

JANUARY - FEBRUARY 2011

BC Forest PROFESSIONAL

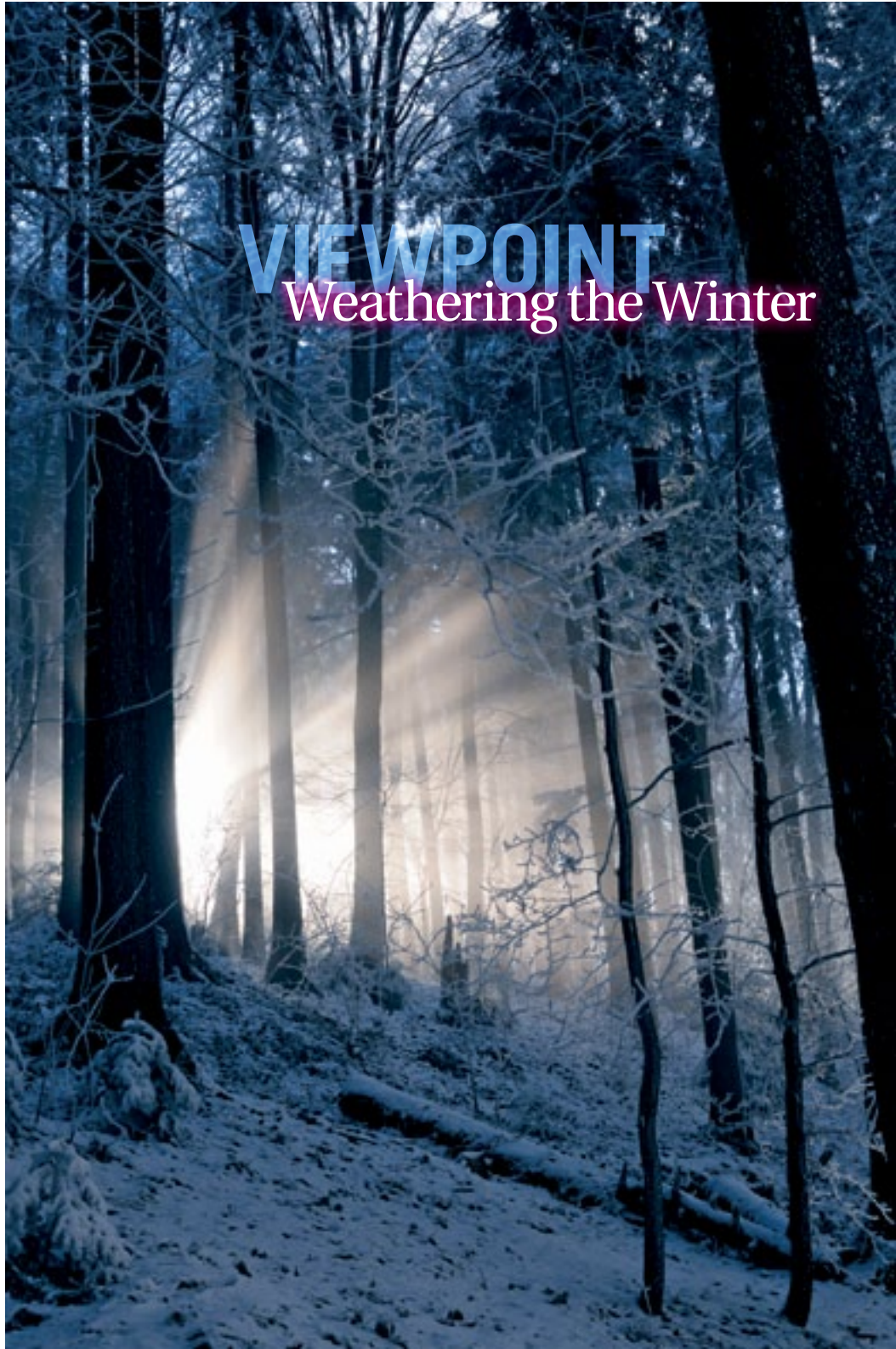
VIEWPOINT Weathering the Winter

A Goldilocks Solution:

Restoring Road Access
to the Most Geologically
Unstable Area of Canada

The Private Land Life
of a Forest Professional

**Battle of the
NFPs Winner:**
East Kootenay NFP



Winter – operating safely

Your job's tough enough, but right now it can be brutal — dark days, freezing cold, unforgiving weather that can turn without warning. Too many forest workers are hurt in winter. But you can protect yourself and your crew. You can avoid:

- Slipping and falling on snow and ice for lack of proper footwear, or handholds on equipment.
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Get it today, and work safely all winter.



BC Forest Safety Council
Unsafe is Unacceptable



Plan to be in Vancouver February 24-25, 2011

The ABCFP is pleased to present our conference and AGM – Wood Is Good! The host committee is busy putting together a program of dynamic speakers, fun networking events and some of the traditional favorites such as the Inductee Recognition Luncheon.

Plan on coming to Vancouver a day early so you don't miss the new Professional Reliance workshop or the Wood Is Good tour of the Vancouver Convention Centre, Stanley Park, the Richmond Oval and the UBC Faculty of Forestry.



Check out the conference website: www.abcfp.ca/conference for more information.



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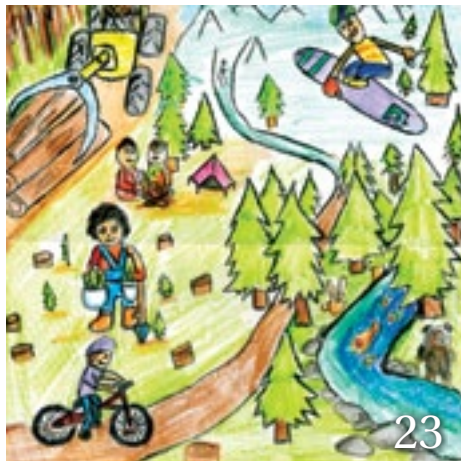
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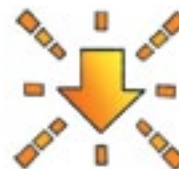
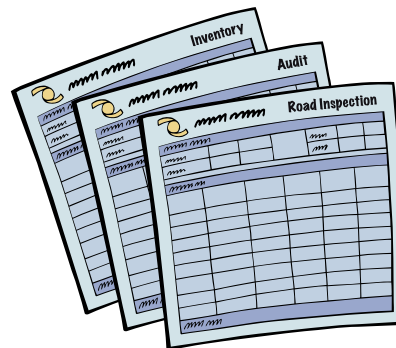
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Forest Mismangement and Failure to Protect the Public Interest

Two crises have been unfolding for nearly a decade both of which involve the Association of BC Forest Professionals.

The first crisis is forest mismanagement. This may be variously defined by a precipitous decline in funding for key functions critical to any claim to sustainable forest management of public lands and to setting sustainable rates of cut: forest inventory, tree planting, silviculture, forest health and research.

Recently, ex-minister Bill Bennett revealed the lack of cabinet participation, thought and process behind Premier Campbell's unilateral order-in-council effectively nullifying the *Ministry of Forests and Range Act* and eviscerating the BC Forest Service after 98 years of service to British Columbians as their forest agent.

One of the many casualties of this act of madness is the disbandment of the Forest Research Branch. Since 1927, that branch has built an international reputation for BC forestry while providing the evolving science

for sustainable management of our publicly owned forests.

The goodwill derived from world-class renown cannot be bought. It is an asset of considerable worth that has been built up steadily over nearly a century. It is priceless. Indirectly, it supports the marketing of sustainably produced lumber to many export markets. To chuck it away is a reckless act of public vandalism.

The second and more serious crisis is institutional failure of those offices charged under statute, or by virtue of professional standing, to act in the public interest. While mismanagement of publicly owned forests has been gathering momentum, what have the Office of the Auditor General, the Forest Practices Board, the Office of the Chief Forester, professional bodies, and, finally, the Association of BC Forest Professionals and its members had to say about it in the public interest?

It is time for a commissioner of forests and environment.

**ANTHONY
BRITNEFF, RPF
VICTORIA, BC**



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Developing Professional Development Locally

After ten years of being stripped down, the BC Forest Service now stands cold and shivering. Foresters and associations are finally saying 'enough is enough' and standing up to the relentless attacks.

The Canadian Centre for Policy Alternatives outlined it perfectly in its report titled "Axed," showing that 25% (1000 jobs) of the Ministry have been cut. Mounting workloads and an irresponsible re-organization has created an environment where our forests are no longer managed for the greater health of this province. Targeted personnel in the cuts were chiefly those that had the responsibility to contribute towards forest policy and best practices. Those positions have been hydrologists, biologists and forest ecologists. The report hits a key issue, "...we are losing our collective eyes and ears in the forest..." There simply aren't enough personnel to staff key operations such as growth and yield, inventory plots and research stations, which are important for determinations looking at future allowable harvests and forest modeling. One forester affirmed, "...the lack of baseline information means the public can have no confidence that their forests are sustainably managed."

UNBC forestry professors as well as the Confederation of University Faculty Associations of BC made a plea to both the Liberals and New Democrats, hoping that whoever becomes their next leader, understands the need for research and long term investments.

Pat Bell's response, "...focus in forestry research has shifted to increasing growth and forest yield." The minister's response may bear merit in some circles, but I feel that the shift of the Ministry's focus will have undue consequences in the long term.

A holistic and integrated field of science and management, forest managers consider all aspects of forest ecosystems and values. With cuts to the forest service over the last ten years, and the near abolition of the forest research branch, I feel that we are going to short change our province's future as the paradigm shifts from 'forest management' to 'timber management'. A healthy forestry sector cannot exist without a healthy forest.

JONATHAN VAN BARNEVELD
HOUSTON, BC
FOREST ECOLOGY & MANAGEMENT STUDENT, UNBC

On Predicting Wildland Fire Behaviour and Fire Effects

There are several points made in Gray and Blackwell's article in the November/December 2010 issue of **BC Forest Professional** that require comment (the unabridged version of this letter is posted on the magazine's Discussion Forum).

They claim that I have argued against the use of models or modelling systems developed in the US for near-real time prediction of crown fire behaviour. This is not true. I never said that. The authors further state that certain US fire modelling systems are rarely used by BC personnel to predict fire behaviour on active wildfires but instead are used in fuels management planning and prescribed burning. One wonders, why is that? Should it even matter? Furthermore, I would expect US fire personnel exported to Canada to use their decision aids and accordingly make adjustments based on their training, experience, and judgement. Predicting wildland fire behaviour is after all an art and a science.

