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Forest Roads: A Time for Rethinking our Processes

BY KEVIN BOSTON

Foresters have always realized the value of forest roads. Roads provide access to the valuable timber resource; however, transportation costs can consume as much as 50 percent of the delivered log costs. Roads can cause a significant impact on the environment, reduce water quality through landslides or as runoff from the road surface, impact wildlife habitat, and present a physical barrier for some animals that isolate themselves from other habitat causing extirpation. For other species, roads can reduce the quality of habitat through a variety of means such as increased exposure to predation, and create vectors for introduced pests.

However, road impacts are not always negative. Forest roads can support forest health activities by providing access for rapid deployment of people or machinery when needed in a crisis and can increase access for many types of dispersed recreation activities such as fishing, hiking, and mountain bike riding. In developing countries, forest roads associated with forestry can increase access to health care, education, and economic development. This article will look at how managers can improve forest roads and the barriers to implementation.

Designing forest roads

To better understand the impacts of forest roads, one must understand how they are built, used, and maintained. The construction of forest roads receives less engineering design than local county roads. Most forest roads receive limited control during construction. Contractors are often assigned the tasks to construct a forest road with only the centerline of the forest road being flagged. However, studies have shown that fully-staked forest roads result in lower construction costs by reduced earthwork. Proper staking can eliminate some common problems such as uncontrolled construction in that it avoids overly steep cut banks that are more likely to fail and may impact water quality or increase maintenance costs.

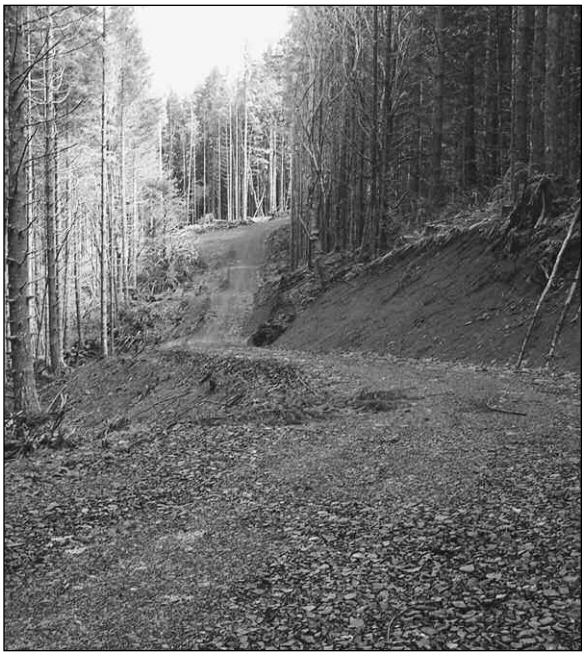

PHOTO COURTESY OF KEVIN BOSTON

A newly constructed (2006) road in western Oregon.

Additionally, few forest roads are constructed with the aid of a soils test to establish soil compaction standards that are controlled during construction. Soil density is strongly related to road strength. Recent studies have shown that many subgrades have a unit weight that is very low. Soft subgrades will result in accelerated rutting that can increase maintenance costs as roads will need to be graded more frequently. These ruts can accelerate sedimentation rates from forest roads; water is channeled down the road rut and will have difficulty reaching either the interior ditch or draining off the side of the road. Finally, much of the surface aggregate rock can be pushed into the subgrade due to its weakness. Additional rock is needed to allow for all-weather hauling; often expensive rock is used to replace effective compaction. Thus, increased engineering involvement in the design and construction phase of forest roads can reduce some negative impacts while lowering costs at the same time.

Maintenance opportunities can be applied to forest roads that can improve both environmental and economic performance. Currently, maintenance has traditionally been applied to an entire road segment. However, technology has been developed by the Canadian group FERIC. Called OPTIGrade, the system collects data on the surface roughness with a global position system that records the coordinates on the road. It can inform the

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forest manager of those segments that are deteriorating during hauling. The result is that a road manager can deploy the grader to those segments that are in need of maintenance, which can reduce the maintenance cost by avoiding unnecessary work. Additionally, the potential sediment produced from the forest road is reduced as there is usually a flush of sediment following grading. Thus, there are financial and environmental benefits from new maintenance programs.

Hauling practices and considerations

Hauling practices can be modified to reduce road costs and lessen environmental impacts. The use of low-pressure tires allows the truck to climb a steeper grade, thus reducing the length of roads. Low-pressure tires have the ability to smooth out ruts on forest roads and can lower maintenance costs. Furthermore, low-pressure tires can reduce rock wear, reducing the need for road maintenance, especially at a time when rock costs are high in many parts of Oregon and Washington. These lower wear rates create an additional benefit by lowering the production of sediment from surface of the roads.

Implementing practices not always possible

These are just a few of the practices that can be used to lower transportation costs while improving the environmental performance of a forest road. But what is preventing these practices from being adopted industry wide? One reason is tax policy. Maintenance and haul costs are generally allowed to be expensed while construction costs must be capitalized and are recovered at the time of the land sale. Thus, a dollar spent on construction that can lower these costs and impacts is treated differently when the problems are analyzed using an after-tax analysis. Thus, the incentive to build the correct solution is reduced when tax policy is considered.

Another reason for the lack of adoption of these road practices is the structure of the forest industry. The forest industry in the western U.S. has become decentralized. Vertically integrated publicly traded companies no longer exist. Much of the private timberlands in the Northwest have a forest owner that contracts with an independent contractor who will subcontract with an independent owner-operator log hauler who delivers the logs to the mills. Thus, there are a collection of businesses involved, each with their own separate profit maximization goals.

Who pays?

