

BC

SEPTEMBER - OCTOBER 2012

Forest

PROFESSIONAL

**Am I Practising
Forestry?**

The Future of BC's Forests

**Forestry Team
In Action**



VIEWPOINT

Free Growing to Rotation

STAY SHARP



BC Forest Safety Council
Unsafe is Unacceptable

Slips, trips and falls are the second most common workplace injury. Stay on your feet with proper footwear, being aware of where you step and carrying only what is needed.
It's easier to stay well than get well.

www.bcforestsafes.org

Three Reasons You Cannot Miss the 2012 SAF National Convention

Countless Learning Opportunities

The scientific and technical program combines tangible skills with the latest science and research. Sessions will focus on ecological resilience, the role of forest management in sustaining forests, and the role of communities and collaborations in resilient forests. Tracks include:

- Agroforestry
- Soil & Water Resources
- Wildland Fire
- Geospatial Applications
- Forest Health
- Leadership & Communications
- Urban Ecosystems
- Silviculture & Forest Ecology
- Forest Management & Operations
- Geospatial Applications

Awesome Location

Near the magnificent forests of the Inland Empire, our host city Spokane, Washington, offers a natural backdrop for discussing issues important to the entire forestry profession. This includes the many links between the social, economic, and ecological considerations that contribute to resilience.

One Incredible Event

Nowhere else can you gain so many solutions for invasive species, watershed and ecosystem management, GIS, and more. Maximize your professional investment by selecting sessions on the scientific and practical information that meet your unique interests. Attend specialized workshops and unique technical field tours to see direct application.



**Society of
American Foresters**

**National
Convention**

Spokane, Washington
October 24 – 28, 2012

**Registration Opens in
May. For details, visit
www.safconvention.org**

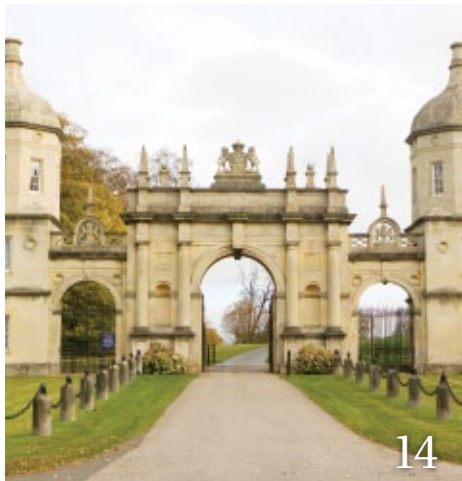
Index

September – October 2012

BC FOREST PROFESSIONAL | Volume 19 Issue 5

Viewpoints

- 9 Free Growing to Rotation
By BRENDA MARTIN
- 10 Intensive Silviculture...
The Grand Illusion
By ALAN VYSE, RPF, AND IAN CAMERON, RPF
- 11 The ABCFP's Principles of Forest
Stewardship Stand Establishment:
Let's Start Planning for the
Long-Term
By CASEY MACAULAY, RPF
- 12 Free Growing: Caught in a
Modern Kodak Moment
By SUZANNE SIMARD, PhD, RPF
- 14 Stand Management on Private
Land in the United Kingdom
By SAM COGGINS, PhD, RPF, AND
PETER GLASSEY
- 15 Using Decision-Support Tools to
Make Science-Informed Intensive
Silviculture Decisions
By LOUISE DE MONTIGNY, PhD, RPF, AND
MARIO DI LUCCA, MSF, RPF
- 16 The Secret Life of BC's Forests
By CRAIG FARNDEN, PhD, RPF
- 17 Overview: British Columbia's
Land Based Investment Strategy
By KEVIN TELFER, RPF, RPBio



Interest

- 18 The Future of BC's Forests
By BILL BOURGEOIS, PhD, RPF
- 19 Am I Practising Forestry?
By JACKIE HIPWELL, RFT

Special Feature

- 20 Forestry Team in Action

Departments

- 4 Letters
- 27 The Legal Perspective
By JEFF WAATAINEN, LLB, MA, BA (HONS)
- 28 Discipline Case Update
- 29 Member News
- 30 Moment in Forestry

Association Business

- 6 President's Report
- 7 CEO's Report
- 8 Association News

Plant Wizard Software Update

It's here!



See back cover



Plant Wizard™

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**.