The authors indicate that standards for wildfire hazard assessment have been previously published and reported on. I am not aware of any such literature written or cited by the authors in this magazine. Modelling systems are indeed an integral part of modern-day fire and fuel management decision-making. Nevertheless, one needs to be cautious that modelled results are not unduly emphasized at the expense of other considerations, including experienced judgement, case studies, and common sense. All the US modelling systems that they mention are known to be seriously underpredicting both surface and crown fire behaviour potential.

Gray and Blackwell state that the Canadian Forest Fire Danger Rating System is inadequate for certain fire and fuel management applications, yet one can easily list several examples that have appeared in the peer-reviewed and "grey" literature.

Finally, attendance at US training courses is a fine idea but they may not be accessible to Canadians.

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UNIVERSITY OF ALBERTA

Put in Your Two Cents

The **BC Forest Professional** letters' section is intended primarily for feedback on recent articles and for brief statements about current association, professional or forestry issues. The editor reserves the right to edit and condense letters and encourages readers to keep letters to 300 words. Anonymous letters are not accepted. Please refer to our website for guidelines to help make sure your submission gets published in **BC Forest Professional**.



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Taking the Long View

As forest professionals, we are expected to be able to take a longer view. After all, it can take hundreds of years for a forest to return, through succession, to its climax state. So you'd think we'd be a patient bunch—full of wisdom and sage advice such as “look before you leap” and “the road to success has many potholes.”

Let's look back a mere 20 years:

- In the early 1990s, we were undergoing the ‘protected area strategy’ as well as the ‘fish-forestry guidelines.’
- In 1995, the *Forest Practices Code* came into being. At about the same time, revenues from forests had reached a new and permanent plateau that gave rise to super stumpage and Forest Renewal BC. (This revenue collapsed almost as soon as this permanent plateau was announced.)
- By 2004, the *Forest Practices Code* had been superseded by a results-based regime through the *Forest and Range Practices Act* (FRPA).
- In 2008, the global economy collapsed, as did forest revenues.
- In the past year, we have had the Working Roundtable on Forestry's report and several government restructurings. We have also had mountain pine beetle essentially run its course and ecosystem-based management implemented on the coast. Finally, forest tenure certification rose from 0% to over 70%.

So what's next? The *Forest Practices Code* lasted eight years. It's been six years since FRPA came into play. Does that mean that

there's another change on the horizon?

How do we keep track of all of this change? How do we influence it? Can we influence it? Should we influence it?

I suggest that yes we should and yes we can.

There are three ways to influence change:

- 1 Association staff is part of the communication structure with government and industry. Staff helps shape how policies get developed and delivered. This has been a growing role for the ABCFP and is tied to our advocacy mandate.
- 2 Council sets direction and interacts with government and industry leaders. The composition of council and the combined skill sets of councillors set the ABCFP's direction. That's one of the primary reasons why it's so important that you, as members of the ABCFP, participate in discussions, bylaw votes and elections.
- 3 Our members have a wealth of experience and knowledge and are often at the centre of many policy developments. That's why it is so important that we maintain our understanding of what it is to be a professional. As professionals, we are bound by the *Foresters Act*—not FRPA or the *Forest Act*, or the *Wildlife Act* or the *Land Act*. This allows us to take the long view and to remember to be a professional first and an employee second.

So, while there are outside pressures that seem to be increasing the pace of change, it's critical that we stay involved and at the center of these discussions. That way we can make sure that someone is keeping the long view in focus, both into the past and into the future.

Many months later...

Hah! I wrote the words above back in May—I must be prescient! In November, as you all know, a major re-organisation of government was announced. Almost immediately, I was asked what the association's position was on this as well as my thoughts on the apparent dismantling of the Forest Service. While I can't speak for the association, here are my

views (as of November 2010): I believe that for any system of land management to work, a three-way partnership is required:

- a. The land owner who must clearly state all of its objectives for the land;
- b. The land management professionals (that's us!) who must be able to professionally and capably link the objectives with the multiple (at times conflicting) demands of multiple land users; and
- c. The land users, who have to work within an environment of multiple demands and who must be willing to implement plans while gathering and providing feedback to both the land management professionals and the land owner.

I see the November 2010 changes as the government setting up how it will better play its role. If that is true, then the changes are a good thing.

As an aside, I think that some of these changes were influenced by (dare I say resulted from) our Land-Based Management Statement. To review this document go to the ABCFP website and click on Publications & Forms, Stewardship & Practice Reports and scroll to June 2008.

I do not support the elimination of the Forest Service. It is a hundred-year-old brand that embodies much of what government and our association are about—service to the people through the forest.

However, I will point out that the Forest Service of today is radically different than it was 30 years ago and that Forest Service was different from 60 and 90 years ago. So, I have no qualms about re-structuring or re-packaging the Forest Service as there is always room for improvement. However, I think there is real value in the Forest Service brand.

Finally, all this change just drives home for me the point I made at our AGM in April 2010: “I see us back in our boots out in the forest, kicking the dirt, having great discussions, exchanging ideas and making decisions right there, right then.” If the changes of November 2010 and subsequent adjustments get us back in our boots, then I'm for it. 🐾



Planning 2011: Budget, Strategic Plan and Advancing Professional Reliance

As we begin a new year, it is important to reflect on key decision points from 2010 that bring us together as an association so that we can continue to make an effective difference in serving and protecting the public interest in the practice of professional forestry.

Three items that will have an impact on members include the 2011 budget and strategic plan, and advancing professional reliance.

Budget

The ABCFP council approved the 2011 operating budget of \$2.1 million. Through your support with the fee increase, we are able to focus on more professional practice, act compliance and governance. Specifically, we will be adding funding to work in the areas of professional practice (professional reliance, practice issues) and stewardship. We will also allocate funding to training for discipline committees. With this budget, members will realize a larger budget provided for investigations costs and face-to-face meetings for committees.

A 2011 capital budget was approved in the amount of \$30,000. This money is designated to ensure database enhancements for membership management and to replace aging

hardware infrastructure (servers, computers, firewalls) and to provide software upgrades. These upgrades will help ensure effective, efficient and reliable support for ABCFP members.

Strategic Plan

Staff is moving forward with the job of creating strategic initiatives that will move the association closer to achieving the goals set by council and supported by the approved 2011 budget. Based upon the outcomes of council's strategic planning sessions, the initiatives will be in support of the following general areas:

- Ensure that the public and other stakeholders recognize and respect the roles that the ABCFP and its members play in managing BC's forests, forest lands, forest resources and forest ecosystems.
- Ensure that the ABCFP is recognized by its members as a highly effective and personally relevant organization.
- Ensure that BC's forest stewardship policies are informed by the association.
- Ensure that recruitment into the profession and development of existing members meets current and future demands.
- Ensure that professional reliance is successfully applied by forest professionals.

In mid-January a small team of council members will be reviewing member input into the specific goals set by council to see what adjustments need to be made. We hope to have the final plan, inclusive of member comments, finished by the end of January.

Advancing Professional Reliance

One of the key areas that we told members we needed to spend more money on was professional reliance. Here is a flavour of some of the activities that the ABCFP has recently been involved in.

The ABCFP, The Ministry of Forests, Mines and Lands, and industry are sharing the lead in the *Advancing Professional Reliance Initiative*. The group has collaborated on several activities in the past few months and many of our members would have been either participants, or have been aware of the activities around professional reliance.

Following is a description of the variety of activities that we have been involved with recently.

- A. Professional Reliance Steering Committee:** The association chairs the professional reliance steering committee which has senior level involvement from the association, government and industry. Association staff participated in the development of the professional reliance workshop that has been held in various locations around the province, as well as the development of the professional reliance survey. Thank you to all members who took the time to fill out the survey. Survey results are available on the professional reliance web site.
- B. Regional Workshops:** Association staff made presentations and answered questions at all the regional workshops.
- C. District Workshops:** Some districts have taken the professional reliance discussion to their offices and other working groups, and association staff participated in these workshops when invited.
- D. Online Workshops:** The association has had its own professional reliance workshop online for the past six months and is encouraging any members who have not had a chance to participate in any of the recent workshops in person to sign up and take the course.

Stay tuned for further work in this area. 🐾

Official Notice of the AGM

The ABCFP's 63rd Annual General Meeting will take place during Wood is Good 2011, the ABCFP's annual conference, in Vancouver, BC. The AGM will be held on Thursday, February 24th, 2011, from 5:00 to 6:00 pm at the Fairmont Hotel Vancouver. The AGM, council hot seat and resolution session are free for all members and registration to Wood is Good 2011 is not necessary to attend these events.

The preliminary agenda for the AGM is as follows:

1. Adoption of the minutes from the previous annual meeting.
2. Member recognition.
3. Adoption of annual report.
4. Adoption of the audited financial statements.
5. Appointment of auditors.
6. Appointment of one or more returning officers and scrutineers.
7. Reporting of council election results.
8. Ratification of council and staff actions.
9. Business resolutions (if any).
10. Adjournment.

Any matters requiring a vote are restricted to eligible voting members in good standing.

Exciting Developments for Wood is Good 2011

The ABCFP's annual conference and AGM, Wood is Good 2011, will take place on February 24 & 25, 2011 at the Fairmont Hotel Vancouver in Vancouver, BC.

This year's conference will highlight the link (or non-link) between what forest professionals grow and what the market demands and explore what needs to change to do better in the future.

There have been some exciting developments for Wood is Good 2011 since the registration brochure was printed in the November/December issue of **BC Forest Professional**.

- The Lieutenant Governor of British Columbia, His Honour, the Honourable Steven Point has accepted our invitation and will attend the Inductees' Recognition Lunch on Thursday, February 24, 2011.
- Bob Simpson, MLA Cariboo North, has accepted our invitation to speak at the plenary session, "What Needs to Change Faster So Forest Professionals Can Grow What the Market Demands Today and in the Future."

The early bird registration deadline is January 19th. So register now and secure your place at Wood is Good 2011. To register online, go the ABCFP website (www.abcfp.ca), click on the Wood is Good banner on the Home page and follow the links. If you have any questions, please contact Brenda Martin, communications coordinator and editor, at bmartin@abcfp.ca.

Council Election Update

The Council election closed on January 10, 2011. Thank you to all those members who took the time to cast their vote. The results will be announced later this month in **The Increment** e-newsletter.

It's Time to Renew Your Membership

The deadline to renew your ABCFP membership was December 1, 2010, but you can still renew without being charged any additional administrative fees if you do so by January 31, 2011. After this date, an additional \$30 will be charged on all late renewals. Anyone who does not renew their membership by March 31st will no longer be entitled to practice forestry in BC.

Remember, fee payment is only one of the steps required to renew your membership. Depending on your membership type you may need to do the following:

- Submit your 2010 Self-Assessment Declaration or Declaration of Non-Practise.
- Notify the ABCFP if there has been a change in your Indictable Offense status.