An issue with forest roads management is that the cost of an activity is incurred by one party but the benefits are often provided to another party. For example, assume the landowner has spent the additional monies to collect the soils data to establish and control construction. The result is a forest road that will have a higher construction cost, but the improved surface allows for faster travel speeds with less tire

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wear. The first problem is that the hauler is unlikely to be aware that the improved road surface exists, and unlikely to have the accounting sophistication to update his bid to recognize the improved road system and more likely to bid the road based on the miles of hauling on aggregate and paved roads without considering the condition of the surface or subgrade. Therefore, there will be no recognition of these benefits and the landowner will have made a non-returning investment.

Another example is when a contractor has decided to fit his vehicles with low-pressure tire technology. First, there is the investment cost in the system. This includes additional operations costs such as tire wear and fuel costs as the rolling resistance has increased. The benefits are usually to the landowner, who will see a reduction in road maintenance costs. But like the previous example, the landowner many not recognize or know how to quantify the benefits. The result is the truck driver with the low-pressure tires will no longer be able to offer a competitive bid if one considers just his operating costs.

Costs, Benefits, and Accounting

Many environmental laws attempt to monetize the cost of pollutants. For example, the Clean Water Act, through the creation of permits with technological requirements to reduce pollution, begins to monetize pollutants. The pollution control devices on a factory have increased the manufacturing costs that are reflected in a higher price for the goods produced by the factory.

However, for the wide-spreading nature of forest activities, there are few examples where environmental benefits can be adequately monetized in the forest environment. This difficulty in sharing limits much of the progress that we can make in forest road management to achieve a better result at a lower cost. This will allow all of the parties involved in forest transportation planning—loggers, the hauling contractors, mills and landowners—to develop a system to lower the cost while improving the environmental performance of the road. ◆

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Sediment Yield from Forest Roads: Insights from Recent Research

BY ARNE SKAUGSET

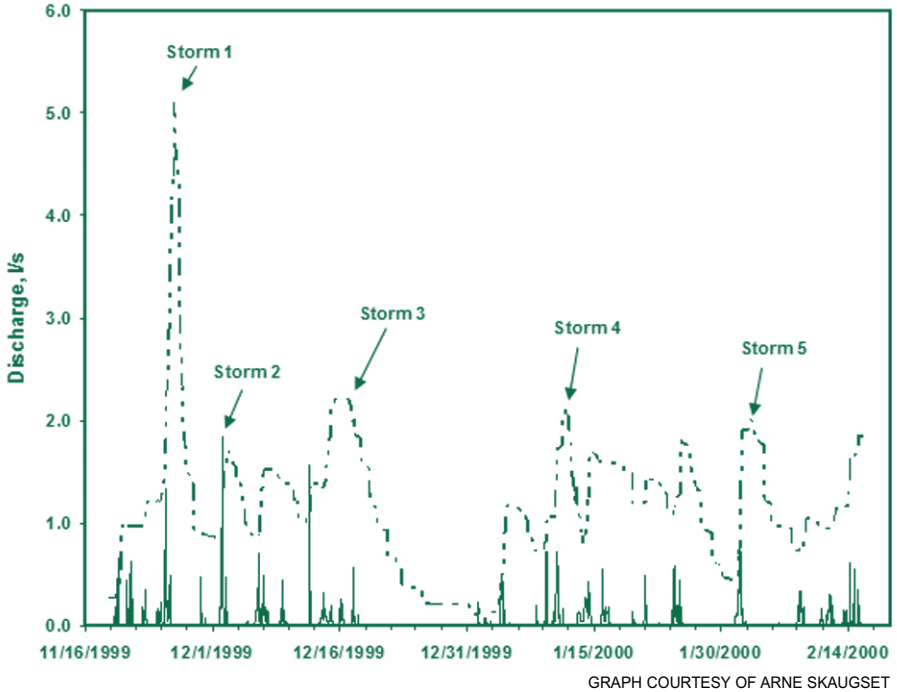
The production of sediment from forest roads is a topic of continuing and growing interest. The running surface of a forest road is a long, linear strip of bare, compacted soil that generates surface runoff while the cutslope of the road intercepts subsurface flow. Both of these sources of surface runoff are collected in roadside ditches and are either drained onto the forest floor or into forest streams. Forest roads are a ubiquitous feature of managed forests, and as such, are directly connected to streams throughout the managed forest landscape. Surface runoff and the accompanying sediment from forest roads enter the stream system where the roads and streams are connected. Fine sediment produced by forest roads is considered detrimental to aquatic ecosystems. To better manage the problem of sediment yield from forest roads it is important to have a thorough understanding of the processes that govern it.

To better understand sediment yield from forest roads, a first step is to understand the hydrology of forest roads. The hydrology of individual road segments can be divided, roughly, into two categories. One category is called ephemeral hydrology. For this category of ditch flow, there is runoff in the road ditch only in direct response to high intensity precipitation. Ditch flow is initiated abruptly with the onset of intense precipitation and it ceases abruptly when that precipitation ceases. The storm hydrographs are flashy with low peak flows and steep rising and falling limbs. The second category of hydrology is called intermittent. For intermittent hydrology, there is flow in the road ditch all winter. Ditch flow is initiated in the fall with the onset of the fall and winter storms and continues into the late spring and summer. The storm hydrographs have higher peak flows and more muted rising and falling limbs compared with ephemeral hydrology.

The difference in the hydrology for these road segments is the intimacy of the connection between the hillslope and the road located on it. For roads with ephemeral hydrology, the source of the surface runoff from the road is believed to be overland flow from the road running surface. For roads with intermittent hydrology, the source of the majority of the surface runoff from the road is the interception of subsurface flow from the hillslope. Furthermore, the sources of the intercepted subsurface flow are localized discontinuities or preferential flow paths that are exposed when the road is constructed. These preferential flow paths take the form of root channels, soil pipes, and cracks or fractures in the bedrock that underlies the residual and colluvial soils. In general, roads that intercept preferential flow paths have intermittent hydrology and those that do not have ephemeral hydrology.