Send letters to:

**Editor, BC Forest Professional
Association of BC Forest Professionals
330 – 321 Water Street
Vancouver, BC V6B 1B8**

**E-mail: editor@abcfp.ca
Fax: 604.687.3264**

BC Forest Professional is published six times a year by the Association of BC Forest Professionals

330–321 Water St, Vancouver, BC V6B 1B8
Tel: 604.687.8027 Fax: 604.687.3264
E-mail: editor@abcfp.ca Website: www.abcfp.ca

MANAGING EDITOR: Amanda Brittain, MA, ABC

EDITOR: Brenda Martin

EDITORIAL ASSISTANT: Michelle Mentore

EDITORIAL BOARD:

Sam Coggins, PHD, RPF; Nathan Davis, RPF;
Erika Higgins, RPF; Lindley Little, RPF;
Sandy McKellar, Honourary Member; Pam Nichols, RPF;
Angeline Nyce, RPF (council rep.); Kelly Osbourne, RPF

DESIGN: Massyn Design

PRINTING: Rhino Print Solutions

DISTRIBUTION: Rhino Print Solutions

ADVERTISING SALES MANAGER: Brenda Martin

330–321 Water St, Vancouver, BC V6B 1B8

Tel: 604.639.8103 • Fax: 604.687.3264

E-mail: forest-ads@abcfp.ca

ISSN:1715-9164

Annual Subscriptions: Canada; \$44.80 incl HST

U.S. and international; \$80 Canadian funds

Publications mail agreement No: 40020895

Return undeliverable Canadian addresses to:

ABCFP Circulation Department

330–321 Water St, Vancouver, BC V6B 1B8

*Around the
Clock:*
**Our Insurance
is Your Advantage**



Now is a good time to evaluate your risk exposure. When you do, we think it makes sense to work with a professional who can fully serve your risk management needs.

Our Insurance works to Your Advantage on the strength of the best providers in the business. We're backed by vast global resources and solid local relationships.

That's why we're Canada's leading insurance broker for businesses and individuals who demand the best value, coverage and service.

Make sure you're protected around the clock. Make now the time to call us at HUB International.

HUB International | HUB TOS

Jordan Fellner T. 604.293.1481 tos.vanprof@hubinternational.com

www.hubtos.com



PRESIDENT Steve Lorimer, RPF

VICE-PRESIDENT Christine Gelowitz, RPF

PAST PRESIDENT Ian Emery, RFT

LAY COUNCILLORS

Rod Visser, Scott Manjak

COUNCILLORS

Dan Graham, LLB, RPF; Ken Hodges, RPF; Angeline Nyce, RPF;
Sue Price, RFT; Carolyn Stevens, RFT; Carl vanderMark, RPF;
Brian Westgate, RPF

CHIEF EXECUTIVE OFFICER Sharon Glover, MBA

REGISTRAR AND DIRECTOR OF ACT COMPLIANCE

Randy Trerise, RPF

**DIRECTOR, PROFESSIONAL PRACTICE
AND FOREST STEWARDSHIP**

Mike Larock, RPF

DIRECTOR, FINANCE AND ADMINISTRATION

Lance Nose

DIRECTOR, COMMUNICATIONS

Amanda Brittain, MA, ABC

**DIRECTOR, PROFESSIONAL DEVELOPMENT
AND MEMBER RELATIONS**

Brian Robinson, RPF

BC Forest Professional is the professional magazine of the Association of BC Forest Professionals (ABCFP). Editorial submissions, comments, letters to the editor, articles and photos should be sent to the editor, address above. The opinions expressed in **BC Forest Professional** do not necessarily represent those of the ABCFP, its council or other members. Reprinting and copying of **BC Forest Professional** articles is encouraged. Please include a credit to both the author and **BC Forest Professional**.

RFTs Are Not Less Competent Than RPF's

Regarding Mr. Vandenberg's letter on RPFs and RFTs and lowering professional standards, it appears to conflate several issues.

I was fortunate to find a position as an RPF following reorganization and cutbacks, albeit one that was completely outside my field of expertise. The knowledge, expertise, and support of both RPFs and RFTs at my new workplace were critical to help me surmount a steep learning curve, apply new competencies and become part of an effective team. All of the RFTs I worked with as colleagues and clients upheld high standards of professionalism, taking care to advise and work within their prescribed scopes of practice. They were kind, hardworking, knowledgeable and respectful.

All other factors being equal, an RFT should not be perceived as less competent than an RPF. Employment and advancement opportunities, within the defined scopes of practice, are at the discretion of the employer and (where there is one) the union.

RESPECTFULLY,
JODIE KRAKOWSKI, RPF, RPBIO
SQUAMISH



▲▲▲ FORSITE
Forest Management Specialists

Getting logs to your mill

We are your experts in :

- ▲ Strategic Analysis
- ▲ Tactical Planning
- ▲ Effective Timber Recce
- ▲ Cutting Permit Development
- ▲ Harvest Management

tel: 250.832.3366 ext. 218
info@forsite.ca

www.forsite.ca

President's Report

By Steve Lorimer, RPF



Presidential News Round-Up

As I write this report, the Special Committee on Timber Supply will have completed its deliberations and is set to issue its report on August 15th on the mid-term timber situation.

While it was great that council and staff made a presentation and closely followed the public consultations, I am delighted that a number of our members took the time to present in person or through written submissions to the Special Committee as well.

After the hearings, I had the opportunity, along with CEO Sharon Glover, MBA, and director of forest stewardship and professional practice Mike Larock, RPF, to meet with several of the MLAs and others at the political and technical levels. We emphasized the importance of taking a sustainable approach to decision making, to considering all values important to British Columbians; and to use appropriate professionals in seeking information and advice prior to making decisions.