Visit the Steps to Renew page of the website for complete details by clicking on the Members' Area menu, then My Membership and Steps to Renew.

Salary Survey

We will be launching a salary survey for members via email on January 17, 2011. This year we will be partnering with the Consulting Foresters of BC in the survey. The survey results will provide indicators on income, benefits, employment and job satisfaction in today's economy. The value of the data is that you will be able to benchmark your own salary within your own organization, the forestry industry and with accredited professionals in other industries. The survey closes on January 31, 2011.

ABCFP Strategic Plan: Member Feedback Requested

The ABCFP council approved the 2011 budget at the November 26th meeting. Then, in mid-December, we sent out an update providing members with more information about the budget and how it links to the strategic plan for 2011. Most importantly, we invited your feedback on the strategic plan via the ABCFP website. Early in 2011, we will let you know how your feedback affected the strategic plan and publish a completed strategic plan on the website.

Video Contest for Teens – Win \$500

The ABCFP is encouraging budding teen videographers to make videos about forestry. Teens are urged to get together with friends and create a video that tells us *What the Forest Means to You*. Members' children are welcome to enter this exciting contest.

Videos can be in any genre – a song, comedy, documentary, stand-up comic act etc. A team of judges will select the top five videos and the final winner and runners up will be selected by the ABCFP membership. The top video will be awarded \$500 and smaller prizes will be given to two runners up. The deadline is January 31, 2011. Look on our website, www.abcfp.ca, for more information.



Photo: iStockPhoto

Weathering the Winter

DEPENDING ON WHERE YOU LIVE, WINTER IN BC CAN MEAN SNOW AND ICE OR ENDLESS RAIN.

Practising forestry in either of these conditions presents its own set of challenges. In this issue, we look at how winter conditions affect construction and safety.

First, we look at stump shearing, a road construction technique that can only be implemented in -25 to -30 C weather. Stump shearing leaves the tree roots in the soil during road construction causing less forest floor disturbance. Then we review techniques used to make artificial snow. For winters where the snow doesn't come early enough, artificial snow can help build winter roads and snow-fill crossings.

The other aspect of winter we address is this issue is safety. On cold winter days when the sun sets in late afternoon, it's important to keep safety uppermost in your mind. Our first safety article talks about staying safe and dry while cruising on BC's coast. The second article looks at what to do after things go wrong. How do you look after yourself when you're hurt and it's getting dark?

Beyond the Viewpoints section, we have two great interest articles this issue. Stirling Angus, RPF, writes about restoring access to Meager Creek Valley after the landslide on September 19, 2009 and Domenico Iannidinardo, MBA, RPF, RPBio, PEng, writes about the challenges and satisfactions that come with practising on private land. Both articles show forest professionals doing what they love and embracing the challenges in their work.

As we start this new year, the editorial board looks forward to bringing you another six issues of **BC Forest Professional** and we hope that everyone can find something useful in each issue. 🐾



Figure 1 A & B. Permanent winter roads in northern Alberta are closed to resource extraction during non-frozen periods.

Stump Shearing During Winter Road Building: Techniques and Benefits

USING STUMP SHEARING WHEN BUILDING winter roads can leave the majority of the forest floor intact with minimal disturbance (Figure 1). As resource-extraction operations move towards a lighter footprint on the environment, the technique of stump removal during winter road building may be an aspect which can be reduced in favour of soil/forest floor preservation.

However, the art of stump shearing, cutting trees off at their base while using crawler tractors during winter road building, is not as simple as one would think. The old-timers who did more of this in the past simply had the knowledge and technique down pat. But as the old-timers retire, they are taking their knowledge with them.

There are shared and separate benefits around stump shearing in-block temporary roads and on-going permanent winter haul roads. Both temporary and permanent winter roads usually gain bearing capacity from properly sheared stumps.

- Stump shearing in-block temporary roads allows for suckering regeneration which would be reduced or lost if the stump was removed. This is especially true if the trees

involved are a species such as aspen which suckers readily.

- Stump shearing permanent winter roads usually creates less forest floor disturbance because there is no void left by the removed stump to be filled. Voids would typically be filled by a crawler tractor pushing forest floor and top soil along with snow into the void. (Snow alone is not enough fill.) During the following spring and summer, it would be evident where the scalping of material to fill the voids had taken place.

Whether the road is temporary or permanent, stump shearing can have structural and environmental benefits.

Seasonal Timing

Temperatures need to be in the range of -25 to -35 °C to shear stumps with a crawler tractor (Figure 2). There is more success at shearing and less inadvertent stump removal once temperatures approached the -20 to -25 °C range for a period of a week. Others suggest even colder temperatures of -30 to -40 °C are needed to accomplish effective shearing. Warmer temperatures make shearing more difficult because stumps will lift and pivot



Figure 2 A & B. Crawler tractor with a Rome KG blade used for stump shearing. An in-block winter access road built using stump shearing.

from the soil when they are not frozen securely in the ground. Once they lift out of the soil, they leave a void that needs to be filled.

Machines

Relatively large crawler tractors are used during stump shearing operations. One northern Albertan operation uses a D85 Komatsu. A smaller machine may not accomplish the task as well as a larger machine with additional weight, traction and horsepower. A D85 is similar to a Caterpillar D7; the weight and horsepower for these two machines are shown in Table 1.

	Komatsu D85E crawler	Caterpillar D7E crawler
Operating weight	28 100 kg / 61 950 lb	25 705 kg / 56 669 lb
Flywheel horsepower	197 kW / 264 HP	175 kW / 235 HP

Table 1. Comparison of weight and horsepower for two crawler tractors.

Species

FPIInnovations research has found there's not much of a difference between shearing conifer and deciduous trees. Although spruce is a particularly shallow rooted species, operations in mixed wood stands did not notice a difference, providing the temperature and length of frozen period was adequate.

One parameter that did affect shearing success was the size or diameter of the stump. In some operations, larger diameter stumps were removed and there was no attempt to shear them. Stump shearing large sized stumps may not be practical even when using larger sized crawler tractors.

Technique

The blade of the crawler tractor is positioned parallel and low to the ground as it approaches a stump, attempting to shear at the root collar, the area where the roots join the main stem or trunk, or lower. One stump is sheared at a time. If needed, the blade can be dragged across the stump by turning the machine. However, when the temperature conditions are met often no alteration to the blade edge is required. While there are purpose-built stump shearing blades (Figure 3), a basic straight or three-way blade will do the job.



Figure 3. A Fleco serrated-edge blade.

Note that this shearing technique differs from the approach used when purposefully removing a stump, which is to approach the top of a stump with the blade and lift the blade while pushing on it.

Finished Road Grade

The finished winter road grade can be smoothed by a skidder pulling a couple of skidder tires, also known as a 'tire drag.' Other types of drag equipment can also be used (Figure 4). These devices smooth the road and fill-in minor differences between the running surface and the tops of sheared stumps. The technique also removes freshly fallen snow and any insulating effect it may have therefore allowing frost to penetrate into the road more readily. However, this technique will not sufficiently fill-in voids resulting from removed stumps.

Water trucks can deliver water to the road surface to promote a frozen condition in preparation for hauling. In certain situations, artificial snow is used to supplement local fill material for patching and leveling roads with uneven running surfaces. Artificial snow is typically denser and packs well for road fill applications.

Spring and Summer Road Condition

A winter road built with sheared stumps will be extremely uneven and likely inaccessible with a 4x4 truck after the spring thaw. Silvicultural or survey workers may need to travel by quads to navigate the road.

If the road was built to be an in-block temporary road, this is the first season where the



Figure 4. Drag equipment used along winter roads includes used excavator tracks and skidder tires.

Mulching: An Alternative to Consider

Used extensively for seismic line clearing, pipeline right-of-way and well-site construction, mulchers may present an opportunity for forest winter road construction. The additional cost of using a mulcher to eliminate stumps must be weighed against the potential benefits, such as the reduction in crawler tractor, construction time and potentially less environmental site impacts. Weather may also play a role in the sense that if the soil does not get cold enough for long enough, stump shearing may not be an option and mulching may prove more favourable.

benefits of an undisturbed forest floor will be seen. Suckering from the roots and stumps may be evident.

The shearing of stumps with a crawler tractor during winter road building activities is a technique which has numerous benefits when done right. Although temperatures need to be cold enough and for long enough to accomplish this task well, I am sure a few old timers would tell you all you need is a little know how to do it right, which they would be willing to share so you too could have it *down pat*. 🐾

Clayton Gillies, RPF, RPBio, is a senior researcher with FPIInnovations – Forest Operations Division. He has 15 years research experience in various aspects of forestry including partial cutting for visual quality objectives, interior hoe-chucking, and evaluation of embedded culverts, erosion and sediment control for resource roads and stream crossings. Most recently, his research has been in wetland crossings in the boreal forest.



Figure 1. Artificial snow being made at an approach to an ice bridge crossing.

Making Artificial Snow: Equipment and Limitations

WHEN BUILDING WINTER ROADS AND SNOW-FILL CROSSINGS, YOU NEED A large supply of clean snow. This can be challenging during winters when natural snow is not produced in sufficient quantities. To deal with this problem, some operations are making artificial snow (Figure 1).

Equipment

There are two main types of snow making machines, both of which work in freezing temperatures.

A traditional snow gun combines cooled water and compressed air. The compressed air forces the water stream into smaller droplets while ejecting the water into the air, often with the aid of a large fan. The water droplets cool and freeze as they travel through the air and produce snow as they descend to the ground.

An airless snow gun forces water through a simple nozzle to create a fine mist. The mist is typically aimed into the air. However, in some cases the water is forced through a long pole to gain height to allow the flakes to form during their descent. (Figure 2).

Limitations

A few limitations to consider when making artificial snow are the amount of water required, the air temperature and the productivities of the equipment.

A tremendous amount of water is needed to make artificial snow—552 liters of water is needed to produce one cubic meter of un-compacted snow. So you need to assess if there is a suitable local water source at the construction location. If water is not available, one option is to locate a



Figure 2. Airless system used for making snow.



Figure 3. A stock pile of artificial snow conveniently built at roadside.

All photos courtesy of FPInnovations

central landing at a known water source where a stockpile of snow could be produced (Figure 3). The snow produced at the landing will then be loaded and trucked to the construction site(s). Another option is to utilize water trucks which typically contain 20,000 litres. A small crossing requiring approximately 220 m³ of un-compacted snow (expect a 70–80% compaction ratio) would require six full water trucks to make enough snow.

For successful snow making, temperatures need to be between -10 and -20° C. The relationship between temperature and relative humidity also plays a role with respect to the quality of snow made. If the temperature is not cold enough, or if the relative humidity is too high, the snow produced becomes slushy and this is not the desired consistency for building winter roads and snow-fill crossings.