To better characterize the difference in these two hydrologic behaviors, a rainfall/runoff factor (RFF) was developed to help describe the hydrologic behavior of individual road segments. The RRF is the total volume of road runoff measured in the road ditch divided by the total rainfall that fell on the portion of the road that drained to the point where the runoff was measured. An RRF of less than one indicates that the total amount of surface runoff from the road is less than the total amount of rainfall that fell on the road. This hydrologic behavior is characterized as ephemeral. Conversely, an RRF of greater than one indicates that there must be a source of runoff for the road that is greater than the amount of rainfall that fell on the road. This hydrologic behavior is characterized as intermittent. In the road segments that were studied to date, RRFs as high as 47 were calculated. This indicates that there are road segments where the interception of subsurface flow is the dominant mechanism for surface runoff generation.

But the hydrology of individual road segments is not the topic of most interest with regard to forest roads. Of most interest is the sediment yield of individual road segments. A set of road segments were studied to determine the factors that influenced the sediment yield from the road segments. The road segments were located in northern California in the South Fork



GRAPH COURTESY OF ARNE SKAUGSET

An example of hydrographs from road segments that show intermittent hydrology (dashed line) and ephemeral hydrology (solid line).

Albion River watershed that is owned and managed by Mendicino Redwood Company and in coastal Oregon in the Oak Creek watershed in the McDonald/Dunn Research Forest, which is the school forest for the OSU College of Forestry.

The traditional road-related characteristics (road length, road slope, surfacing, etc.) and hillslope related characteristics (upslope contributing area, slope, soil depth, etc.) were investigated. In addition, the hydrology of each road segment was quantified. For those road segments where their hydrology was known, the hydrology of the road segment was the single best predictor of sediment yield. The sediment from the road segment was produced during storms and either the maximum instantaneous discharge or the total volume of runoff during the storm was the best predictor of sediment yield from the road segment. For the road segments studied, the hydrology of the road segment was a better predictor of sediment yield than the road and/or hillslope characteristics.

In addition to quantifying the hydrology and sediment yield of the road segments, the sediment yield was also predicted using the contemporary road sediment models. The road sediment models that were used were SEDMODL2, WASRSEM, WEPPRoad, and RUSLE2. In virtually every case, the road sediment models over predicted the amount of sediment yield by the road segment compared to what was observed, in some cases by several orders of magnitude. This discrepancy is a result of how the models predict erosion from the road segments. For all four road sediment models the most important predictor of sediment yield is the area of the road available to yield sediment. Thus, road length and slope become important predictors and invariably the more area available to yield erosion the higher the predicted amount of erosion.

Conversely, in reality the single best predictor of road erosion is the hydrology of the road segment, the more runoff available to detach and transport sediment the higher the sediment yield from the road. The area of the road available to yield sediment and the amount of surface runoff from road segment is not well correlated. This is especially true when the hydrology of the road segment is determined by the occurrence of preference flow paths along the road cutslope. It is possible to have a short road segment that is intimately connected to the hillslope and intercepts a lot of subsurface flow that results in a high amount of sediment yield. Conversely, it is possible to have a long road segment that is not connected to subsurface flow generate a small amount of surface runoff, and thus a small amount of sediment.

PHOTO COURTESY OF ARNE SKAUGSET

A double flume installation used to quantify the amount of intercepted subsurface flow and runoff from the road surface. The divider is a geomembrane buried 9 to 15 inches into the bottom of the road ditch.

Thus, to more fully evaluate the impact that road systems might have on aquatic resources, two things need to be known: 1) the extent and locations of the connections between the road system and the stream system; and 2) Whether the hydrology of the road segment is ephemeral or intermittent. The greatest sediment yield from the road system to the stream system will come from the subset of road segments that are intimately connected with hillslope and directly connected to the stream. Thus, for the greatest return on investment for the road maintenance budget to mitigate the impact of roads on aquatic ecosystems, the road segments with intermittent hydrology that are directly connected to the stream system should be the highest priority. ◆

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Watershed Restoration and Roads in the Pacific Northwest Region

BY SANDRA WILSON MUSSER

The USDA Forest Service (FS) manages over 374,000 miles of system roads, 91,000 miles in the Pacific Northwest Region (Region) in Oregon and Washington. It has long been recognized that roads can have a major effect on the health of aquatic resources in a watershed, and in response to this, Congress allocated specific funding for road and trail work related to aquatic resource protection and restoration. Legacy Roads and Trails (Legacy) funding is enabling the FS to make its transportation network more responsive to today's environmental and access needs. In particular, this funding is directed toward: *"urgently needed road decommissioning, road and trail repair and maintenance…and removal of fish passage barriers, especially in areas where Forest Service roads may be contributing to water quality problems in streams and water bodies which support threatened, endangered or sensitive species or community water sources."*

Since 2008, $250-$300 million has been allocated to the FS nationally in Legacy funding—of this total, the Region has received $38 million. The Region has divided its Legacy funding into several work categories: road and trail improvement (storm damage risk reduction) and deferred maintenance (~37 percent); fish and aquatic organism passage (~24 percent); road decommissioning and closure (~33 percent); broad-scale planning (~4 percent); and monitoring/evaluation (~2 percent). Regional accomplishment reports can be found at http://tiny.cc/2xpjfw.

Road work is integrated with other restoration activities and often comprises over 40 percent of the total restoration work identified within a watershed. Work is being focused in priority watersheds, targeted on those actions of highest importance for restoration of aquatic resources. This strategic approach is instrumental in restoring whole watershed health. Community involvement and partnerships have played a vital role in successful implementation of Legacy projects.

