern Oregon. Aggressive suppression of fire, combined with the removal of large fire-resistant trees in many areas, and inadequate management (particularly inadequate thinning), has increased the potential for wildfires that are more intense and damaging than historical fire patterns. Because these forests have missed several fire cycles, they are denser and contain an overabundance of fuel.

As a result, risk to homes and communities where wildlands meet populated areas continue to increase. In Oregon, more than 240,000 homes and other structures worth an estimated \$6.5 billion lie within such areas. Fuel reduction treatments must target these areas to reduce risk to homes and people, but fuel treat-

ments should not end there.

Forest restoration work must extend beyond these populated areas. Today more than a third of Oregon's forests are at high risk of uncharacteristically severe wildfires. High-severity fires are more damaging to soil, fish, wildlife habitat, timber resources and old-growth forests. Wildfires represent the greatest single threat to habitat for the threatened northern spotted owl and can threaten water quality and watershed health, including municipal drinking-water supplies.

The management approach currently being applied across federal forests in the American West is unlikely to be sustainable in the long run, and the situation is getting worse each year as forests add more and more biomass.

Active management within the context of forest sustainability is needed. This will not eliminate all wildfire, nor should it. But forests that can survive wildfire intact are better able to provide the ecological, economic and social benefits that Oregonians have come to expect.

A reasonable approach to active management would make drier pine and mixed conifer forests more comparable to historical fire resilient forests, which were dominated by large-diameter, widely spaced trees that were fire resistant because of their thick bark. Their structure and composition were maintained naturally by periodic, low-intensity wildfires.

Thinning, pruning, mowing and prescribed burning can be used to change the structure, composition and fuel load of forests to reduce the potential for ground fires to move into the tree crowns. Removal of slash also is essential to keeping fires on the ground once a stand is thinned.

Fire science and post-fire analyses show that when fuel is removed, fire

severity can be significantly reduced. The challenge is to conduct treatments large enough to make a difference (i.e. at a watershed or landscape scale).

Treating our forests won't be cheap—the price tag will be in the billions! However, some treatments, like thinning, have the potential to pay for the cost of treating forests. Other treatments will require an investment of anywhere from \$200 to \$600 per acre.

Active management to improve the fire resiliency and health of our forests is not a one-time effort. Forests are always changing, and those treated today will need re-treatment in the next 20 years and beyond.

Forests are precious to all Oregonians. But our forests are in trouble. They need our help and they need it *now*. ♦

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*Stephen A. Fitzgerald is the eastern Oregon silviculture and wildland fire specialist and an associate professor at Oregon State University. He is the lead author and editor of Fire in Oregon's Forests: Risks, Effects, and Treatment Options, a synthesis of current issues and scientific literature published by the Oregon Forest Resources Institute. A member of the Oregon SAF Policy Committee, he can be reached at 541-548-6088 or [stephen.fitzgerald@orst.edu](mailto:stephen.fitzgerald@orst.edu).*

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## Attend the 2004 Leadership Academy

**T**he 2004 National Leadership Academy is scheduled for May 22-25, 2004, at the Lied Conference Center in Nebraska City, Nebraska. The Leadership Academy is a three-day workshop designed to reinvigorate enthusiasm for the profession and strengthen individual leadership abilities. More detailed information regarding the Leadership Academy will be available later this year. ♦





## Call for Papers and Posters

# Human Dimensions of Family and Farm Forestry International Symposium

**T**he Human Dimensions of Family and Farm Forestry International Symposium will be held March 29-April 1, 2004, at Washington State University in collaboration with IUFRO (International Union of Forest Research Organizations) Research Group 3.08.00: Small Scale Forestry. The objective of this symposium is to bring together scientists and practitioners from all corners of the world to discuss research problems, results and practical applications related to human dimensions of family, farm, small-scale, nonindustrial private and community forestry. The symposium will have oral and poster presentations.

This IUFRO symposium is being

hosted by Washington State University Natural Resources Extension in cooperation with several partners including: Society of American Foresters Working Group B1: Nonindustrial Private Forestry; Association of Natural Resource Extension Professionals (ANREP); Natural Resources Extension, Department of Natural Resource Sciences, and International Programs at Washington State University; Renewable Natural Resources Extension, Penn State University; Rural Technology Initiative, University of Washington and Washington State University; Washington Department of Natural Resources Forest Stewardship Program; USDA Forest

Service and the Cooperative State Research, Education and Extension Service.