Trucking snow can be costly considering the low volume to haul ratio. Snow is approximately 400 kg/m³ whereas typical soil is approximately 1500 kg/m³. If a local source with a short haul can be used then it may be economical. Considering the low volume-to-haul ratio, the use of an insulating material, such as straw, which was used during the Vancouver Winter Olympics, can be used to help preserve the snow

for a longer period of time.

You also need to consider the amount of snow needed to complete your construction project as each system has different capacities. The compressed air system typically produces 40 to 80 m³/hour while the airless system produces significantly less at eight to 30 m³/hour.

Mother Nature may not always cooperate when it comes to bringing us winter when we are ready for it. There is more than one way to make snow, but for certain it requires lots of water. Making artificial snow is one way to get our forest roads and snow-fill crossings in place in time for winter operations. If snow has to be hauled a great distance, it becomes a valuable commodity. Hauling snow approximately 200 km for the Vancouver Winter Olympics turned it into gold. 🏆

Clayton Gillies, RPF, RPBio, is a senior researcher with FPInnovations – Forest Operations Division. He has 15 years research experience in various aspects of forestry including partial cutting for visual quality objectives, interior hoe-chucking, and evaluation of embedded culverts, erosion and sediment control for resource roads and stream crossings. Most recently, his research has been in wetland crossings in the boreal forest.

Safe and Dry: Winter Cruising on the BC Coast

IF YOU'RE WORKING IN THE WOODS ON THE COAST BETWEEN NOVEMBER and February, count on rain and you won't be disappointed. A coastal town like Port Hardy can get over 200 millimetres of rain in a typical winter month, occasionally within a two day period. That's about 10 times the combined monthly precipitation in Kamloops. Spend a 10 day shift in the aptly named *very wet hypermaritime* Biogeoclimatic Unit during the winter, and you'll understand the meaning of wet.

Identification and mitigation of safety hazards are at the core of an effective safety program and it's mandatory for BC Forest Safety Council SAFE Certification. The bottom line of any field operation is getting people home safely at the end of each day. We can't control forces of nature, but we can anticipate and prepare for them. Preparation can keep a bad day from becoming a tragic one.

The risk of hypothermia is highest under wet and windy conditions. The physical demands of timber cruising generates plenty of body heat, so there's little risk of hypothermia during normal activities. When normal activities stop, due to injury or other unplanned events, it takes very little time for the cold to cut through wet clothing. Cruisers dress in layers of breathable clothing to allow for heat to escape when physically active, but the layers provide enough insulation to keep warm when standing still. The Stanfield wool sweater is breathable and provides excellent insulation, even when wet.

A bit of snow isn't unheard of on the coast, particularly at higher elevations. Coastal timber cruisers, in our rubber raingear, aren't particularly well-suited to this environment. Stable footing and a good grip is a must to avoid becoming a human toboggan. Crossing snow chutes and steep creeks in snow should be avoided altogether.

The choice of footwear and outer shell is challenging when higher elevations in a block have 30 centimetres of snow and the lower elevations are snow-free. In most cases, winter Gortex jackets can't withstand the punishment of wet and brushy conditions. Winter boots provide more traction and comfort in snow, but don't provide enough traction on steep slopes or woody debris. A rubber rain suit and rubber caulk boots are the common denominator in mixed conditions. It's better to have cold toes in the snow than be cold and wet all over.

The fewer daylight hours in winter and the dim light on cloudy days are an obvious hazard. Nobody thinks that working in the woods in the dark at night is a good idea and it's no different when it's dark at 8:30 am. Tripping and falling are the most common hazards in reduced light. Working safely requires that you adapt your work according to the conditions. That might mean a later start time or a slower pace in the woods. But one less cruise plot per day is better than a lost-time injury—or worse.



Viewpoints

By Jeff Kerley, RFT, ATE

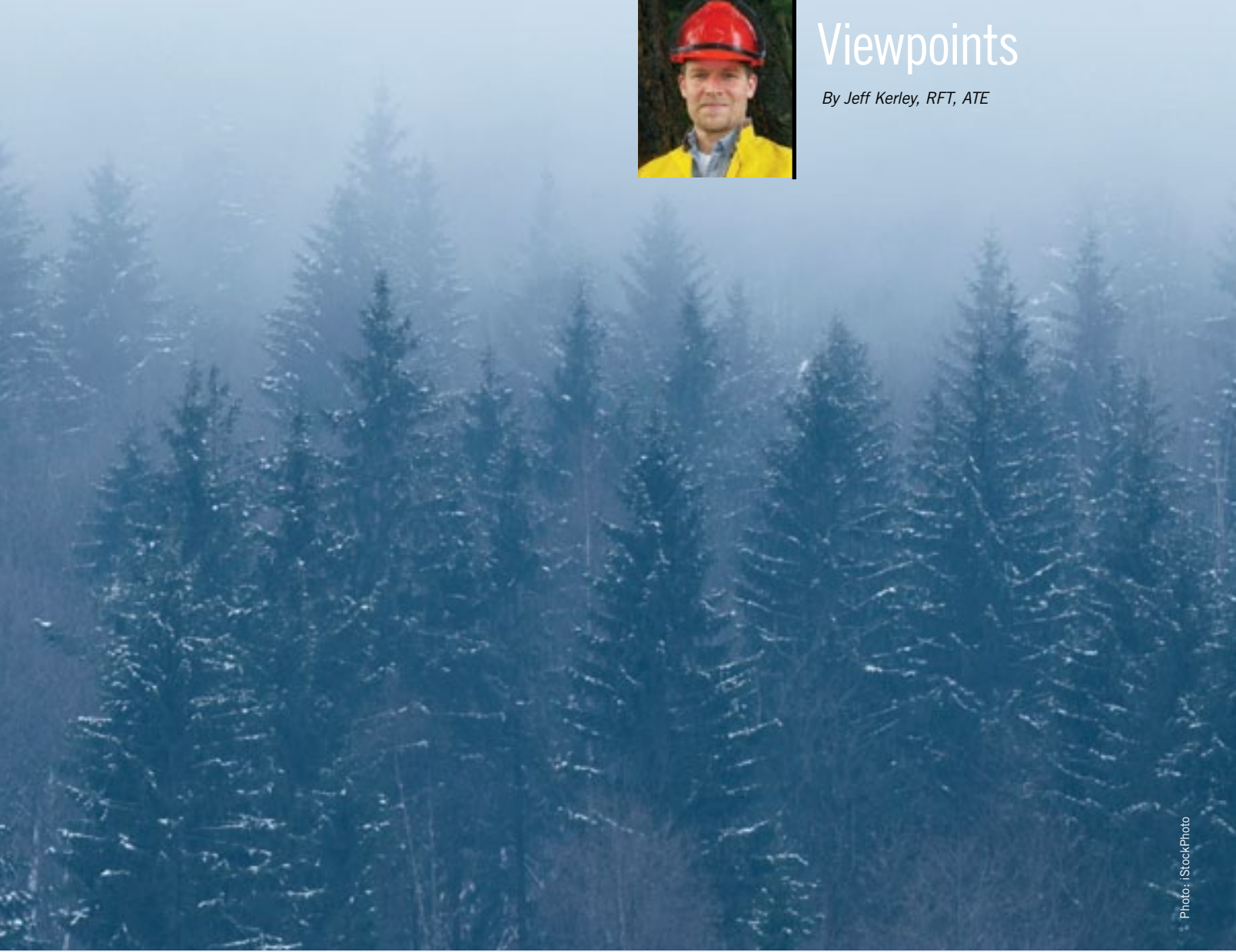


Photo: iStockPhoto

Getting a stick in the eye from the now leafless brush is almost a wintertime tradition for field people. A flip-down brush screen is most effective prevention for this hazard and it's more likely to be used by field staff than safety glasses stored along with debris in a cruise vest pocket.

Driving is almost always the number one hazard in timber cruising. Heavy industrial traffic, tourist traffic and variable road surfaces are enough to contend with at any time of year. During the winter months, reduced visibility and deteriorating road conditions from rain are additional hazards. Most land managers have environmental management systems in place to monitor rainfall and restrict activities when surface water flow and soil saturation create a hazard. There's no substitute for defensive driving though. The culvert you drove over yesterday may be an open chasm today.

Winter storms can come up quickly and unexpectedly. Field staff must be aware of their surroundings at all times and supervisors must be able to assess the risk and decide when to leave the woods. A hard hat provides little protection from a 10 centimetre Douglas-fir branch flying through the air, let alone a collapsing snag. High winds may also block road access home with fallen trees.

Above everything else, there is simply no replacement for check-in procedures and emergency communications. A relatively minor injury can turn into a major injury if shock develops, and this can be fatal over

time without medical treatment. The ability to get help in an emergency and to immediately implement a rescue requires pre-planning.

Emergency planning requires the development of detailed and site-specific written procedures to deal with any emergency, especially how to get an injured worker out of the woods and to medical treatment. Communication is the key, and each worker must know who to call and how. The plan should include emergency contacts, the closest hospital and methods of evacuation. A complete list of emergency procedures and contacts should be carried by each worker.

A good emergency plan always has a 'plan B' for communications and transportation. For example, if the radio doesn't work, use the satellite phone, or if the helicopter can't fly, evacuate by boat. The extraction of workers from the woods with even minor injuries can take hours to complete, so it's critical to get the process started as soon as possible.

Working on the coast during the winter isn't all bad. There are the odd sunny days when you blow the dust off your sunglasses and take in the awesome effect of all that rain on our coastal forests. Then, go skiing or golfing, as weather permits. 🌊

Jeff Kerley, RFT, ATE, is president of Kerley & Associates Forestry Consulting Ltd. The Vancouver Island-based company specializes in timber cruising, inventory, project management and utility right-of-way development. Jeff can be contacted at jkerley@kerley.ca.



You're Hurt and Lying on the Ground. It's Getting Dark. Now What?

YOUR WORK DAY STARTS LIKE MOST OTHERS; YOU'VE DRIVEN 45 KILOMETRES and walked or driven an ATV or snowmobile for an hour before you've reached your work site to start your day. It is located in the middle of nowhere on some boundary or road line where you ended off the day before. You and your partner are part way through your day when you misstep and feel and hear a pop in your ankle. Your ATV or Snowmobile isn't within a reasonable distance for you to get to. Now what?