I expect we will hear even more in the coming months regarding the recommendations made by the committee and undoubtedly there will be some debate regarding proposed solutions and the directions chosen in dealing with the mid-term timber supply issues. With an upcoming election (May 2013), we will likely see the debate turn political, providing both the challenge and opportunity to keep our discussions on forest management at a professional and technical level, in support of good forest stewardship.

Stand Establishment – Free Growing to Rotation

With the demands on forest resources today, it becomes paramount that we make use of the best management techniques we can to ensure that, as forest professionals, we can

deliver on identified objectives and goals.

I read with interest the excellent articles on tree genetics and forest health in the last issue of **BC Forest Professional** magazine. It is clear that not only can we gain in growth and yield using improved seed, but we can look forward to more seed that will provide certain levels of disease, browse and insect resistance thereby furthering our ability to be successful in our reforestation and stand management efforts. Climate change may throw more challenges our way but by utilizing existing knowledge of genetic variability, provenance and progeny testing, and supporting ongoing research efforts in these areas should pay back significant returns.

I am looking forward to reading the articles and viewpoints by professionals engaged in the important task of ensuring stands are successfully established. I know the economics of stand management are challenging in most cases and few practices (tree improvement and some types of fertilization excepted) seem to be able to show a reasonable, if any, return on investment.

Where there are needs, not only for timber, but also for other ecological and societal values to be considered on our Crown lands, it may be necessary to take a new look at how we account for the expenditures needed in managing our forests through to rotation.

ABCFP Mandatory Practice Review

I have always thought that the chances of my name being drawn for a mandatory practice review were slim to none. And I figured that in any case, as president of the ABCFP, I'd get some sort of executive exemption. Wrong, on both counts! This spring I received a phone call from Jim Crover, RPF, advising me that indeed it was my lucky day and could we meet soon to do the practice review. Thankfully, even with my filing system, I was able to find my self-assessments for the past three years, and prepared myself for this necessary process.

In hindsight, I'd have to say the process is good in that it does require you to take a look

and discuss/document what you do; how it aligns with your areas of competency, scope of practice, continuing education, records, quality assurance and resources available to do the job, etc. There is also ample opportunity to ask questions and discuss areas of interest with respect to professional forestry and the association.

At a recent council meeting, we discussed this process and decided that future practice reviews (2013 and beyond) should focus on a risk-based approach rather than administrative processes. Even though this change in focus will result in fewer practice reviews being completed, we feel the risk-based reviews will be worth it. Staff will make the assessment of risk to focus practice reviews on but council will maintain ability to direct focus if it feels high risk areas are not being addressed.

Shawn Atleo Re-Elected

Shawn Atleo was recently re-elected as Chief of the Assembly of First Nations. Riding on a float plane to Vancouver in the spring of 2009, I noticed Shawn was also a passenger on that plane. When we landed in Vancouver we struck up a conversation as we walked from the waterfront towards our respective destinations. In that short time we even managed to talk about forestry. At the time I wished him all the best as he ran, for the first time, for Chief of the Assembly of First Nations. I didn't see him again until February of 2012, when as Chancellor of Vancouver Island University, he took part in the ceremony granting a degree to my youngest daughter Kristin. Along with CEO Sharon Glover, I was pleased to send Chief Atleo a letter of congratulations and wish him success as he embarks on his second term in this important national position.

With the growing influence First Nations in BC have on forestry through various tenures, businesses, partnerships, and with treaty negotiations ongoing, our desire is to continually improve relationships with the First Nations in BC and encourage those youth with an interest in the practice of forestry to seek membership in the ABCFP. 🌲



CEO's Report

By Sharon L. Glover, MBA

Leading the Way

When the provincial government first announced that it had created a Special Committee on Timber Supply to investigate the mid-term timber supply, the ABCFP planned to take a leadership position in order to advocate for good forest stewardship. Even though the Special Committee's final report hadn't been released at the time I wrote this column, I believe I can say that we have succeeded in the leadership goal.

The Special Committee visited 16 communities in June and July. The committee met in Prince George twice and in Vancouver for three consecutive days. The ABCFP had representatives at every committee meeting—in fact, we were the only organization with representatives at every meeting. We made our official presentation at the Special Committee's meeting in Vancouver in July.

We also rallied our members and they made numerous presentations to the Special Committee. We encouraged members to voice their own concerns and expert opinions but also asked them to share the ABCFP's key messages with the Special Committee.

As we wanted to be seen as leaders throughout the timber supply hearings and beyond, we were very careful not to provide the Special Committee with specific answers or advice on the issues, but rather, we emphasized the importance of focusing on the forest first and the fact that there is no one-size-fits-all answer to forestry issues. What might work in one community would be a mistake in another so we left it up to our members to give specific advice based on the areas in which they live and work.

We told the Special Committee and the public that a healthy forest is the key to a healthy forest industry. We also encouraged the Special Committee to engage with the communities affected by the mountain pine beetle epidemic before making any decisions.

Our other key messages built on the focus on forests. We told the Special Committee that forest professionals have the skills and experience to properly manage BC's forests and therefore, forest professionals should be involved in finding solutions to the timber supply issue.