### Call for Papers and Posters

Symposium topics to be discussed may include, but are not limited to social, behavioral, cultural, spiritual, organizational, economic, political or education aspects of family and farm forestry and how they relate to driving forces behind peoples' decisions; human behaviors that lead to change; effects of change on quality of life; or management strategies to address change.

If you are interested in presenting a paper or a poster at the seminar, submit an abstract up to one page in length. An International Program Committee will evaluate all abstracts and send acceptance notification.

First Call for Papers: August 1, 2003, deadline with September 1, 2003, notification of acceptance.

Second Call for Papers: October 1, 2003, deadline with November 1, 2003, notification of acceptance.

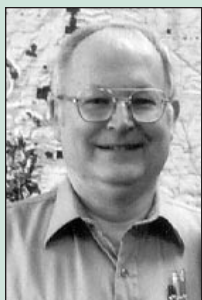
Later Paper and Poster submissions will be accepted on a space available basis.

Completed Paper Submission Deadline: February 2, 2004. This is the deadline for papers to be included in the proceedings. Completed papers must be in the hands of the symposium organizers by February 2, 2004. The proceedings will be printed before the symposium and distributed at the symposium.

Please submit abstracts up to one page in length by email to familyforestry@wsu.edu. Abstracts should include the following sections: title, authors, abstract text and contact details.

For additional information, go to [www.familyforestrysymposium.wsu.edu](http://www.familyforestrysymposium.wsu.edu) or contact David Baumgartner at [baumgartner@wsu.edu](mailto:baumgartner@wsu.edu). ♦

## Career Forest Service Employee John Sherrod Retires



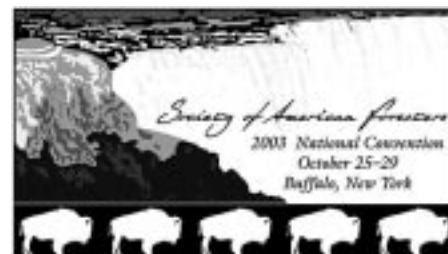
After 43 years of federal service, John C. Sherrod, CF, retired from the USDA Forest Service on May 3, serving as the Tongass National Forest planning staff officer in Sitka, Alaska.

Over his career, John served in a wide range of assignments at 11 duty stations on seven national forests in three Forest Service regions and in six north-western states. Positions included duties in timber management, silviculture, fire management, recreation, roads, trails, range management and district

ranger. He served 25 years as a land management planning forest staff officer on three national forests.

A 43-year member of the Society of American Foresters, John served as the Alaska State chair in 1998, and was recognized as an SAF Fellow in 2001.

He earned a BS in forestry from the University of Georgia in 1960, and an MS in forest resources from the University of Idaho in 1980. ♦



# Calendar of Events

## UNIVERSITY-SPONSORED EVENTS

Course	Dates	Sponsor	Location
Forest Roads Workshop	August 12-13	OSU	Eugene, OR
Forest Roads Workshop	Sept. 9-10	OSU	Medford, OR
Lumber Quality and Process Control	Sept. 15-16	OSU	Corvallis, OR
Forest Roads Workshop	Sept. 16-17	OSU	Prineville, OR
Lumber Quality Leadership	Sept. 17-18	OSU	Corvallis, OR
Watershed Restoration: Rehabilitation and Recovery of Disturbed Watersheds	Sept. 22-26	WSU	Wenatchee, WA
IUFRO 6th Extension Working Party Symposium: Building Capacity through Collaboration	Sept. 28-Oct. 3	OSU	Troutdale, OR
Fall Forestry Educational Seminar	Oct. 25	WSU	Eatonville, WA
Advanced Variable Probability Sampling	Nov. 5-7	OSU	Corvallis, OR
Risk Assessment for Decision-making Related to Uncharacteristic Wildfire	Nov. 17-19	OSU	Portland, OR
Selling Forest Products	Dec. 4-5	OSU	Corvallis, OR
How to Dry Lumber for Quality and Profit	Dec. 8-11	OSU	Corvallis, OR

## OTHER EVENTS

**Growing Douglas-fir in New Zealand presentation by Mark Belton**, Sept. 3, World Forestry Center, Portland, OR. Contact: April Gerstner, 503-353-0372.

**How to Use Organon Edition 7**, Sept. 9, Wilsonville, OR. Contact: WFC.

**Conservation Easements and Forestry: Understanding How They Work**, co-sponsored by SAF Northwest Office and WFC, Sept. 17, Wilsonville, OR. Contact: WFC.

**XII World Forestry Congress**, Sept. 21-28, Quebec City, Canada. Contact: World Forestry Congress at 418-694-2424 or sec-gen@wfc2003.org.