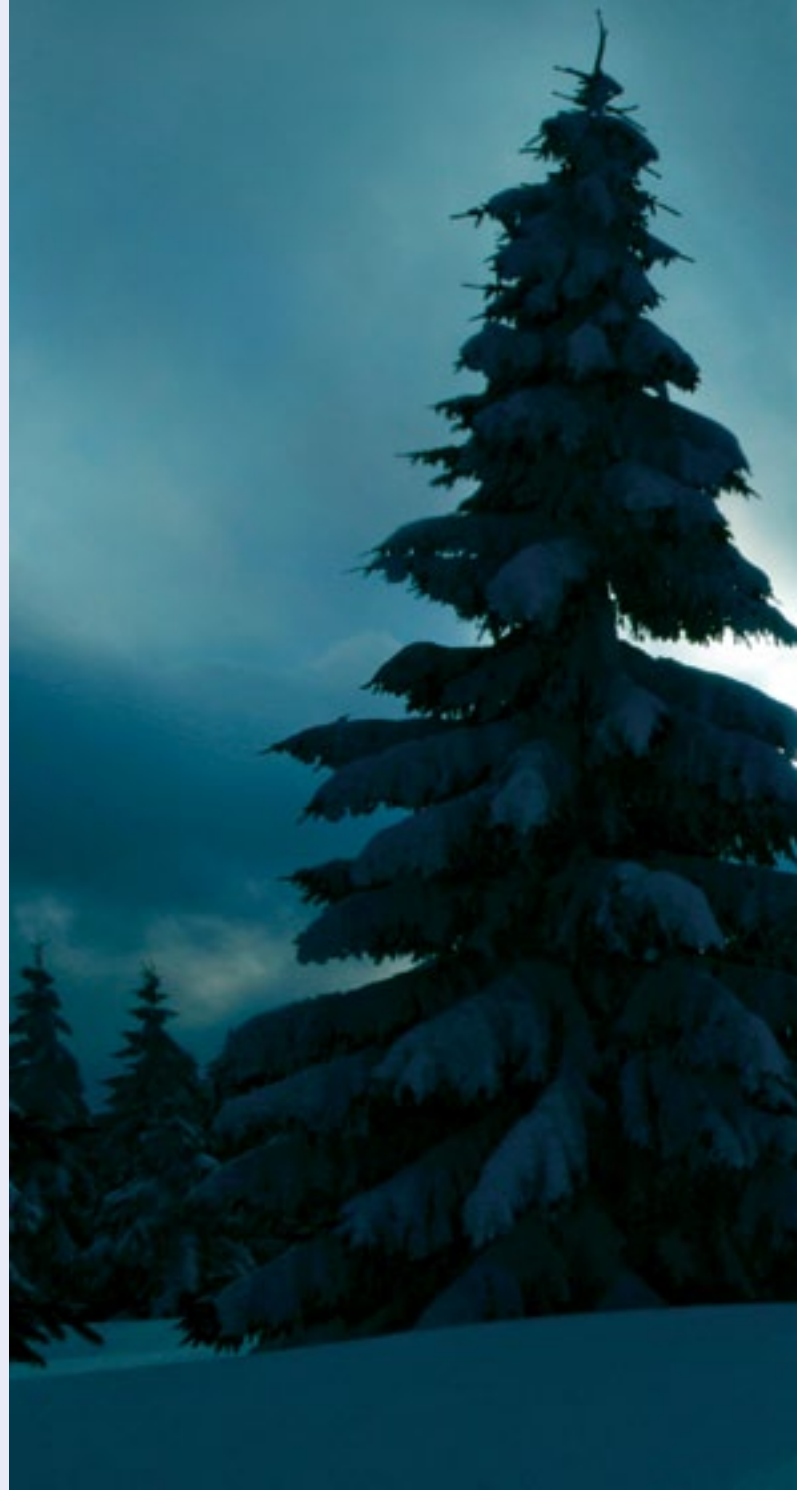
Your company likely has plans in place for such emergencies. Your partner may need to head out to get help or you may have a radio to call for help. You will likely be on your own for at least an hour or two unless you were unlucky enough to have injured yourself near the end of the day where dwindling daylight may slow the rescue you are expecting.

Add to all this, inclement weather, like rain and snow, and your regular day in the woods can be one of the most uncomfortable, and possibly riskiest you've ever experienced. What have you yourself done to prepare for your own survival while your rescue is being activated? Your comfort and possibly survival will depend on how prepared you are to spend the next couple of hours and even overnight in the forest.

What you carry in your cruising vest can dramatically increase your comfort and safety. On the next page we've listed the ten essentials that anyone going into the forest should carry. As a forest professional you are more prepared than most. You likely have a compass and map or a GPS and, unlike most, you actually know how to use these tools. But in this scenario you're not lost, you're injured. Do you also carry some extra clothing in your vest, like rain gear or a dry shirt, or did you pull it out to save a bit of weight? If you did, you'll be wishing you hadn't now.

You likely brought food and water for lunch but do you have anything extra in your vest just in case? An overnight stay in the forest with an injury and bad weather can be made better with a bit of food and water in your belly. The extra nourishment allows your body to produce the energy it needs to keep you warm. Carrying a bag of trail mix or energy bars may be the most important thing you have in your cruising vest.

Any self-respecting forest professional carries a pocket knife or multi-purpose tool. This could come in handy with the matches or lighter you should also be carrying in your vest. A fire can add to your comfort and warmth. However, it is amazing how many people have carried the tools to start a fire but have never actually started a fire. It



can be more difficult than you think and you don't want to start learning how in the middle of an emergency.

I have been a volunteer for Coquitlam Search and Rescue (www.coquitlam-sar.bc.ca) for over 20 years and have rescued countless people who never expected to spend any additional time in the forest. I've lost count of the number of times we have found hikers in the early morning hours with little more than shorts, a T-shirt, sneakers, an empty water bottle, no food and a dead cell phone. All were out for a day hike and none planned on getting lost or injuring themselves but it happens.

Other resources you should be aware of are your local search and rescue teams. Over the years, I have trained and worked with countless volunteers of the province's network of search and rescue community. I have also found that a number of them are also forest professionals like myself. Forest professionals have the skills and training to navigate and



Photo: iStockPhoto

are used to working and recreating in the outdoors. With these skills, they become a valuable asset to any search team. Activating a search and rescue team should be part of your company's safety plan and is as simple as a call to 911 where the BC Ambulance Service or local police should be well versed on activating your local team.

When at work, do not forget to prepare for the unexpected. Work and play safe in the forest and remember, you are your first line of safety. 🐾

Dwight Yochim, RPF, is the national director with the US WoodWorks program. In this position, Dwight leads a dedicated team of engineers, architects and others promoting the virtues of wood. Prior to that, he was the director of professional practice and forest stewardship with the Association of BC Forest Professionals. He is also a volunteer search and rescue manager with Coquitlam Search and Rescue.

The Ten Essentials

1. **Flashlight and Spare Batteries.** Many people take just a little too long on a hike and are caught by darkness, and it can get really dark under the trees. We've found people who only got lost after dark because they could not stay on the trail.
2. **Extra Food and Water.** If you're delayed by weather, a little food and water can make an uncomfortable situation much better. You're less likely to panic, and it allows you to think clearer so you don't turn a little mistake into a big one.
3. **Extra Clothing (rain, wind, water protection).** If you're delayed and out at night you know how cold it can get. Even a jacket and a hat can help keep you much warmer.
4. **Pocket Knife.** This useful item can make tent pegs, whittle wood for a fire, cut rope and hundreds of other things that can help you survive.
5. **Navigational Aids (map, compass, altimeter, GPS, chart, radio, mobile phone).** Without (at the very least) a map, a compass and the knowledge of how to use them both, you're really at the mercy of whoever built the trail you are on.
6. **Candle.** A candle can provide warmth and light, but also lets you start a fire.
7. **First Aid Kit and know how to use it.** Small accidents are a big problem if you have nothing to treat them with.
8. **Large Orange Garbage Bag.** When we tell people to bring one of these they think we are crazy, but every SAR member has them. They're VERY useful as an emergency shelter and they can also be used as a signaling device for helicopters.
9. **Fire Starter.** Bring matches in a waterproof container or a full lighter.
10. **Sun Protection (glasses, sunscreen, hat).** The sun is a force to be reckoned with. Without sun protection, burns and sun stroke are almost certain on a sunny day.



This landslide, the second largest in Canadian recorded history, obliterated five pieces of heavy equipment (not even a paint chip left) and destroyed several kilometres of road and access infrastructure.

A Goldilocks Solution: Restoring Road Access in the Most Geologically Unstable Area of Canada

ON SEPTEMBER 19, 2009, CAPRICORN CREEK HAD A ‘SMALL’—1 MILLION CUBIC meter landslide that wiped out the existing Capricorn Creek bridge and another 500 metres of approach roads. Road access up Meager Creek, near Pemberton, was completely cut off as this was the only road into the valley.

The Meager drainage has had road access since the mid 1970s with ongoing forestry activities. Meager Creek is also the location of a very popular, semi-developed recreational hot springs. There has also been extensive geothermal power exploration work intermittently since the road access was developed in the 1970s. Developers have been trying to drill into the sweet spot under the Meager Mountain extinct volcano.

The Meager Creek Valley is the most geologically active and unstable area in Canada. There are frequent large natural landslides that initiate on Meager Mountain and flow down into the valley. Over the past 40 or so years, since roads were built into the area, there have been a series of these natural slide events in the Meager and Upper Lillooet drainages that have damaged the road system.

A team was assembled to plan and implement the appropriate solution for restoring road access after the September 19th slide. The team was looking for a “goldilocks” solution for restoring the road. The road and bridges needed to be good enough to last the

normal water flow conditions for the estimated one to 15 years until the next slide event was expected, but not so well done as to waste money when the next slide comes. Everyone on the team understood this fact and worked together to develop a practical solution.

My role was to seek the necessary information from this resource team, coordinate their inputs and apply their recommendation on the ground. That is, to direct the reconstruction works and ensure the work was done under safe operating conditions.

The team decided that the most appropriate solution was to install a simple, low cost, log crib and stringer gravel decked bridge. This would allow us to use local materials to construct a high strength, scour resistant bridge. Although simple in materials, design and construction, log crib and stringer bridges are well suited for a short-term crossing structure due to the inherent strength and tolerance of timber. Log bridges can shift slightly due to abutment settlement and still perform as intended.

Everyone involved had worked on these bridges before or claimed they had. This was obviously the best solution. What could be technically and operationally easier? What could go wrong? (At this point, I want readers of a certain age to gently hum the theme song to Gilligan’s Island.)



This map shows the path the slide took through the valley.

Looking down the Capricorn and Meager Creek valleys into the Lillooet River, this photo was taken 12 hours after the August 5th slide occurred.