We also emphasized that forests must continue to be managed sustainably for current and future generations. Because forestry

is conducted on such a long time frame, what we do today will have an impact 100 years from now. We don't have the right to make decisions today that will reduce forest values for the future or limit the benefits future generations may get from the forests.

After the public meetings ended and before the final report was released, key ABCFP council members and staff had the opportunity to meet privately with several MLAs who were on the Special Committee. These meetings gave the MLAs the opportunity to dig deeper into the issues and we were able to reiterate the importance on focusing on the forest and not on political expediency.

Throughout the process, the ABCFP kept members informed through a series of bulletins called Special Committee on Timber Supply Updates; **The Increment** e-newsletter and on the Mid-Term Timber Supply page of the website.

The ABCFP also reached out to the public through the Mid-Term Timber Supply webpage; social media, newspaper ads in the communities most affected by the mountain pine beetle and a news release. The news release talked about forest professionals, their background and their role in forest management and urged the Special Committee to make forest sustainability a priority for the benefit of current and future generations.

I want to close with something we've told the Special Committee and individual MLAs that we believe will help them make the right decisions. One hundred years ago, out of a concern for a dwindling forest resource, the BC government of the day retained public ownership of forests, established the first *Forest Act* and an agency to guide the management for forests. Today, we must look ahead 100 years and think about how our forest management actions will be judged by future generations. 🐾

Good Luck to Exam Candidates!

The ABCFP council and staff wish all exam candidates good luck as they get set to write the registration exams on October 5th.

Bylaw Changes Affect All Members

As you know, the government amended the *Foresters Act* last fall and that means that the ABCFP has to change some of our bylaws in order to remain compliant with these changes. We are taking this opportunity to also make some modernization and housekeeping changes as well. At their July meeting, Council repealed several bylaws that were no longer necessary due to the act changes. Members should have received a bylaw ballot package either by e-mail or regular mail that asks them to vote on some of the more significant bylaw changes. Due to the number of changes that need to be made to the bylaws, we will ask members to vote on two or three different packages over the next year. This first bylaw ballot will include the most important changes such as the ones made necessary due to the act changes. The modernization and housekeeping bylaw ballots will take place later.

Change of Status Policy Updated

At their July, meeting council approved an updated *Members Change of Status (COS) Policy*. The policy has been updated to reflect the fact that the professional practice committee (PPC) is now reviewing change of status requests from members who plan to continue working in BC after a status change and to provide a more accurate reflection of the change of status options and processes available to our members.

The COS policy guides members who apply for a change of status at any time but particularly during the annual membership renewal period. This policy will help current and/or former members on the actions they need to take when a change in their membership status is necessary. Completed requests for change of status will be forwarded to either the board of examiners or the PPC for their consideration and recommendation. Requests are sent to council for final approval.

You can find the updated policy on the Policies page of the website (click on Regulating the Profession then Policies).

Council Nominations Now Open

The ABCFP is seeking one RPF and two RFT candidates for the 2013/2014 council. Members may nominate their colleagues by using the form included in this issue of the magazine or by visiting the Voting section of the website (click on About Us then Consultation and Voting). Councillors serve for a two-year term. The full council slate will be announced in November and voting will take place in December and January. The new council will take office at the AGM in February 2013.

Forestry: The Future is Growing—Mark Your Calendars for the Annual Conference and AGM

The ABCFP's annual conference and AGM is taking place in Prince George from February 20-22, 2013. Forestry: The Future is Growing will feature thought-provoking speakers, exciting entertainment and lots of time to network with your colleagues. The conference will be held at the Prince George Civic Centre. Watch the next issue of **BC Forest Professional** for the registration brochure.

Forest Capital Deadline is Approaching

Who will be designated the Forest Capital of BC for 2013? The deadline is November 15, 2012 and you can find more information on the website.

Nominate a Colleague for an ABCFP Award

Each year at the annual conference, the ABCFP is pleased to present several awards to both members and non-members. You can nominate a worthy individual by visiting our website (Click on the About Us tab and then select Our Awards from the drop-down menu).

Members can be nominated for the following awards: Jim Rodney Memorial Volunteer of the Year, Distinguished Forest Professional, Professional Forester of the Year and Forest Technologist of the Year. Non-members can be nominated for the ABCFP Honorary Membership and the ABCFP Award of Merit in Sustainable Forestry. The ABCFP is also pleased to present two awards jointly with fellow professional associations. The Bill Young Award for Excellence in Integrated Forest Management is sponsored jointly with the Association of Professional Biologists of BC. The Forest Engineering Award of Excellence is sponsored jointly with the Association of Professional Engineers and Geoscientists of BC.

The deadline for award nominations is November 15, 2012.