**Integrated Tools for Rugged Field Data Collection**, Sept. 24-26, Edgefield Hotel, Portland, OR. Contact: Terry Clark at 301-897-8720 x123; clarkt@safnet.org or www.safnet.org/meetings/index.cfm.

**Symposium for Systems Analysis in Forest Resources**, Oct. 7-9, Stevenson, WA. Contact: WFC.

**Post-fire Restoration and Salvage: Applying our Knowledge and Experience**, sponsored by the SAF Central Oregon Chapter, Oct. 21-23, Riverhouse, Bend, OR. Contact: Lena Tucker at ltucker@odf.state.or.us.

**SAF National Convention**, Oct. 25-29, Buffalo, NY. Contact: SAF at 301-897-8720 or www.safnet.org/convention/index.cfm.

**Professional Timber Cruising**, Oct. 28-29, Beaverton, OR. Contact: Atterbury.

**ArcReader Training**, Oct. 30, Beaverton, OR. Contact: Atterbury.

**GPS for Mobile Professionals**, Nov. 19, Beaverton, OR. Contact: Atterbury.

**ArcReader Training**, Nov. 20, Beaverton, OR. Contact: Atterbury.

**Logger Training-Harvest Planning**, Dec. 1 in Coeur d'Alene, ID, and Dec. 9 in Corvallis, OR. Contact: Forest Engineering.

**Logger Training-Skyline Payloads**, Dec. 2 in Coeur d'Alene, ID, and Dec. 10 in

Corvallis, OR. Contact: Forest Engineering.

**Logger Training-Multi-Span Systems**, Dec. 3 in Coeur d'Alene, ID, and Dec. 11 in Corvallis, OR. Contact: Forest Engineering.

**Logger Training-Guying and Anchoring**, Dec. 4 in Coeur d'Alene, ID, and Dec. 12 in Corvallis, OR. Contact: Forest Engineering.

**Logger Training-Cost Control**, Dec. 5 in Coeur d'Alene, ID, and Dec. 8 in Corvallis, OR. Contact: Forest Engineering.

**2004 Northwest SAF Leadership Conference**, January 9-10, Doubletree Columbia River, Portland, OR. Contact: Terry Orton at 360-740-6850 or terry.orton@wadnr.gov.

## Contact Information

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

**WSU:** Department of Natural Resource Sciences, Cooperative Extension, Washington State University, P.O. Box 646410, Pullman, WA 99164-6410; 509-335-2963; <http://ext.nrs.wsu.edu/>.

**Atterbury:** Atterbury Consultants, 3800 SW Cedar Hills Blvd., #190, Beaverton, OR 97005; 503-646-5393; fax 503-644-1683; [jaschenbach@atterbury.com](mailto:jaschenbach@atterbury.com); [www.atterbury.com](http://www.atterbury.com).

**WFC:** Western Forestry & Conservation Association, 4033 SW Canyon Rd., Portland, OR 97221, 503-226-4652; [richard@westernforestry.org](mailto:richard@westernforestry.org); [www.westernforestry.org](http://www.westernforestry.org).

**Forest Engineering:** 620 SW 4th St., Corvallis, OR 97333, 541-754-7558, [office@forestengineer.com](mailto:office@forestengineer.com); [www.forestengineer.com](http://www.forestengineer.com).

Send calendar items to the editor, *Western Forester*, 4033 SW Canyon Rd., Portland, OR 97221; fax (503) 226-2515; [rasor@safnw.org](mailto:rasor@safnw.org). Deadline for the Sept./Oct. 2003 issue is August 18.



## 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.*

### Forestry and Salmon Position Statement to be Revised.

The SAF regional position statement on Forestry's Role in the Protection of Pacific Salmon Habitat in Forested Watersheds (<http://www.safnet.org/policyandpress/psst/nwsafsal.cfm>) is scheduled to expire in September 2003. Renewal or revision will depend on the involvement of SAF units in Alaska, California, Idaho, Oregon and Washington. SAF Council Representative Ann Forest Burns has agreed to lead the effort to revise the position statement. Contact: Ann Forest Burns at 206-527-5942 or [aforestburns@msn.com](mailto:aforestburns@msn.com).

### Update: President's Healthy Forests Initiative.

A good source for keeping up to date on the many policy activities associated with the President's Healthy Forests Initiative is provided on the USDA Forest Service website at [www.fs.fed.us/projects/HFI.shtml](http://www.fs.fed.us/projects/HFI.shtml).