All photos: John C. Howe, RPF

Forest professionals are taught that Murphy was an optimist. Meaning what you did not even expect to be an option, is an option and will go wrong. On this project Murphy brought us many things:

- Quicksand. (Why else would an excavator sink in what looks like solid ground?)
- Indignant tourists demanding we open the road immediately so they could use the hot springs.
- High water flows with a sediment load that changed hourly depending on the temperature induced snow melt. The stream was moving approximately a thousand cubic meters of sand and boulders an hour.

Did I mention that this is the most geologically unstable area in Canada and that there are required safety procedures for working in the area? Throughout the construction process, we had someone looking upstream and monitoring stream flow conditions in accordance with our operational shutdown criteria and emergency evacuation plan. The plan was that if the watchman observed something coming down the hill, he would notify all other workers and they would evacuate the site to a safe refuge. This would work fine for a slow moving, million cubic metre slide.

Eventually the bridge and approaches were built and armoring was almost completed. In mid summer we curtailed operations due to hot weather triggering the “get out of Dodge” conditions identified under the operational shutdown criteria. We left to wait until the weather cooled down and we could safely return to the valley.

The weather cooled and on August 5th we scheduled the crew to return for 7 am the next day. At 3:31 am, August 6, 2010, another slide came down and flowed through the worksite at an estimated 100 meters/second. It was through the area in a matter of seconds and was the second largest landslide in Canadian recorded history. Thankfully, no one was there. The slide obliterated

five pieces of heavy equipment (not even a paint chip left) and destroyed several kilometres of road and access infrastructure.

Miraculously, no one has been hurt or injured by this event to date. Sometimes, despite Murphy, you just get lucky.

At this time we are looking at options for getting back into the Meager Valley. That will be another story. 🐼

Stirling Angus, RPF, has been involved in the BC forestry community since 1976 with his first job as a rap-attack fire fighter. Since then he has worked throughout the province in a number of positions including forest land manager, logger, woods manager, forestry instructor, policy research forester and consultant.

I would like to name and sincerely thank the main players in this saga to date including:

- Francesca Knight, RPBio, with the Department of Fisheries and Oceans for providing guidance on Federal Fisheries legislation compliance.
- Malcolm Schulz, RPF, with MFR Squamish District for providing oversight and professional coordination on behalf of the province.
- Pierre Friele, PGeo, with Cordilleran Geoscience for providing geotechnical advice on everything from peak flows, landslide hazard and road repair design criteria.
- Gino Fournier, RPF, PEng with MFR Coast Region for providing advice on design structures and access options.
- Brett Allen, RPBio, with Diamondhead Consulting for serving as environmental monitor.
- Jeff Drenka and Squamish Mills' construction crew who actually did the work while in the bight the entire time. Thanks to Bill & Mike Brotherston, Warren Fredericks, Travis, Ray Shier, Sandy McCormack and Tom Carney.
- Dave Southam, RPF, with MFR Squamish for ensuring that the funds necessary to do the work were made available.
- John Howe, RPF with JCH Forestry Ltd. for providing field layout and designs as well as general all round guidance.

By Domenico Iannidino,
MBA, RPF, RPBio, PEng



The Private Land Life of a Forest Professional

A FORESTRY CAREER IN BC WITH A LOT OF TIME spent in private is common. For instance, walking through the woods alone, thinking of where your brilliant management activities fit into the landscape that surrounds you.

Ahhhh yes... just like in the forestry school recruitment websites. Queue bird chirp and brook babble.

But a forestry career in this part of the world with a lot of time spent on private land is much less common. It's also much more like what those websites imply.

We all know the statistics by now. Only about five percent of the forested land base in this province is private land. However, it produces significantly more than five percent of the economic activity in this (still) massive industry. Part of that economic activity is the employment of RPFs and RFTs.

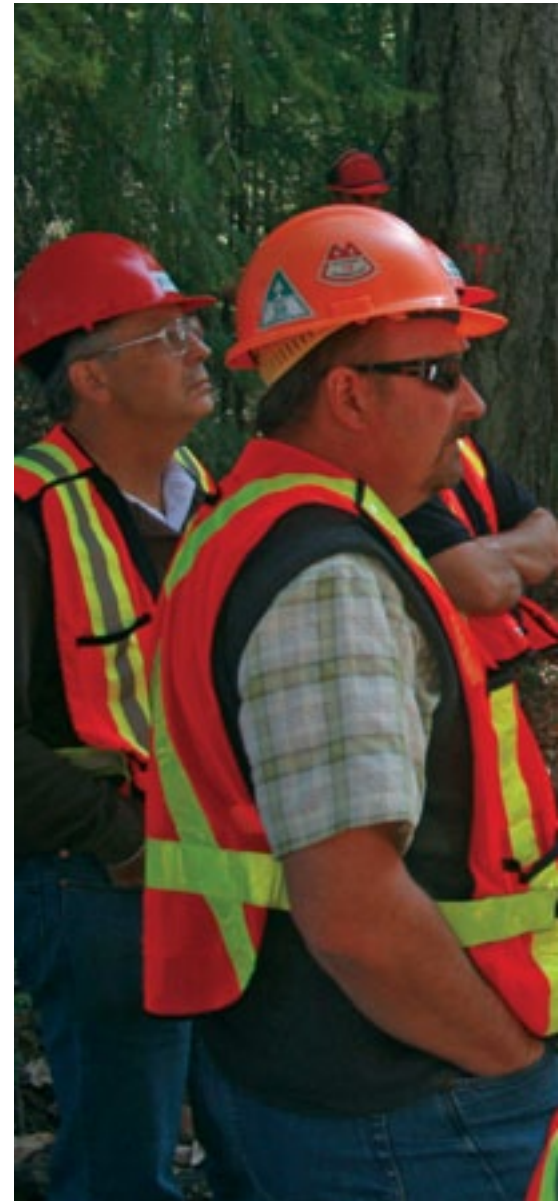
Most private land forestry occurs on private managed forest land, a land classification similar to farmland. In this classification, the owner adheres to the *Private Managed Forest Land Act* in exchange for lower tax rates. Managed forest sizes range from many thousands of hectares to 25 hectares or less. Operating under an approved management commitment, an owner follows specific, results-based regulations. Government wins by increasing forests that are managed while keeping accountability and program costs with the landowner. Because of its inherent flexibility, the Managed Forest Program

makes forest professionals depend heavily on their obligations in the *Foresters Act*.

Focusing on results and being confident in stewardship investments are standard fare in private managed forests. Some landowners have completed terrestrial ecosystem mapping of their entire land base and this helps silviculture planning and predicting species at risk. Others use high gain seed from private or regional orchards to increase the likelihood of a reliable next crop. Still others distill the results expected from numerous regulations into internal best management policies to help communicate the diligence that goes into forest management.

Independent third-party auditors stop by every year to confirm that, for instance, a riparian planning area policy is appropriate, that the feller-buncher operator understands this aspect of a harvest plan and that the plan is followed. As the government appointed body to oversee the program, the Private Managed Forest Land Council also conducts regular audits of landowners. Moreover, the Council will also inspect public complaints; all in pursuit of confirming that key public environmental values are met as the result of sustainable forest management.

People often want to know private land forestry delivers its excellent results. The truth is, there isn't one recipe that everyone follows. Working for a large private land forest company includes regular interactions with



a variety of provincial and federal agencies, local governments, environmental groups, neighbourhoods and neighbours. Each has an opportunity to learn how we support research activities, manage our watersheds, train our contractors and market our products.

Fisheries & Oceans Canada, the Ministry of Environment, WorkSafeBC and local governments are just a few examples of ingredients necessary to manage operations that may include gravel pits, tourism, wind power and real estate in addition to our typical suite of timber products. Environmental management systems and



Photo: Jonathan Lok, RFT

Timberwest and Island Timberlands toured the ABCFP council through a managed forest last autumn.

forest certification schemes further help agencies and customers understand the pathway of accountability and ‘freedom to manage’ that comes with private forest land.

How this all looks in the field was the theme last autumn when TimberWest and Island Timberlands toured most of the ABCFP council and staff through a managed forest on southeastern Vancouver Island. One of the discussion topics was how private forest land is often near urban centres and generates a lot of attention from the public. Large managed forest lands are often near beaches, park access, hiking trails and other

public interests that command attention over and above the basics of water quality and critical wildlife. As large landowners, we work with those communities to explain our plans and occasionally even rent somebody’s driveway for a few weeks.

People will hear logging equipment or see a viewscape changed by harvesting because of this urban interface. However, listening to forest professionals explain how a cutblock that was designed a decade ago has regenerated to plan, while standing in that cutblock, is comforting. Everyone can see the result. Any good forest professional will know that

the unspoken ingredient for success is the spice of authenticity. Always seek out the increasing opportunities to season your professional work product to your taste, regardless of the tenure type. Be proud of the results whether you work on private or public land. Why should they be any different? 🌲

Domenico Iannidinardo, MBA, RPF, RPBio, PEng, is manager of environment & resource integration at TimberWest Forest Corp. in Nanaimo, where combined operations of public and private land are near half a million hectares. He’s also vice-president of the Association of Professional Biology of BC.



Photo 6.

Battle of the NFPs

EACH YEAR DURING NATIONAL FOREST WEEK THE Association of BC Forest Professionals' (ABCFP) Networks of Forest Professionals (NFPs) hold forestry activities throughout the province. They compete with each other to see who can hold the best and most exciting events.

For the past three years the North Island NFP held on to the Battle title despite some excellent competition from other NFPs. This year, the mantle of supremacy was passed to the East Kootenay NFP. They put together an amazing program and managed to reach more than 20,000 families through a supplement in the local paper in addition to events aimed at school kids.

The North Island and Fort St. James NFPs also did amazing jobs and have been declared the runners up. Members of the East Kootenay NFP received coveted ABCFP ball caps and bragging rights for the year.

Check out the battle events for our winner and runner ups below.

East Kootenay

Because of how extremely valuable the range resource is in the East Kootenay, the Rocky Mountain Forest District and its NFPs have been celebrating National Forest and Range Week for several years.

The local daily newspaper, the Townsman, put out a four-page Rocky Mountain Forest

District update supplement. There were lots of interesting articles and pictures highlighting local forest and range issues. One highlight was the "Three Years at a Glance" fact sheet. It is a valuable guide to district statistics and clearly shows some interesting trends of activities on the land base. Circulation of the newspaper is 20,000 households.

Also, 275 school children toured the Cranbrook Community Forest. Subjects discussed included: trees, plants, grasses, species and where they exist, ecosystems and habitat. The younger kids took a short hike around Kettle Pond which has eight points of interest along its path. Older kids took a longer hike and learned about forest and range issues of interest on the way.