Storm Damage Risk Reduction (SDRR) comprises treatments used on existing roads to reduce or eliminate impacts on aquatic habitat and water quality from storm-related effects. SDRR treatments may be implemented to protect a road while road use decisions are being made or while funding is being sought for improvements, in which case, the SDRR treatments are considered interim rather than final. In other instances, SDRR treatments are considered permanent and will contribute to reducing future maintenance costs. On lower-use roads, the selection of proper treatments takes into account the need to function with infrequent maintenance. Control of road drainage, whether generated on the road surface or intercepted by the road cut and ditch, is probably the most important method for preventing storm damage.

Addressing stream channel crossings, streamside road locations, and slope stability issues are also important in reducing the risk of storm damage. Some common SDRR techniques include prevention of culvert diversions; construction of rolling dips (broad-based, driveable dips), ditch relief culverts and waterbars; armoring drainage outlets; road maintenance; and various physical and vegetative erosion control methods. The FS is in the process of completing a road storm-damage risk-reduction guide through their Technology and Development Center in San Dimas, Calif.

The objectives of Fish and Aquatic Organism Passage (AOP) are passage of all species and life stages of fish whenever passage is viable in the natural stream; hydrologic connectivity of the stream, including transport of sediment and woody debris; and improved handling of extreme flows. The FS uses a design method called Stream Simulation, which involves construction of a stream channel through the road-stream crossing that mimics natural stream conditions. AOP structures range from embedded culverts with constructed stream beds in them to bottomless arches and bridges.

Road decommissioning is implemented to restore unneeded roads to a more natural state; treatments vary in intensity, with an emphasis on hydrologic and slope stability. Methods include removal of all culverts and ensuring stable drainage across the road prism, and may include pullback of placed fill material and/or re-contouring of the slope, depending on the needs of the site and objectives of the project. Some projects have re-constructed roads into trails.

Many of the methods used to accomplish SDRR, AOP, and road decommissioning have been in use for many years and anecdotal information suggests that they are effective, but there had been limited quantitative monitoring of the effectiveness of these techniques. The Region decided that it was important to allocate some funding to support formal, quantitative monitoring.

Two region-wide studies, begun in 2008, are assessing the effectiveness of selected projects. One focuses on quantifying treatment-related changes in water routing and erosion/sediment delivery to streams on treated road segments. The other is assessing stream simulation and fish passage at reconstructed road-stream crossings.

To evaluate water routing and sediment changes associated with road treatments, the Region is working with the Rocky Mountain Research Station (RMRS), which is using detailed, field-based inventories and robust, environmental models to compare road impacts before and after restoration treatments at selected project and control sites. RMRS refers to this as Geomorphic Road Analysis and Inventory Package (GRAIP). GRAIP can predict environmental impacts from roads at specific locations, such as sediment production and delivery,

PHOTO COURTESY OF USDA FOREST SERVICE

Examples of a series of rolling dips used to minimize concentration of water on the road.

hydrologic connectivity, stream crossing failure and diversion risk, and risk of gully and landslide initiation. Not only is it used to compare before and after conditions, but it will also determine which road segments have the greatest environmental impacts.

So far, GRAIP has been focused on three issues: prioritization of road problem segments at the watershed scale; effectiveness of road treatments at the site scale; and initiating multi-site synthesis. In one watershed evaluated on the Umatilla National Forest (NF) in Oregon, it was determined that 12 percent of the roads' length delivered 90 percent of the sediment. On the Olympic NF in Washington, data analysis from one site indicated that decommissioning treatments reduced sediment delivery by 81 percent, completely eliminated the risk of culvert failure, and removed 4,000 cubic yards of earthen fill from "high-risk" sites adjacent to streams. In general, GRAIP has shown that treatment types are effective, as well as where their implementation can be improved. More information can be found at www.fs.fed.us/GRAIP/intro.shtml.

The second study is focused on fish passage and stream simulation and is designed to answer two primary questions: 1) Is passage for all expected species/life stages of fish being provided at treated road-stream crossings? and 2) After treatment, are stream channel characteristics at the crossings similar to those found in the natural channel? The study included both physical measurements and biological monitoring so that passage could be measured and compared to how well the crossing matched the natural characteristics of the stream. To date, 25 sites on seven national forests have been evaluated. Initial results indicate that all sites appear to be successfully providing fish passage. In addition, 100 percent of the sites met or exceeded bankfull channel width and 80 percent simulated the measured stream channel characteristics. The Region is now working with the FS Technology and Development Center, in San Dimas, Calif., and others in developing a nation-wide FS protocol for these types of assessments.

The Region is addressing watershed restoration systematically, first prioritizing the watersheds within the region and then prioritizing the critical work within each watershed. A major element of watershed restoration typically involves roads, so having funding dedicated to this component has enhanced the Region's ability to accomplish needed restoration. Using a variety of road treatments combined with the knowledge and improvements gained through monitoring is allowing the Region to maximize the return on its investments. ◆

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Forest Roads Clean Water Act Case Gets Supreme Court Review

BY GREG D. CORBIN

Most readers know by now that in NEDC v. Brown the U.S. Ninth Circuit Court of Appeals ruled that stormwater discharges from forest roads must have permits under the Clean Water Act (CWA) notwithstanding a 35-year old Environmental Protection Agency rule (the Silvicultural Rule) stating that such discharges do not require permits. More particularly, the court said that "point source" discharges—a defined term in the CWA—"associated with industrial activity" are subject to the National Pollutant Discharge Elimination System (NPDES) permit requirements under EPA's Phase I rules for stormwater discharges. The Ninth Circuit's ruling has far-reaching implications. There are literally hundreds of thousands of miles of private, federal, state, and county roads that would need permits and be subject to penalties for not having them, or not complying with permits once issued, if the court's ruling stands.

The timber industry and State of Oregon defendants in the case sought review of the Ninth Circuit's decision by the United States Supreme Court. The Court's first response to the petitions for certiorari (review) was to seek the opinion of the Solicitor General of the United States on whether to take the case. This is a common move when the government isn't a party to the case. It gives the government—in this case EPA—an opportunity to tell the Court if it agrees or not with the Ninth Circuit's ruling and whether it thinks the case warrants the Court's attention.