**WGA Forest Health Summit.** The Western Governors' Association (WGA) is an independent, nonprofit organization representing the governors of 18 states. Your correspondent was there as the WGA wrapped up a three-day Forest Health Summit in Missoula, Mont., in late June that featured 25 recommendations from 400 individuals representing diverse interests on how to improve forest health through locally driven efforts (see [www.westgov.org](http://www.westgov.org)). WGA's leadership sent a letter to U.S. Senate leaders for agriculture and natural resources urging them to support collaborative efforts to prevent catastrophic fires and to review existing laws and administrative procedures that will expedite efforts to protect high-risk communities. The letter does not endorse specific legislation or proposals, including the Healthy Forests Restoration Act passed by the U.S. House of Representatives in May and scheduled for debate in the U.S. Senate beginning in late June. Contact: Jay O'Laughlin, IESAF Policy

chair, 208-885-5776; [jayo@uidaho.edu](mailto:jayo@uidaho.edu).

**Upcoming Conference on Risk Assessment.** Numerous sponsors, including industry firms, academic institutions and government agencies have planned a conference on Risk Assessment for Decision-Making Related to Uncharacteristic Wildfire, scheduled for November 17-19 in Portland, Ore. (<http://outreach.cof.orst.edu/riskassessment>).

**Sustainable Forest Management Requires Active Management.** The Inland Empire SAF and the Montana SAF have developed a joint position statement with this title: Sustainable Forest Management Requires Active Forest Management ([www.iesaf.org/](http://www.iesaf.org/)). The two societies held a joint annual meeting in Missoula this spring. Contact: Jay O'Laughlin, IESAF Policy chair, 208-885-5776; [jayo@uidaho.edu](mailto:jayo@uidaho.edu).

**"The Truth About America's Forests."** The eighth edition of *Evergreen Magazine* was published this spring; 700,000 copies of previous editions have been distributed. Of interest to western foresters are feature articles on "Uncharacteristic wildfire risk and fish conservation in Oregon" by Stephen P. Mealey and Jack Ward Thomas, "Think globally. Act locally. Use more wood!" an interview with Patrick Moore, and your correspondent's article on "Western national forests: Softwood resource conditions and management implications." The magazine costs \$5 and can be ordered online at [www.evergreenmagazine.com/](http://www.evergreenmagazine.com/). Contact: Jay O'Laughlin, IESAF Policy chair, 208-885-5776; [jayo@uidaho.edu](mailto:jayo@uidaho.edu).

**Three OSAF Position Statements Approved.** Two revised OSAF position statements (Clearcutting and Using Pesticides in Forests) and a new position statement (Salvage Harvesting) were approved by the executive committee at its meeting in Salem on May 7. Final revision and executive committee approval of an updated position on active management to achieve and maintain forest health is expected this summer. These statements will be posted on the OSAF website ([www.forestry.org](http://www.forestry.org)) and also presented for approval by OSAF voting members in a referendum to be held in late 2003 or early 2004. Although not required under SAF guidelines, OSAF takes this step to strengthen the credibility and member understanding and ownership of the positions. Contact: Paul Adams, OSAF Policy chair, 541-737-2946; [paul.adams@orst.edu](mailto:paul.adams@orst.edu).

**Oregon Board of Forestry Considering Rule Changes and Forestry Plan.** At the request of the Board of Forestry (BOF), this spring Oregon Department of Forestry (ODF) staff drafted a set of forest practices rule revisions that would increase stream protection requirements for forest landowners and operators. Several regional advisory committee meetings were held to discuss the proposed changes. Some of this discussion prompted ODF staff to shift some measures from rule requirements to voluntary actions that would be added to the Oregon Plan for Salmon and Watersheds ([www.oregon-plan.org](http://www.oregon-plan.org)). The formal rulemaking process would begin following approval of the proposed changes by the Board of Forestry, possibly at its July or September meeting. This process focuses on taking public input about the proposed rule changes, and after final consideration and approval by the BOF, new rules could become effective in early 2004.

The Forestry Plan for Oregon (FPFO) is a strategic plan to help guide the Oregon Board of Forestry and the state forester as they work with the public, landowners, political leaders and others in developing and implementing forest policy in Oregon. Having last completed an FPFO in 1995, an updated draft plan was developed and released for public comment in early March. Although professional foresters represented by OSAF were not recognized among the core stakeholders invited to assist in developing the 2003 FPFO, OSAF Chair Bill Peterson sent a letter to the ODF in late May with some comments about the draft FPFO. Input received during the public comment period is likely to prompt some revisions, and the BOF is expected to consider endorsing a final revision of the 2003 FPFO within the next few months. To view the draft FPFO, see [www.oregonforestry.org/fpfo/2003/default.htm](http://www.oregonforestry.org/fpfo/2003/default.htm). Contact: Paul Adams, OSAF Policy chair, 541-737-2946; [paul.adams@orst.edu](mailto:paul.adams@orst.edu).