A work bee was held at the Cranbrook Community Forest to clear one hectare and was attended by 65 people. The Cranbrook Cubs, Scouts and Guides took part in tree pulling and dragging slashed trees to roadside. The debris was ground into chips that were placed on the trails in the community forest.

North Island

The North Island NFP made Careers in Forestry presentations to 100 grade 10 students and 550 primary students. Students also received Trees Clean the Air presentations at their schools. In addition, 200 intermediate



Photo 7.

students participated in a full-day forestry tour including a hike, mini-logger sports competition and a chainsaw demonstration.

Fort St. James

The Fort St. James NFP organized a hike for 120 grade five students. The hike included a number of stops where the kids and their teachers learned more about different aspects of forestry.

The ABCFP congratulates the winner, runner ups and all of the Network of Forest Professionals that participated in 2010's battle. More photos can be found on the ABCFP's Facebook page. 🐾

By Brian Robinson, RPF



Photo 1.



Photo 2.



Photo 3.



Photo 4.



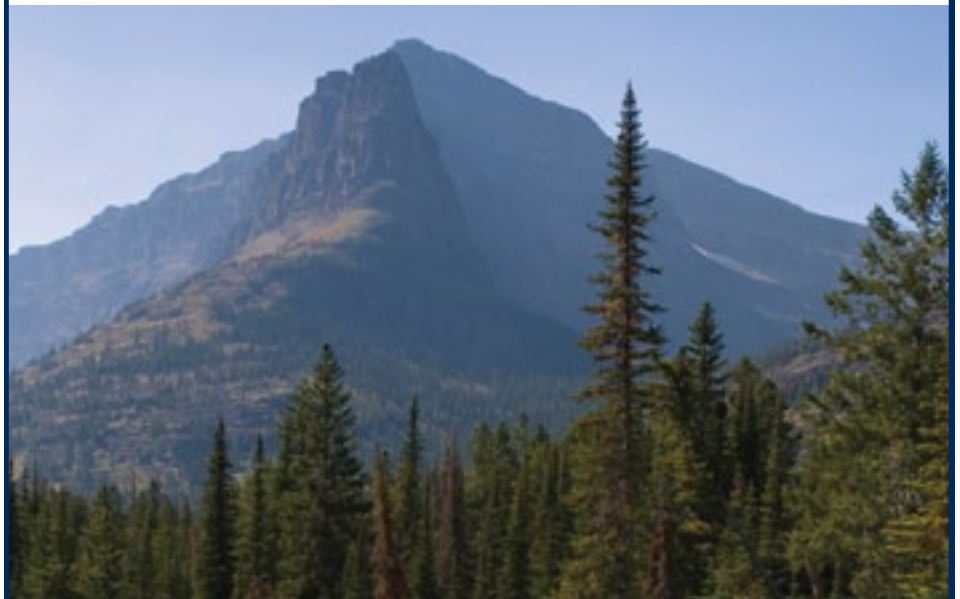
Photo 5.

Photos one through six were featured in the Rocky Mountain Forest District newspaper insert. Photo seven shows children toured by the North Island NFP.

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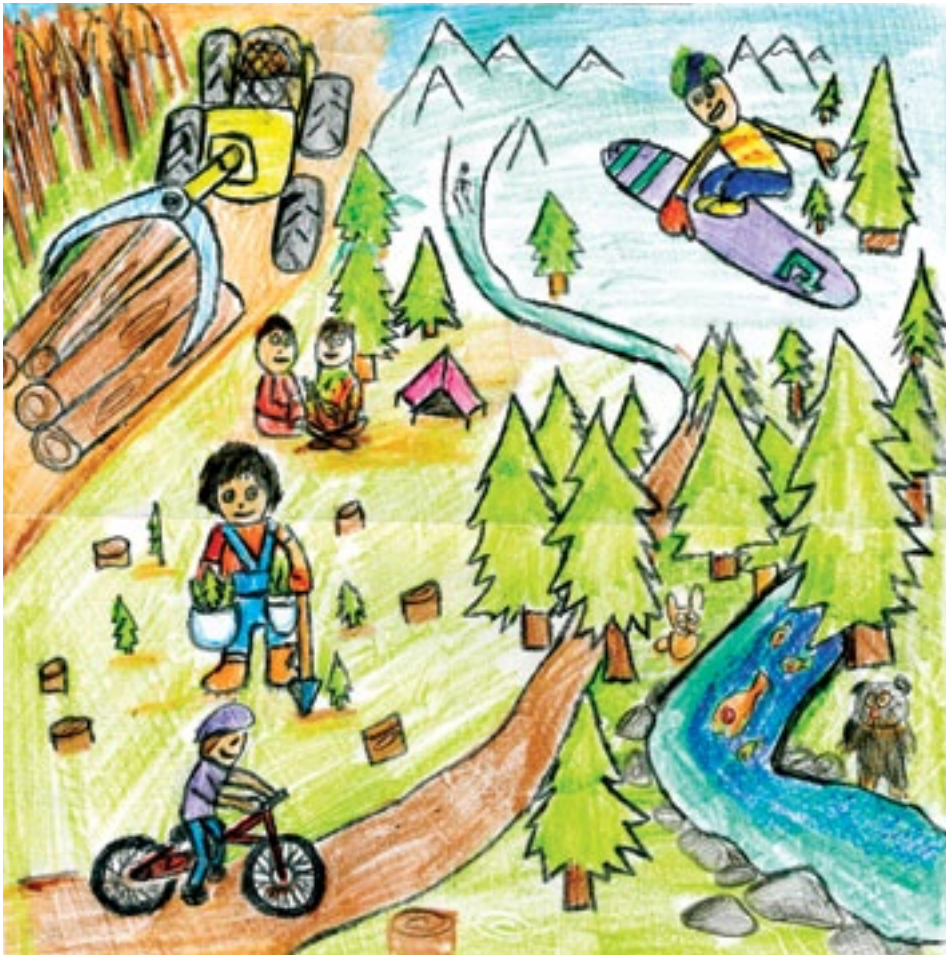
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Ivan Johnston, age 10, Quesnel



Thomas Rawling, age 11, Quesnel



Jordan Homer, age 12, Quesnel

Over 400 Kids Celebrate National Forest Week with Art

WHAT DOES THE FOREST MEAN TO YOU? THAT'S THE QUESTION KIDS answered this fall when they submitted their National Forest Week Art Contest drawings. This event, sponsored by the Truck Loggers Association and the ABCFP, was part of the ABCFP's National Forest Week celebration.

Each category had a winner and one or two runners-up. Each winner received a \$50 gift certificate to Chapters and all the kids received a certificate of achievement.

Thank you to all everyone who took the time to submit a drawing. Picking the winners was very difficult—so many of the more than 400 submissions were outstanding.

	Winner	Runners Up
4-5 years	Madysyn Parker, age 4, Quesnel	Catherine Sastrawidjaya, age 5, Vancouver Norah Macaulay, age 4, Kamloops
6-8 years	Maya Wellman, age 7, Burns Lake	Carter Barbosa, age 8, Quesnel
9-12 years	Ivan Johnston, age 10, Quesnel	Thomas Rawling, age 11, Quesnel Jordan Homer, age 12, Quesnel



Maya Wellman, age 7, Burns Lake



Carter Barbosa, age 8, Quesnel



Norah Macaulay, age 4, Kamloops



Madisyn Parker, age 4, Quesnel



Catherine Sastrawidjaya, age 5, Vancouver

The Collector:

David Douglas and the Natural History of the Northwest

By Jack Nisbet
2009 Publ. Sasquatch Books,
Seattle.
xiii & 240pp
ISBN-10: 1-57061-613-2

THERE CAN BE LITTLE DOUBT THAT DAVID DOUGLAS MERITS THE praise which has been heaped on him but a fifth biography; is there room or need for it?

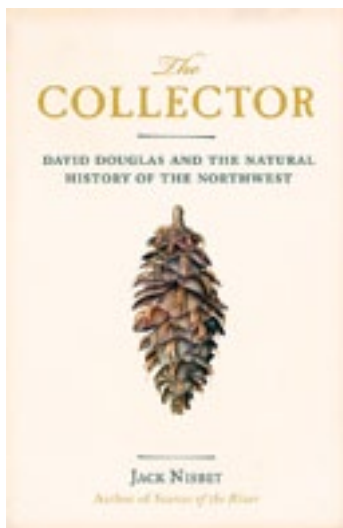
This latest and very readable work tells much more about David Douglas, the man, than any of the earlier works. It also gives fuller accounts of his 1823 botanical exploration in eastern North America; his stay in England between 1827 and 1829 after his first trip to the Pacific Northwest; and the last, fatal visit to the Sandwich Islands. None of this is new ground but the additional details flesh out a picture of this redoubtable man, his personality and his relationships with friends and acquaintances. There is more too about his surveying and scientific observations than earlier authors have presented so that one can indeed say 'Yes' there is a place for this most recent biography.

The book deals less fully than the previous ones with Douglas' botanical findings, rarely provides

technical botanical nomenclature for plants mentioned and, unlike all the other volumes, doesn't list his many plant introductions to the UK or the several genera or species plants named for him. Perhaps this reflects the author's interests as a 'writer, teacher and naturalist' and a focus on the man rather than on his activities.

Though extensive and wide-ranging, the bibliography omits mention of Smith's short 1997 booklet 'All for a Handful of Seed' with some rare and interesting illustrations, and a 1992 article in the *Forestry Chronicle* 'Douglas-fir and the Scots Connection.' I must also confess to being irked by the absence of north-direction arrows from all but one of the several, clear maps and the failure to hyphenate Douglas-fir.

Reviewed by Roy Strang, RPF (Ret)



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SNAP! is designed to make your typical paper field cards and forms obsolete. Any card or form can now easily be replicated in a SNAP! format for your mobile Windows device. Data collected can instantly be compiled and reported from within SNAP! then transferred to your PC for storing, printing, or exporting to other systems.



We found out about SNAP! through our existing business relationship with JRP. We've used their Plant Wizard and Survey Wizard applications for quite a few years.

Within our planning department, we use SNAP! for post-harvest assessments. In other departments, SNAP! is used for recording safety inspections and worker observations by our production supervisors.

We chose SNAP! because JRP's customer service is excellent and they are constantly upgrading their software to better serve customer needs. This is critical for any software application.

Why would I recommend SNAP! to others? Rather than carrying around a bunch of forms, you can carry one handheld with SNAP! on it. Dropdown menus make most entries quick and there's no data entry from the handheld to the workstation. You download using a USB cable—just like a camera.

David Poilievre, RPF
Operations Forester, Western Forest Products Inc.

We found out about SNAP! through two big licensees we work with on the Island. They were already using SNAP! and were really happy with the product and the service.