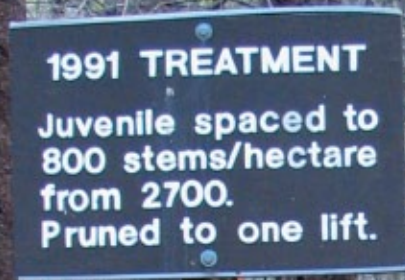


Photo: Sandy McKellar

Free Growing to Rotation

IN THIS ISSUE, WE FOCUS ON THE TIME BETWEEN A STAND OF TREES being declared 'free growing' and being harvested. It's a period of time that doesn't get a lot of attention; however, forest professionals have lots of opinions about it. Here we bring you several of them.

This particular selection of Viewpoint articles approach the topic from a variety of angles. Alan Vyse, RPF, and Ian Cameron, RPF, kick off the section talking about the flaws in intensive silviculture. Suzanne Simard, PhD, RPF, has written an interesting first-person story about her research into the free growing status of lodgepole pine plantations in the Interior. Louise de Montigny, PhD, RPF, and Mario Di Lucca, MSE, RPF, talk about the robust decision-support tools available today and give a few hands-on examples of SYLVER at work. There's even an article about stand management in the United Kingdom by Sam Coggins, PhD, RPF, to broaden our scope and give an international perspective. And that's not all. Please take a moment to browse through the Viewpoint section and see all the articles and perspectives shared.

Above this introduction, you'll see a green section titled, "Applying the Principles of Forest Stewardship to Stand Establishment." In the last several issues, the ABCFP's stewardship committee has written a summary about how the Viewpoint theme applies to the ABCFP's forest stewardship principles. Please take a moment to read this summary and refresh your knowledge of the related stewardship principles.

Applying the Principles of Forest Stewardship¹ to: **STAND ESTABLISHMENT**

As most forest professionals are aware, there is considerable debate about whether the target of a free growing stand is an adequate method for evaluating silvicultural success. Stand establishment can be evaluated in terms of risk, because a stand of trees is continually susceptible to damage, or on the long range benefit to the public. For example, a regular monitoring program could provide greater confidence in a defined outcome at rotation.

By its very definition, a 'free growing stand' only covers a limited time frame. By contrast, the ABCFP's *Principles of Forest Stewardship* present a long-term approach to forest management that is adaptive and based on clear goals and objectives. The *Temporal Options* principle states that '*Stewardship ensures that current management strategies are intended to create benefits for both the present and future generations.*' With the target of a 'free growing stand' held up as the pivotal milestone in the management of a recently established forest stand, there is a resultant gap in our focus as these stands mature. This gap may result in a disconnect between our expectations and the reality of what these stands will provide at maturity and risk options for future generations to enjoy similar benefits over time.

While a free growing stand provides a significant milestone in stand management, it is only one place mark in the life of a forest. We encourage you to examine other practices and concepts of forest management in light of the *Principles of Forest Stewardship* and provide feedback to policy makers and the ABCFP on suggested improvements to existing policies or practices.

¹ The main document can be seen at http://abcfp.ca/publications_forms/publications/committee_reports.asp

Also in this issue, we have our Forestry Team in Action special feature. This feature is a chance for forest professionals to share their interesting projects with colleagues across the province. We have 12 submissions in this issue and they run the gamut from a forestry-themed art show to bat habitat protection. Flip to page 20 and find out what forest professionals have been up to in BC this year. 🌲



IN THE KING ARTHUR LEGEND OF CAMELOT FAME, THE KNIGHTS OF THE Round Table pledged to seek the 'shining grail.' It seems to us that not a few British Columbian forest professionals have been seeking their own version of the shining grail in their pursuit of a vision of an intensive silviculture.

While we admit to being attracted by this vision at some point in our respective careers, common sense has prevailed as we age. We argue that while the vision may be shining, the reality is more mundane. In our experience, the vision habitually minimizes risks, exaggerates benefits and underestimates costs.

The most obvious risk is change over time. While BC might be a wonderful place to grow trees, it is not the BEST place to grow trees.

On all but our most productive sites we cannot

expect merchantable trees in less than fifty years. In the sub-tropical world, rotations of less than half that length are expected. Historically, the quality of our fibre has been second to none, but our products are not unique. Technology makes sure of that! Given the rates of change in environment, markets, societies, industry, government and technology that we have seen in the past fifty years, it takes hubris of remarkable strength to confidently assert what is required from the forest over the next fifty. What will BC look like in 2062? How will the people of the province think about and use the forest? And will they appreciate the investment in intensive practices that are being recommended today?

Proponents often suggest that the long time span between intensive investments and their reward can be swept away by the application of the AAC effect, whereby a projected increase in available wood in the future permits a higher rate of cutting in mature stands today. Those familiar with the mechanics of timber supply analysis know such increases can occur if the silvicultural treatment relieves some constraint in the analysis that stems from regulation or policy, or from assumptions within the analysis—even when the treatment produces no additional volume! Realizing these benefits is a problem when there is very little in the way of mature timber left, as is the case in those analysis units within the core of the mountain pine beetle epidemic. Not surprisingly, the removal of constraints on timber supply to accelerate harvesting is already a highly controversial matter and it seems likely that public investment in intensive silviculture on such grounds will be equally contentious.