While the Court waited for the Solicitor General to file his brief, EPA published a Notice of Intent (NOI) to go through the public rulemaking process to clarify that stormwater discharges from forest roads are not "associated with industrial activity" and therefore do not require NPDES permits under its Phase I rules. The NOI declares EPA's intent to complete the rulemaking expeditiously, noting that on September 30 of this year a congressional moratorium on EPA issuing permits for forest roads will run out.

While the NOI on its face is promising, many questions remain unanswered. For one, will EPA actually complete the rulemaking? EPA has been "considering" regulation of forest roads under its Phase II stormwater program since at least 2003 when the Ninth Circuit in a different case told EPA to do so. Nearly 10 years later EPA has yet to act. More important, it is unclear how much a new EPA rule would help. Because rules can only be prospective, a new rule would not moot the current case, leaving the defendants still at risk for significant penalties. It also is almost certain that a new rule will be litigated, probably in the Ninth Circuit. Finally, the NOI seeks input on how best to regulate stormwater discharges from forest roads, including whether to require NPDES permits under its Phase II rules. The NOI declares that BMPs, such as state forest practices acts, are in many cases sufficient to address water quality concerns, but the NOI does not preclude, and even suggests, that in some cases permits may be appropriate. Thus, while a rulemaking along the lines laid out in the NOI might be a step forward from the Ninth Circuit's ruling, it's no panacea.

The day after EPA published the NOI, the Solicitor General filed his brief with the Supreme Court. He agreed with petitioners that the Ninth Circuit failed to give deference to EPA's Silvicultural Rule, but he also argued that because EPA planned a new rulemaking, the Court need not review the case. The government's position is that even though the Ninth Circuit clearly was wrong, between Congress and EPA the situation is well in hand. The petitioners disagreed with the Solicitor General that faith in speculative government intervention is a reason for the Court not to hear the case, and told the Court so in their reply briefs.

On Monday June 21, the Court issued an order granting the timber industry's and State of Oregon's petitions for certiorari. In recent history the Court has overturned the Ninth Circuit in environmental cases more often than it has affirmed the lower court's decisions. That bodes well for reversal in this case. At press time, the Court had not set a date for oral argument in the case, but typically briefs are due in 45 days, and we expect argument will be sometime in the fall. A decision likely will follow sometime in 2013. ◆

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An Overview of Managing Rock Costs for Forest Roads

BY JENNIE CORNELL, CF

Forest roads are an essential asset and one of the most costly to develop and maintain for forest management purposes. A decision is made to build and maintain roads to a standard that will serve the intended purposes over the lifespan of the expected uses, with a minimal impact on natural resources—and all at a "reasonable" cost. What that reasonable cost is will vary by the management deliverables expected from a forest landscape.

Through years of research and practical experience, managers on the transportation side of forest management have learned that one of the most expensive components of road building and maintenance is acquiring and applying quality aggregate (i.e. "good rock"). Wise management of this valuable resource can reduce overall road costs in the long run. In general, use of a stronger, more durable rock requires less of it to do the desired job, will have less maintenance needs, and help protect water resources. Applied and maintained properly, it can reduce the production of fines, and reduce the potential for impacts to water quality. It can also hold up to frequent and heavy traffic, and have more year-round use with less maintenance. The decision to use a low-quality rock versus a high-quality rock to build and maintain roads needs to be considered thoroughly.

A low-quality rock may at first seem less expensive. Consider that you may have to use two or three times more low quality rock as you would a high-quality rock to achieve a minimum road performance standard. The overall cost quickly becomes more comparable to using an expensive, high-quality rock, but less of it.

A low-quality rock has a high content of fines (silts, clays), and low bearing strength that can generate more fine sediment under wet conditions—with or without traffic. It will be softer and less durable than good rock, which can increase maintenance costs with more frequent replacement of worn aggregate and patching of weak spots.

One strategy to manage rock costs is to identify critical areas where a high quality, durable rock will perform the best, and use it there. These areas include a subgrade that has lower-strength soils; segments that have greater potential for sediment delivery to water; areas of high traffic volumes and/or heavier commercial traffic; and roads that are intended for all-season use. To balance the budget, a low-quality rock source may be suitable in areas that have higher strength soils, are located well away from water, have relatively low traffic volumes or light vehicles, and have seasonal or limited use.

Managers must consider the planned use and capital outlay costs associated with forest roads, maintenance needs and expenses, and impacts to the natural environment. A thorough evaluation of all costs associated with selection of a rock source is imperative to make sound management decisions for today and for the future. ◆

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SAF Council has busy June Meeting

BY BOB ALVERTS, JOHN WALKOWIAK, AND JOHNNY HODGES

SAF President Bill Rockwell led the SAF Council meeting at the national headquarters in Bethesda on June 1-3.

Friday, June 1 was devoted to Council committee meetings. The Finance and Investment, Strategic Planning, and Executive committees met at different times throughout the day and evening.

Council commended Bob Malmsheimer, chair of the National Policy Committee, for the excellent work of the National Policy Committee in preparing Congressional testimony, Task Force reports, and position statements. Council also expressed appreciation for the excellent work of SAF Policy staffers Kelsey Delaney and John Barnwell. Council approved a new national position statement on public land timber harvesting.

Council also approved the 2012 National Award recipients and the list of SAF Fellow nominees for each of the 11 SAF voting districts.

Congratulations to each of the new SAF Fellows from SAF Districts 1, 2 and 4. They will be recognized at the 2012 National Convention in Spokane. The new Fellows for District 1 are Lawrence Davis, Stephen Ricketts, CF, and Norm Schaaf, CF. New Fellows for District 2 are Mark Buckbee and Mike Cloughesy. New District 4 Fellows include James Allen, Timothy Love, CF, and James Youtz.