**WSSAF Comments on FS Proposal.** The Washington State Society of American Foresters recently supported a Mt. Baker Snoqualmie National Forest noxious weed management assessment. WSSAF supported Alternative Three, which includes herbicide use to control noxious and exotic vegetation. WSSAF's letter was based on a position statement adopted by the national society.

While WSSAF generally was supportive of the proposal, the Society did question the use of just one herbicide, because no one herbicide is effective on all vegetative species. The Society, however, commended the Forest Service for addressing a sig-



nificant problem with an integrated management philosophy. Contact: Bob Dick, WSSAF Policy chair, 360-352-3910; bdick@afrc.ws.

### **Washington DNR Westside Sustained Yield Analysis Results Out.**

Washington's Department of Natural Resources made public in late June preliminary results of its westside only sustained yield analysis. Six alternatives range from a low of 396 million board feet per year to a high of 819 million board feet. Land base considered "off-base," or reserved from harvest, ranges from 53 percent in Alternative 1 to 35 percent in Alternative 2. Other alternatives further reduced off base lands through the plan's first decade.

Two sub-plots make a highly technical discussion much more interesting. Alternative 1 models current policy, including several constraints placed on the land base by former Commissioner Jennifer Belcher, but which were unconfirmed by the Board of Natural Resources. These constraints produced the lowest yield at 396 million board feet per year. Alternative 2 models output using current Board of Natural Resources policy absent the Belcher constraints and comes in at 537 million board feet per year, close to current production levels. The board and DNR currently are working to address the Belcher constraints, which include numerous owl circles that were supposed to disappear when DNR's HCP was signed. Environmentalists devoutly want the circles to stay in place regardless of impact on harvest levels.

The second sub-plot is Alternative 3, which models all trusts lumped into one planning unit, versus the numerous individual calculations done today. Alternative 3 produces 663 million board feet per year, clearly showing the benefit of combined units versus several smaller units. It would take a state Constitutional amendment, however, to combine the granted trusts and legislation to combine the county trusts, but it makes for an interesting starting point for discussion.

The draft EIS will be available in October 2003. SAF will continue to follow and offer commentary on the process. Contact: Bob Dick, WSSAF Policy chair, 360-352-3910; bdick@afrc.ws. ♦

## **Goergen to Lead Society of American Foresters**

**M**ichael T. Goergen, Jr. has been appointed executive vice-president and chief executive officer of the Society of American Foresters (SAF). Goergen had been holding the position on an interim status since his predecessor, William H. Banzhaf, departed on December 31.

"Michael brings a wealth of talent and institutional knowledge to the position," says SAF President Jason N. Kutack. "He was unanimously endorsed by the search committee and the SAF Council. I'm sure Michael will continue to move the organization forward."

The executive vice-president (EVP) serves as SAF's chief executive officer, responsible to the SAF Council, the organization's governing body. The EVP directs the staff, programs and activities of the Society in accordance with the strategic plan and within the operating policies established by the Council. The Society of American Foresters represents the profession of forestry through accreditation of university forestry curricula, certification of forestry professionals, continuing education, positions on forest policy, public communications, member leadership development, and the publication of five peer-reviewed scientific journals and one newspaper. The organization has 17,000 members, 33 state or multi-state societies and 250 local chapters. SAF has 28 national working groups representing the various disciplines within the profession, such as ecology, wildlife management, economics and policy. SAF also has 10 standing committees to



assist in carrying out volunteer activities.

"I'm very honored to be chosen for this position," says Goergen. "In many ways, my selection reflects the good work of the national office staff, the mentorship I received from my predecessor and the knowledge I have gained from SAF members. I look forward to addressing some of the challenges facing SAF and the forestry profession."

Before serving SAF as its interim executive vice-president and CEO, Goergen served the organization as its senior director of policy and programs (2001-02). Before holding that position, Goergen was SAF's director of forest policy (1999-2001), associate director of government affairs (1998-99), and Congressional liaison (1996-97). Goergen joined SAF in 1996 after earning a master's in forestry, policy and administration from the State University of New York College of Environmental Science and Forestry-Syracuse. He also holds a BS in environmental studies, policy and management from SUNY CEF. ♦



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