Beyond the intricacies of allowable cut, consider the gains from intensive treatments alone. In most cases, such treatments do not create new volume. Rather they manipulate the existing growing stock to concentrate growth on selected trees. In doing so, the volume produced in a forest stand is almost always lowered by treatments, although it is often argued that treatments accelerate the production of merchantable volume. Investors are usually promised an increase in value or an earlier return to compensate for volume loss. Of course if maximization of volume is desirable in order to fix carbon or generate biomass, the intensive treatments would not be appropriate. Fertilization is the one treatment that promises overall gains but the relative volume gains are small compared to the untreated option.

Achieving promised gains is another matter. Silvicultural treatments focusing on timber production almost always have conse-

quences that reduce the expected benefits. Where spacing treatments do have a meaningful impact on tree size, for example, there is likely to be a loss of wood production and degradation of wood quality due to the increased size of branches and knots, and the increased proportion of juvenile wood. Recent reports suggest that fertilization may share negative effects on wood quality. And there is a substantial body of evidence that suggests that the negative effects of insects and disease can be magnified by intensive treatments.

To have any meaningful impact on timber supply, intensive practices must be implemented on a large scale under a variety of site and stand conditions. Our predictions of treatment response, however,

are based on small-scale research trials

established on relatively few sites in a limited number of stand types. Estimating the gains in timber values over large and diverse areas invokes risky extrapolations. Predicting the effects of such treatments on non-timber values is even more difficult, firstly because non-timber attributes are usually not measured in growth and yield trials; and secondly because the scale of these trials is usually too small for attributes like wildlife habitat.

Direct treatment costs are often glossed over in the pamphlets promoting intensive silviculture, perhaps because they are relatively small compared to the costs of other government projects. Nonetheless they are significant, relatively certain and large enough to result in a negative financial return on all but the best sites in BC. In the past, proponents often sought to minimize costs by suggesting the use of unemployed labour, but many treatments such as thinning and fertilization are best implemented using machinery and skilled labour. Furthermore, when intensive treatments are contemplated on a large scale, labour shortages may prove to be a constraint on implementation, as has been the case in Scandinavia.

We are not arguing that we should avoid all intensive silviculture in our forests. But we expect that a rigorous and transparent analysis of risks, benefits and costs will demonstrate that public or private investments will be worthwhile only on a relatively few productive sites. If we need a vision for silviculture, we should be thinking of improving our regeneration efforts, especially in the aftermath of the pine beetle epidemic. We should be thinking of how to manage our forests at the landscape level, how to create a diversity of treatments, and how to embrace complexity in our prescriptions. Further, we need to stop talking about modern monitoring systems and get on with the job. Rising to the challenge of environmental and social change will prove to be a more energizing vision than that supplied by the tired truisms of intensive silviculture. 🌲

Alan Vyse, RPF, has worked on silvicultural problems on the coast and in the Interior for over forty years, first as a forest economist with the Canadian Forest Service and then as a research forester with the BC Forest Service. He is now an adjunct professor at Thompson Rivers University.

Ian Cameron, RPF, is a growth and yield analyst and modeller with more than thirty years of experience in the analysis and application of research results to operational problems. He is currently the owner and lead analyst with Azura Formetrics in Kamloops.

Intensive Silviculture...The Grand Illusion



FOREST MANAGEMENT IN BRITISH COLUMBIA HAS BECOME FAR TOO RELIANT on short term planning. Whether it be the immediacy of salvaging dead pine in the Interior (and the trials this brings) or the prolonged lack of forest policy that incents our sector to consider how today's choices will affect the next 50 to 100 years. We are at a time and place where our historic decisions are forcing us to take a hard look at how we have 'done forestry' in the past and where our current policies, techniques and attitudes will take our forests in the future. As part of this hard look, I think we should examine how stand management concepts could be re-evaluated in light of the ABCFP's forest stewardship principles,

If we examine stand establishment and management through the lens of the forest stewardship principles, we might also be compelled to consider the following additional questions:

- Do I have, and operate with, a clear set of goals and objectives (for the site or for my program and activity schedule) that reflects the desired products and benefits at the time of the future harvest (Principle 3)?
- Does the stand that I am planning adequately account for the integrity of the forest ecosystem, in terms of diversity and resilience to ongoing environmental pressures, like climate change (Principle 1)?
- Does the reforestation plan adequately address the range of values

The ABCFP's Principles of Forest Stewardship Stand Establishment: Let's Start Planning for the Long-Term!

and how this would improve our focus on long-term objectives.

Stand establishment on Crown land in BC, as we have come to understand it, is the legal obligation to reforest a site following the harvest of the pre-existing forest. This is a highly regulated process. Based on ecological classification at the site level and the corresponding selection of suitable tree species through the use of approved stocking standards, some would say the current system leaves little room for innovation and adaptation.

While the current process has many merits, it tends to focus on a narrow window of time (up to the free growing¹ declaration). It has become entrenched within the limitations of existing stocking standards tied to forest stewardship plans or other management plans. It is also focused on commercially acceptable crop species, either limiting or excluding broadleaf species in most parts of the province.