National SAF Award recipients were notified of their selection by the SAF National Office within the month of June, and each will be honored at the National Convention.

SAF membership continues to decline at roughly two percent per year, but the new tiered dues structure has been very successful. Seventy-nine percent of members have signed up for the gold level, 19 percent for the silver level, and two percent for the platinum level. Current paid membership totals 10,500. A number of delinquent members are being contacted and asked to pay the local dues assessment. As of June 1, 2012, SAF has received more in dues payments than for the entire year of 2011.

All SAF members should actively encourage friends and colleagues to join SAF. An active membership program is currently being conducted by SAF.

Left to right: 2012 Council representatives John Walkowiak, Johnny Hodges, and Bob Alverts.

The new membership incentive and recruitment program implemented this year provides for as much as a $100 discount on dues ($20 per year for five years) for new member recruitment, and the new recruit gets a 30 percent discount if they maintain current membership for at least five years. Interested members can contact Christopher Whited, whited@safnet.org, with specific questions about the membership recruitment program, or go to the website at www.safnet.org, then click on "join" on the bar at the top of the page for more detail. To date about 100 members have taken advantage of this opportunity.

Nearly 750 members nationally have not paid Chapter, Division or State Society dues. This has caused some financial difficulties for local SAF units, including Districts 1, 2, and 4. SAF Executive Vice-President Michael Goergen has sent letters and invoices to each of these members requesting payment of local dues. Local SAF units are also contacting these individuals and encouraging their renewal and payment. Chapter chairs should also check chapter rosters for accuracy. Improved membership invoices should minimize this problem next year.

Council approved the Task Force Report on Terrestrial Ecosystem Management/Natural Resources and recommended that actions be continued toward the adoption of new accreditation standards for a "natural resources" related degree program.

Council also initiated action to launch a new revenue development program at the Spokane convention. The Pinchot Founders Circle will be launched in Spokane, where members and friends of SAF may donate $1,900 or more (to commemorate our founding year) over the course of four years for programs that will enhance SAF's financial position. This will grow the Foresters' Fund, increasing opportunity for local SAF units to do more projects and public outreach. As an organization that has largely been funded by membership dues, SAF's declining membership has placed significant stress on our financial resources, so new revenue is needed to grow the capacity of SAF. Details of this new program will be discussed at the upcoming House of Society Delegates (HSD) meeting in Spokane, and a table will be set up at the convention registration desk for convention participants to be among the first to sign up.

Registration is now open for the SAF National Convention in Spokane (see www.safconvention.org or call 866-897-8720 for assistance and information). Members are encouraged to make early reservations (prior to August 26) for savings on air fares, convention hotel rooms, and meeting registration fees.

The National Convention organizers are also seeking Northwest SAF State Society volunteers for short-duration shift jobs spread from the pre-convention activities through the end date (October 23-28). Volunteer jobs include greeting arrivals at the Spokane Airport, registering attendees, exhibitors and poster presenters, setting up and helping at the SAF store, stuffing registration bags, raffle and auction assistance, Quiz Bowl, and timers at the sponsored technical sessions. To volunteer please send: 1) your name, 2) mailing address, 3) cell phone number, 4) email address, 5) dates and times available to work, 6) list of volunteer jobs that you would be willing to do, and 7) your T-shirt size to Kirk David, National Volunteer Convention chair at kirkdavid@earthlink.net or 208-262-1371.

A new Student liaison was introduced replacing Jarett Cook. She is Tess Pinkney, a junior at the University of Idaho. Her contact details are 253-217-2270 and tess.pinkney@gmail.com. Tess and other student leaders will be busy this summer organizing student activities for the upcoming convention.

This Council report is a collaborative effort between District 1 (Washington State, Alaska, and Inland Empire) Council member John Walkowiak, District 2 (Oregon) Council member Bob Alverts, and District 4 (the Intermountain West from Canada to Mexico) Council member Johnny Hodges. As always, we are interested in your thoughts for improvements and concerns related to SAF governance and operations. ◆

Bob Alverts can be reached at 503-639-0405 or balverts@teleport.com. John Walkowiak can be reached at 360-534-1303 or johnwa@dor.wa.gov. Johnny Hodges can be reached at 970-226-6890 or jah.16@live.com.

Volunteer at the Fair!

WSSAF needs volunteers to help staff the booth at the Puyallup Fair and provide outreach to the public from Friday, September 7 through Sunday, September 23. In return for your time, volunteers will receive free admission to The Fair.

Please contact Bill Horn at hornbill66@msn.com or 253-770-0485 if you are willing to commit to any available dates. A fair schedule is available at www.forestry.org/washington/saf_members/puyallupfair/.

State Societies Honor Members

Both the Oregon and Washington State Societies presented awards to a full slate of outstanding and well-deserving recipients during their recent annual meetings. For articles on the award winners, please visit www.forestry.org/oregon and www.forestry.org/washington. ◆

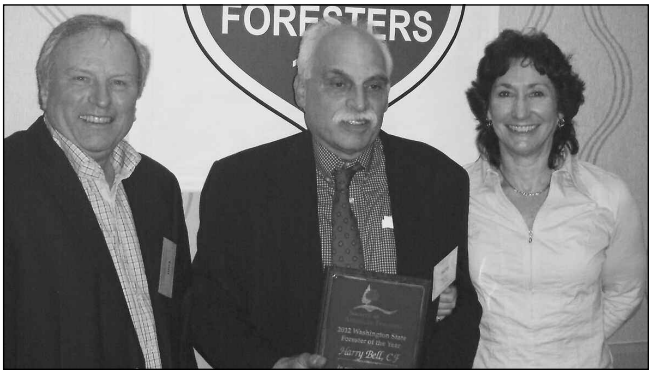
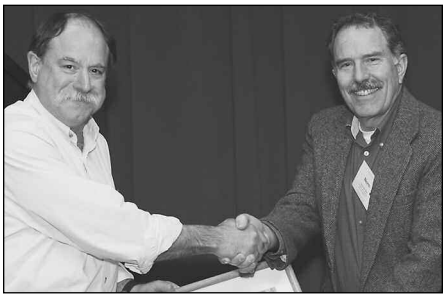


PHOTO COURTESY OF MICHELLE TREICHEL

Harry Bell (center) was named Washington State SAF Forester of the Year. He is congratulated by Tom Hanson, WSSAF chair, and Ellie Lathrop, WSSAF chair-elect.