We use SNAP! for faller certification. There are 4,500 fallers in BC and now we can conduct evaluations on handheld devices and track it all electronically. It's amazing how quickly you can pull out specific information from SNAP! collected data.

We chose SNAP! because JRP is local and really helpful about customizing stuff for us. We're piloting things as I speak and they've been a great help.

Why would I recommend SNAP! to others? We're in an industry that struggles with paperwork in a wet environment. SNAP! makes everything from entering the data on the handheld to pulling the final reports much easier. Also, it's so versatile that any company could use it. The falling community can do its own data collection and tracking on the same device.

Bill Bolton
Senior Advisor & Manager, Faller Programs, BC Forest Safety Council

Discipline Case Studies

Endangered Ecosystems



Background

The protection of endangered ecosystems is an important issue for the Association of BC Forest Professionals (ABC FP) and its members. The ABC FP has received complaints regarding members' actions in relation to managing endangered ecosystems. The membership needs to be aware of these issues and understand clearly their professional obligations regarding the protection of endangered ecosystems. Members must ensure that they have the training and expertise required when practising in this area and must act diligently to show that they have met their professional obligations.

Case Study

Pam is asked to develop a silviculture prescription and a timber harvesting plan for an area that is known to contain an endangered ecosystem. There are significant public concerns about harvesting the area and the need for protection due to the presence of the endangered ecosystem and the potential presence of endangered species. The licensee which hired Pam has received a licence to harvest the area. The area is covered by an approved Forest Stewardship Plan. Government has developed a draft Land Use Order to protect the endangered ecosystem in question but this order is not yet law. Government has issued the licence to harvest the area in full comprehension of the need to protect the endangered ecosystem. Pam has had a qualified registered professional assess the area and confirm that it does contain the endangered ecosystem in question; however, the report on the ecosystem classification does not assess the presence or absence of the endangered species on the area.

Pam accepts the job of creating the silviculture prescription and the harvesting plan.

Issues

- i) How does Pam satisfy her professional obligations to advocate and practice good stewardship?
- ii) How does Pam satisfy her professional obligations with regards to the endangered ecosystem?

Discussion

Government retains the right to grant licences on Crown land that is within the timber harvesting land base and hence a licence was awarded. Pam has a responsibility to meet the applicable requirements of the *Foresters Act* and the ABC FP Code of Ethics. The code of ethics requires our member to do the following:

- "...advocate and practise good stewardship of forest land based on sound ecological principles to sustain its ability to provide those values that have been assigned by society."
- "...have regard for existing legislation, regulation, policy and common law; and to seek to balance the health and sustainability of forests, forest lands, forest resources, and forest ecosystems with the needs of those who derive benefits from, rely on, have ownership of, have rights to, and interact with them."

Pam is required to practise stewardship within the values that have been assigned by society. These values are identified by policy, statute and regulation. Our stewardship obligations require us to advocate for stewardship, but the legal power to determine what is protected lies solely with government as the representative of the public interest assigned by society.

Our professional obligations are limited by our legal authority. We have no legal authority to set provincial policy regarding endangered species or ecosystems. Our members have no legal authority to prevent logging on an area that has been deemed part of a licence by government. If government, as the representative of the public interest, decides that logging will take place in a given area, then our members who are involved are required to ensure that the logging meets the objectives set by government for protection of identified environmental values.

In this example, despite of the fact that the area is known to contain an endangered ecosystem a decision was made to issue a licence. A decision to protect some of the endangered ecosystem through a Land Use Order has yet to be made but government has decided that the area in question can be logged.

Our members have a professional obligation to make their employers aware of potential stewardship issues. In this example, Pam must make sure that her employer is well aware that the area in question contains an endangered ecosystem and may contain endangered species. As well, Pam needs to ensure that her employer is aware that she has a professional obligation to develop a plan that addresses stewardship concerns and values that have been identified for the area.

It is difficult to know until after logging (assuming the prescription is followed to the letter) whether the proper steps have taken to demonstrate stewardship. The role of the forest professional is to prepare a plan that addresses, and provides a reasonable level of assurance of, what will happen. Any plan that is developed will have to meet all identified legal requirements and meet professional obligations for stewardship. Pam needs to investigate whether or not endangered species are present in the area and develop a plan that addresses any legal requirements for protection of these species.

The member who takes on this work will be in a very difficult situation and will have to be comfortable that he or she can develop a prescription that is sensitive to the values that have been identified. Creating a balance between ecosystem values, social values and economic values will be very challenging and will require cooperation of the licensee. The member must not be coerced by the employer to sign the prescription if it does not meet the member's professional obligations. However, it must be recognized that the final decision on what harvesting activities will take place under the licence rests with the licensee. If the member believes that a practice will be detrimental to good forest stewardship then the member has an obligation under Bylaw 11.3.4 to inform the responsible person involved and if the matter is not resolved to inform the council of the ABC FP.

Key Messages

- The government makes the final decision on whether harvesting goes ahead.
- Pam is ethically responsible to inform her employer about forest stewardship issues related to the harvest area.
- The employer does not have to follow Pam's recommendation. But if they ignore the recommendation they are compromising their due diligence defense.
- If Pam believes a practice is detrimental to good forest stewardship and the matter can not be resolved, she needs to inform the ABC FP (Bylaw 11.3.4).

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The Sunshine Coast Community Forest (SCCF) is committed to profitably managing our forest in a sustainable, effective and environmentally sensitive manner with broad community participation and support.

We are currently recruiting for the Operations Manager position. Reporting to the volunteer President, the Operations Manager will be responsible for all forestry, water quality, environmental sustainability and recreational activities and have a leading role in implementing our strategic and community engagement initiatives.

This position is currently provided by a third party service provider under a contract which expires on May 31, 2011. Going forward, we will consider both employment applications and service contract proposals.

This position will appeal to an individual or contractor with experience in forestry, logging or related environmental science. Business management and communications skills are essential.

For more information visit us at www.SCCF.ca. Enquiries and applications or proposals should be sent to President@SCCF.ca not later than 4:00 pm on January 17th, 2011.

Forestry Team in Action

Forest Dynamics and Carbon Storage

In December 2009, the Forum for Research and Extension in Natural Resources (FORREX) in partnership with the University of Northern British Columbia and the Canadian Forest Service was successful in obtaining support from the Future Forest Ecosystem Science Council for their extension project entitled, Reducing Vulnerabilities and Promoting Resilience of BC's Natural and Human Systems Through Adaptation of Post-Disturbance Land Management Options. One of the ways to help reduce vulnerabilities and promote resilience of BC's natural and human systems is to find out what information already exists and what is missing in order to complete the picture.

Davide Cuzner and Kathie Swift, Early Stand Dynamics Extension Specialist, are working to synthesize existing information related to the effects of natural disturbances and management responses on forest successional pathways and forest carbon. Significant information and research on this topic has been found however one challenge has been to find a way to group the information into cohesive entities

that make sense. The team decided to use a modified Ecoprovince approach with seven units that provide information on successional trends for various forest types and discuss how these trends and forest management practices may change as a result. A first draft of this synthesis is scheduled to be completed in fall 2010.

For more information on this synthesis please contact Kathie Swift. For more information on the FFESC project in general, please contact Alan.Wienczyk@forrex.org.

Project Team

Canadian Forest Service –
Pacific Forestry Centre:
Phil Burton and Steve Taylor
Sean Haughian

FORREX: Kathie Swift, FIT
University of British Columbia:
Davide Cuzner (graduate student)

Williams Lake TSA Silviculture
Committee/Future Forest Estate
Planning Team – Chaired by Mike
Pedersen District Manager, Central
Caribou Forest District

Contact

Kathie Swift, FIT
E-mail: Kathie.Swift@forrex.org

In Memoriam

It is very important to many members to receive word of the passing of a colleague. Members have the opportunity to publish their memories by sending photos and obituaries to **BC Forest Professional**. The association sends condolences to the family and friends of the following member:

W. (Rex) Thorp

RPF #315 LIFE MEMBER
1924 - 2010

A native of British Columbia's West Kootenays, Rex Thorp was born in Castlegar on January 24, 1924. He served in the Royal Canadian Navy during World War II, from 1942 – 1944, and upon being discharged he enrolled at the University of British Columbia, graduating with a forestry degree in 1950.

From 1950 to 1957, Rex worked for the Nelson Lumber Company near Nelson, first as Woods Manager, then as Mill Manager. He then moved to Fort Smith in the Northwest Territories, where he worked for the Department of Northern Affairs as a Forestry Officer.

In 1959, Rex moved to Revelstoke and began working for Celgar in the interior wet belt on the Arrow Lakes Tree Farm Licence (TFL 23). During his time working on TFL 23, Rex held various positions, one of the most notable being that of Manager of Forestry, Engineering. While he was manager, TFL 23 was the second largest TFL in the province. Challenges Rex faced there included poorly developed road systems, over-abundance of decadent hemlock, and the wild, untamed Columbia.



An interesting career highlight for Rex while working for Celgar in Revelstoke was, as the company's District Forester, to organize and oversee the first 70-mile river drive of log bundles from the Goldstream River down the Columbia River to Revelstoke. This drive was the first of its kind in southern BC, and the practice ultimately ended with the construction of the Revelstoke Dam.

In 1966, Rex was transferred to Nakusp where he spent the rest of his career, retiring in 1980. During the course of his life as a forester, Rex advocated for many forestry techniques that today are commonplace, including artificial regeneration, integrated resource management and patch cutting instead of the traditional (at the time) progressive clear cutting, a practice change which he helped implement and oversaw while employed by Celgar.

Throughout his time in Nakusp, Rex was an active member of the community. Married for 60 years to his loving wife Evelyn (Ev,) he had a partner who supported him in his career, community endeavours and family life. Community service as a 30-year member of the Rotary Club, a member of the Royal Canadian Legion and the Chairman of the Hospital Board, culminated in both he and Ev being named Citizens of the Year for 1994.

When not engaged in work or community activities, Rex's favourite place was near the old lake community of Deer Park just north of Castlegar. He had a summer cabin in the yellow pine forest that grow there where he spent many happy times with family and friends.

Rex leaves behind his long-time wife and partner Ev, two children, four grandchildren and two great-grandchildren.

A Moment in Forestry

Submit your moment in forestry to Brenda Martin at: editor@abcfp.ca



Northern goshawk (*laingi* subspecies) is a raven-sized raptor that inhabits much of BC's coastal forests. It is legally listed under the *Federal Species at Risk Act* and recovery efforts are underway. Monitoring known nest sites is extremely rewarding for me personally and professionally. I apply the knowledge gained through monitoring to all levels of recovery planning, from the recovery team at the strategic scale to operational scale management for the forest industry.



Submitted by John Deal, RPF, Campbell River

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