Other questions related to stand establishment have been raised;

- Is our inventory and monitoring of young stands sufficient to support timber supply projections now and into the future?
- Are we too focused on the numerous aspects of getting the current crop harvested, rather than placing more priority on stand management or improved silviculture techniques? If so, why?
- Does our outlay in research reflect the worth of our forest resources?
- Does our appraisal system create incentives or impede further investments in silviculture and stand establishment?
- What is the ideal tenure system for Crown land, which creates incentives for increased investment and focuses on the full rotation?

While these questions highlight the need for advocacy relating to forest policy improvements, is there also a role for the individual professional in improving stewardship practices? The *Foresters Act*, Section 4(2)(b) specifically directs the ABCFP "to advocate for and uphold principles of stewardship of forests, forest lands, forest resources and forest ecosystems." *The Principles of Forest Stewardship* document was written to clarify the ABCFP's role in forest stewardship. The volunteers of the stewardship committee, along with ABCFP staff support, have pondered, written and edited this text many times over. The document was then re-visited this past winter in response to input from ABCFP members. As a result, a series of tests were developed to help you evaluate how resource decisions are made in light of the seven principles.

present in the forest; values that the public has come to expect from our forests? Am I replacing the previous stand with one that has the best chance to provide good value to future generations, or am I just simply meeting obligations at the lowest possible cost (Principles 3 and 4)?

- Do I have the right knowledge, based on the science available, to develop a plan that can be held accountable for on-the-ground results (Principle 2)?
- Is there a plan to monitor the stand over time in order to ensure that the stand objectives are met at the end of the next rotation (Principle 5)?
- Does my approach consider how the site level plan relates to the larger surrounding landscape and the values or impacts that appear at that scale (Principle 6)?
- Am I able to be innovative with my reforestation plan, considering the variability and pressures that the stand may face over the coming decades (Principle 7)?

This set of questions addresses a few of the obstacles or concerns that forest professionals and silviculturists face when developing site-level reforestation plans for the long term. Now that I have you thinking, I'm sure you could add a few of your own.

So where does this leave us? I believe we need to push for forest policy that reflects long-term goals and objectives. That's a good start, but we also need to examine our personal or corporate practices so we become more focused on generating long-term value while reducing risk. Good forest stewardship, in practice, has the ability to maintain value for existing operations; however the true benefit is that it enables us to focus on future benefits in a greater way.

The Principles of Forest Stewardship provide another filter through which to examine decision making. So consider them in relation to your practice, start some dialogue in your office and get back to us. We want to hear what you think as we continue to develop member guidance and advocate for good forest stewardship.

Submit your feedback, thoughts and comments on this topic to me, Casey Macaulay, RPF, at cmacaulay@abcfp.ca. 🐾

Casey Macaulay, RPF, joined the ABCFP staff in 2011 as resource operations specialist. He is part of the professional practice and forest stewardship team. He spent the previous 15 years planning forest operations.

¹ Forest Planning and Practices Regulation S.44(1)



Free Growing: Caught in a Modern Kodak Moment

JEAN MATHER, RPF, SHIFTS INTO FOUR-LOW AS WE CRAWL UP THE STEEP, muddy mining road on Granite Mountain, just above Nelson, BC. I see mischief gleaming out of her sky blue eyes. I know full well I am on one of her classic adventuresome short-cuts to find an elusive lodgepole pine plantation, known to us only by the history records and the pinprick on her map.

Jean and I have worked together for three decades since we were UBC undergrads. She as a long-time forest research consultant, me now a forest ecology professor. We have been through thick and thin together, including endless bush hours, scary grizzly treeings and tough journal peer reviews. It is the end of July, it has been strangely raining most of the month, and the thick old-growth cedar-hemlock forests hugging the mean little road are enshrouded in mist and mystique.

My cell rings, I check the number to see if it's my kids, but it reads 'CBC Daybreak.' Jean nods silently and stops the truck on a creaky 30% incline. "We are interested in your views on James Steidle's 'Stop the Spray BC' campaign against herbicides in the Punchaw mixed forests near Prince George, do you have a moment?"

I explain that the plantations are sprayed to reach free growing, a legislative milestone logging companies must meet to ensure cutovers are regenerated with the 'right' tree species and unimpeded by brush, at which point liability reverts from the company back to the Crown.¹ "But what is administrative brushing?" I sigh. This is exactly why Jean and I are perched on the side of this soggy mountain.

I explain, "One unexpected side-effect of this legislation is that unnecessary brushing is sometimes carried out to meet free growing; another side-effect is overplanting of fast-growing lodgepole pine. Our research shows that expectations for increased conifer growth are commonly not met, and in some cases there is increased disease or insect mortality with brushing. There are also signs of reduced forest diversity, the very thing James is worried about."

After the interview, Jean and I survey our 25 year-old 'free growing' pine plantation and record that it no longer meets minimum standards. It has suffered extensive lethal damage by bears, western gall rust and snow press. The brushing treatment it received has also have left it devoid of the deciduous trees that are common in these parts. The misplaced pine plantation in this rich cedar-hemlock forest is now a green ghost, a relic of a well-intentioned silviculture regime that reduced its diversity, density and resilience to natural disturbance agents. The previous decade of warm wet summers and winters, a pattern predicted by climate scientists but loved by insects and rusts, isn't helping matters.