PHOTOS COURTESY OF JORDAN BENNER

(above) Mike Cloughesy (left) received the Oregon SAF Forester of the Year award from Chair Norm Michaels. (below) Doug Maguire (left), OSU College of Forestry researcher and professor, received the Research Award.



Calendar of Events

ArcPad Seminar, Sept. 11-12, Beaverton, OR. Contact: Atterbury.

Professional Timber Cruising with SuperACE, Sept. 13-14, Beaverton, OR. Contact: Atterbury.

Who Will Own the Forest? 8, Sept. 18-20, Portland, OR. Contact: Sara Wu, 503-488-2130, swu@worldforestry.org, www.worldforestry.org.

2nd Annual Field Technology Conference, Sept. 26-27, Portland, OR. Contact: WFCA.

URISA NW GIS Conference, Sept. 30-Oct. 4, Portland, OR. Contact: Bruce Kessler, 509-235-5500, bruce@kesslergis.com, www.urisa.org/gispro2012.

Washington Tree Farm Program Educational Seminar, Logging Your Timber: Options, Opportunities, and Precautions, Oct. 6, Veterans Memorial Museum, Chehalis, WA. Contact: Donna Loucks, 360-736-2147, www.watree-farm.org/2012RegForm.pdf.

PNW Reforestation Council annual meeting, Oct. 10-11, Vancouver, WA. Contact: WFCA.

NAAEE annual conference, Oct. 10-13, Oakland, CA. Contact: NAAEE, 202-419-0412, www.naaee.net/conference/registration.

SAF National Convention, Oct. 24-28, Spokane, WA. Contact: National SAF, 866-897-8720, www.safnet.org.

The Basics of Pine Region Forest Land and Timber Appraisal, Nov. 6-9, Spokane, WA. Contact: WFCA.

Contact Information

Atterbury: Atterbury Consultants Inc., 3800 SW Cedar Hills Blvd., Suite 145, Beaverton, OR 97005, 503-646-5393, dsandefur@atterbury.com, www.atterbury.com.

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

Send calendar items to the editor, *Western Forester*, 4033 SW Canyon Rd., Portland, OR 97221; rasor@safnwo.org.

Partners in Community Forestry National Conference, Nov. 14-16, Sacramento, CA. Contact: Arbor Day Foundation, 888-448-7337, www.arbor-day.org/shopping/conferences/brochures/pcf/2012/.

Nutrient Dynamics of Planted Forests, Nov. 27-28, Vancouver, WA. Contact: WFCA.

SAF Leadership Conference, Jan. 18-19, Silverton, OR. Contact: Mike Cloughesy, cloughesy@ofri.org.

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.*

Future of the U.S. Forest Service. If you don't have an opinion on this, our SAF leaders can help you formulate one. In many ways the future of the largest forest landowner in the western states is the future of our profession as well as our rural communities. Two front-page stories in the May 2012 *Forestry Source* focused on either a dysfunctional U.S. Forest Service (Les Joslin, Bend, OR) or the same agency's lack of focus (Jack Ward Thomas, Missoula, MT). The former called for leadership training, the latter for a new mission, with new policies and budget commitments to support it. Applying a different set of lenses to the same situation, on May 21 Rep. Doc Hastings (R-WA), chair, House Committee on Natural Resources, conducted a field hearing in Longview, Wash., on "Failed Federal Forest Policies: Endangering Jobs, Forests, and Species." Several of our SAF regional leaders testified. The main points your correspondent extracted from their ideas follow.

Hal Salwasser, Dean of Forestry at OSU, is perhaps our best communicator, although he modestly claims otherwise. He asks us all to prepare for the challenge of nine billion people (or four million in Oregon or 500 million in the USA). His idea for a forest policy rummage sale to help move federal forests to meeting the challenge is right on the money: "Many, though not all, western federal forests not only still have the potential to grow money, they have the potential to grow jobs, productive wildlife, clean water, happy fish, and the greenest, most renewable raw material on earth. It is time for federal forests to re-start doing their share for the future well being of our communities, states, and nation, and yes, even for the health of our federal forests."

Kent Connaughton, regional forester, says, "The Forest Service recognizes the need for a strong forest products industry to help accomplish forest restoration work and support local economies. A vibrant industry can provide the people and the know-how necessary to undertake mechanical treatments and other restoration activities." Clearly, then, as most everyone recognizes, it is not the people in the agency that are the problem. He concludes by saying, "The aim of [the agency's] efforts is to move beyond the conflicts which have characterized forest policy in the past and toward a shared vision, which allows local communities, environmentalists, the forest industry, and other stakeholders to work collaboratively toward healthier forests and watersheds, safer communities, and more vibrant local economies." Connaughton is more hopeful than Salwasser, who places "the era and euphoria of collaboration" (1990s-on) as the last of a dozen items in the attic that we either keep or put on the table for the forest policy rummage sale.

Testimony from others at the hearing is well worth reading, including that of Steve Mealey testifying for the Boone and Crockett Club about his grave concern for Northwest wildlife under the current policy regime. He testified about the irony of killing crow-sized brown owls with barred breast feathers to protect its less-well-adapted cousin with spotted breast feathers. Like the others, he calls for active management of federal forests as the way out of the predicament we are in today.

Access to the entire set is at http://naturalresources.house.gov/Calendar/EventSingle.aspx?EventID=295110. Contact: Jay O'Laughlin, IESAF Policy chair, 208-885-5776, jayo@uidaho.edu.

Policy Focus of Annual Meeting. The WSSAF annual meeting in Port Angeles was a smashing success. The theme was "Working-Wild Forests—What is the Balance?" Guest speakers from state and local agencies and governments, environmental, Tribal, landowner, and academic organizations presented, at times, contentious and contrasting visions of "balance." Of particular note were presentations from State Senator Jim Hargrove, University of Washington Forest Ecologist Jerry Franklin, and Washington State Lands Commissioner Peter Goldmark. Of the 121 registered people, 26 were not associated with the WSSAF. Thanks to the North Olympic and Admiralty Inlet chapters and meeting planning co-chairs John Walkowiak and Tom Swanson. Contact: Harry Bell, WSSAF Policy chair, 360-460-2502; harry@greencrow.com.

Comments to be Submitted on Three Federal Issues. Although not completed as of this writing, OSAF and an OSAF-WSSAF-NorCal SAF team are preparing comments on forestry issues for submission to elected officials and federal agencies. The regional SAF effort is focused on the U.S. Fish and Wildlife Service's new critical habitat designations for the northern spotted owl, which extend from northern California to northern Washington. OSAF is also preparing comments for the scoping portion of the latest round of management planning for BLM's western Oregon lands. And on a related BLM issue, OSAF will send a letter to Reps. DeFazio, Walden, and Schrader on their "discussion draft" bill, the "O&C Trust, Conservation, and Jobs Act." Watch this space for further details about key points raised in these comment submissions, although a guiding theme is to provide the unique perspective of the forestry profession on such issues. Contact: Paul Adams, OSAF Policy chair, 541-737-2946; paul.adams@oregonstate.edu.

Stream Protection Rule Analysis Process Underway in Oregon. Early this year the Oregon Board of Forestry voted to begin a rule analysis process that could lead to revisions of the riparian protection requirements to maintain and promote shade on small and medium fish-bearing forest streams. The decision follows recent studies that showed the current requirements in some cases did not prevent temperature increases after timber harvest from exceeding the state's cold water standard. In April the Oregon Department of Forestry presented a plan and schedule for the rule analysis process to the board, which would provide a range of alternatives to the current requirements by July and with further analysis and review, could lead to a selected alternative by January 2013. In consideration of the concerns of forest landowners and other stakeholders, the board directed the rule analysis process to specifically include non-regulatory approaches among the alternatives. Contact: Paul Adams, OSAF Policy chair, 541-737-2946; paul.adams@oregonstate.edu. ◆

OSAF Foundation Names Scholarship Winner

The Trustees of the Oregon SAF Foundation are pleased to announce the selection of Todd Bertwell as the recipient of the 2012-2013 school year OSAF Foundation Scholarship.

Todd grew up in Los Angeles and from an early age loved being in the woods. He came to Oregon State University in 2009 to study forestry and will be a senior in the Forest Management program this coming school year. Todd has been an active forestry student since his arrival. As a freshman he worked as a laboratory assistant for a post-doctoral researcher and continues to work with professors and graduate students. In the fall of 2010 he studied abroad on an exchange program at the Australian National University. This summer, Todd is an intern with a timber company in Washington.

Next year he will represent the College of Forestry as an ambassador for Agriculture, Forestry, and Natural Resources. The Ambassador program is a university-level effort for recruiting and training upperclassmen to greet the public and potential students, and mentor new students when they arrive. He is a member of the SAF OSU Chapter.

The goals of the OSAF Foundation are to foster forestry education opportunities for Oregon students and to enhance public knowledge about professional forestry. Now more than ever students need financial support to make it through college.

The OSAF Foundation was conceived by Merle Lowden, prominent OSAF member, to promote forestry education. Established in 1985, over the past several years the foundation has awarded over $100,000 in scholarships to over 30 deserving OSU undergraduates.

For additional information, contact Foundation Chair Mark Buckbee at mark_buckbee@blm.gov. ◆

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THE LASER TECHNOLOGY SURVIVAL GUIDE TO FIELD WORK

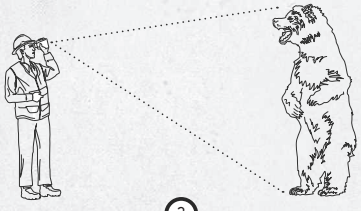
SURVIVING A GRIZZLY BEAR ENCOUNTER

1

Use your TruPulse laser, in distance mode, to see how far away the bear is.

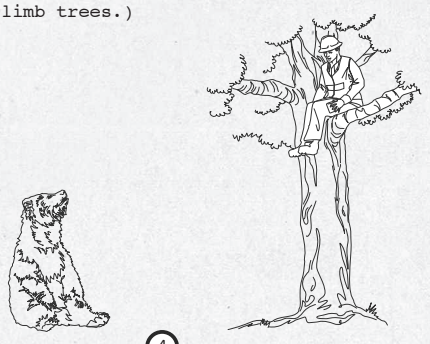
2

From that data, decide if you should run, or if you need to climb a tree. (NOTE: Make sure it's a grizzly. Other bears climb trees.)



3

If you chose to climb, measure the bear's height using your TruPulse's height routine.



4

Climb a tall enough tree and hang out until the bear gets bored and leaves. (NOTE: To pass the time, measure the height of other surrounding trees.)

SOME DAYS IN THE FIELD ARE MORE EXCITING THAN OTHERS. Whether you're out cruising timber or flagging sale boundaries, you're bound to encounter the unexpected. Not to worry though. The power and versatility of LTI lasers let you adapt to ever-changing conditions and situations while still having confidence in the data you log. To explore our complete line of forestry products, visit www.lasertech.com/stories/atterbury . While you're there, share your craziest day in the field, and be registered to win LTI equipment.