Our project in the Columbia Basin builds on an earlier survey with Jean Heineman and Don Sachs encompassing the whole southern interior,²⁻⁴ where we found 27% of lodgepole pine plantations no longer free growing five years after being declared. In the ICH (Interior cedar-hemlock) biogeoclimatic zone, a whopping 70% of free growing plantations had failed. In this earlier study, only 5% of all plantations met target free-growing stocking, suggesting most are at future risk of reduced productivity. This failure was because over half of the pine trees were lethally damaged by 36 different damaging agents. Most damage was



In the ICH biogeoclimatic zone 70% of free growing plantations had failed.²⁻⁴

caused by hard pine stem rusts, particularly western gall rust, which occurred on all study sites and affected one-quarter of the stems.

Our results highlight particular concern that the warmer, wetter conditions predicted for the Interior wetbelt will increase damage by rusts and foliar diseases, and increasing drought in the Interior drybelt will increase mountain pine beetle, pine needle cast and mistletoe. Interestingly, we also found that plantations appeared at even greater risk where they had been broadcast burned, spaced, brushed or pruned, some of this supported by earlier research.

The next day, Jean and I bumped our way up to another free-growing pine plantation in the ICH-ESSF (Engelmann Spruce-subalpine fir) transition on the west side of Kootenay Lake. This site, also classified as ICH, was very different than Granite Mountain—reflecting small differences in site, species composition, disturbance history and chance setting a unique development trajectory. We talked about how this heterogeneity—this unpredictability—was the very stuff of adaptability and resilience.⁵ We had a tough time finding any live lodgepole pine, similar to other higher elevation sites. We were delighted to find abundant, healthy natural regeneration though. Nevertheless, our study showed that naturals were often too short, clumped or sparse to completely make up for the shortfall in free growing densities. When Jean and I completed the Columbia Basin study, we were ironically relieved that only 33% of pine plantations were no longer free growing and only 44% of the trees were lethally damaged.

On our last glorious day in the bush, my cell rings again. I look at Jean guiltily; it's Mark Hume from the Globe & Mail.⁶ This media attention over forests is unusual, but it has increased recently in BC as climate change and declining wood supply raise the stakes, and James' 'Stop the Spray' press release has certainly stirred the pot. Jean sighs at the intrusion. But she knows it is important for Toronto to peer into BC forest management allowing the public to understand the importance of managing our forests for resilience as much as 2x4s. Jean perches the truck on another 30% goat grade.

We talk to Mark of forests as complex adaptive systems,⁵ where all of the species, including those pesky broadleaves, shrubs and herbs being sprayed at Punchaw, interact and adapt to create a resilient whole system that is greater than the sum of its parts. The failure of



Article Photos: Suzanne Simard, RPF

The failure of the free growing plantations, as shown in our studies, was the product of a policy narrowly focused on fast growing conifers. Simplified forests such as these lack emergent properties, such as resilience to disturbance or stress.

the free growing plantations, as shown in our studies, was the product of a policy narrowly focused on only one part of the system—fast growing conifers. Simplified forests such as these lack emergent properties, such as resilience to disturbance or stress. To avoid the modern Kodak moment,⁷ that is bankrupting of our forests over an idea already recognized as obsolete, policy makers in BC need to adopt a reforestation standard that conserves diversity and builds resilience. The transformed standard should promote adaptive management of resilient forest landscapes (not individual clearcuts) that are genetically and structurally diverse, include ecological legacies, emulate natural successional trajectories and disturbance regimes, and are strategically connected to an enhanced system of forest reserves. These resilient forests will be better poised to adapt to climate change. Instead of relying heavily on guidebooks, the new approach will also require local knowledge of forest conditions and local development of forest practices that maintain or enhance ecosystem complexity across multiple spatial and temporal scales. This means managing forests more at the community level but with strong provincial governance to meet larger scale objectives. It means managing forests as complex adaptive systems as so eloquently described by the government's own researchers.⁸

Mark recognizes that governments need to do a better job managing forest complexity and risk as climate changes.⁹ We discuss that this will require changes to legislation that gives higher priority

to maintaining forest cover for conservation of critical ecosystem goods and services, including biodiversity, carbon storage and the water cycle, than to supplying wood to mills.¹⁰ It will also require a coherent framework for adaptive forest management at scales from broad climatic regions to forest stands, rather than providing large licences for corporations to manage forests piece-meal in the interests of their shareholders. In the principals of complex adaptive systems, it will entail transforming governance from large top-down tenures to grass-roots community-based responsibilities.

Jean pokes me after I hang up, and I follow her eyes up to a woodpecker in the cavity of an old aspen. We smile at the diversity, complexity, and our own connectedness with this beautiful place. 🌲

Suzanne Simard PhD, RPF, is a professor of forest ecology at the University of British Columbia. She leads the TerreWEB project focused on training graduate students in global change and science communication.

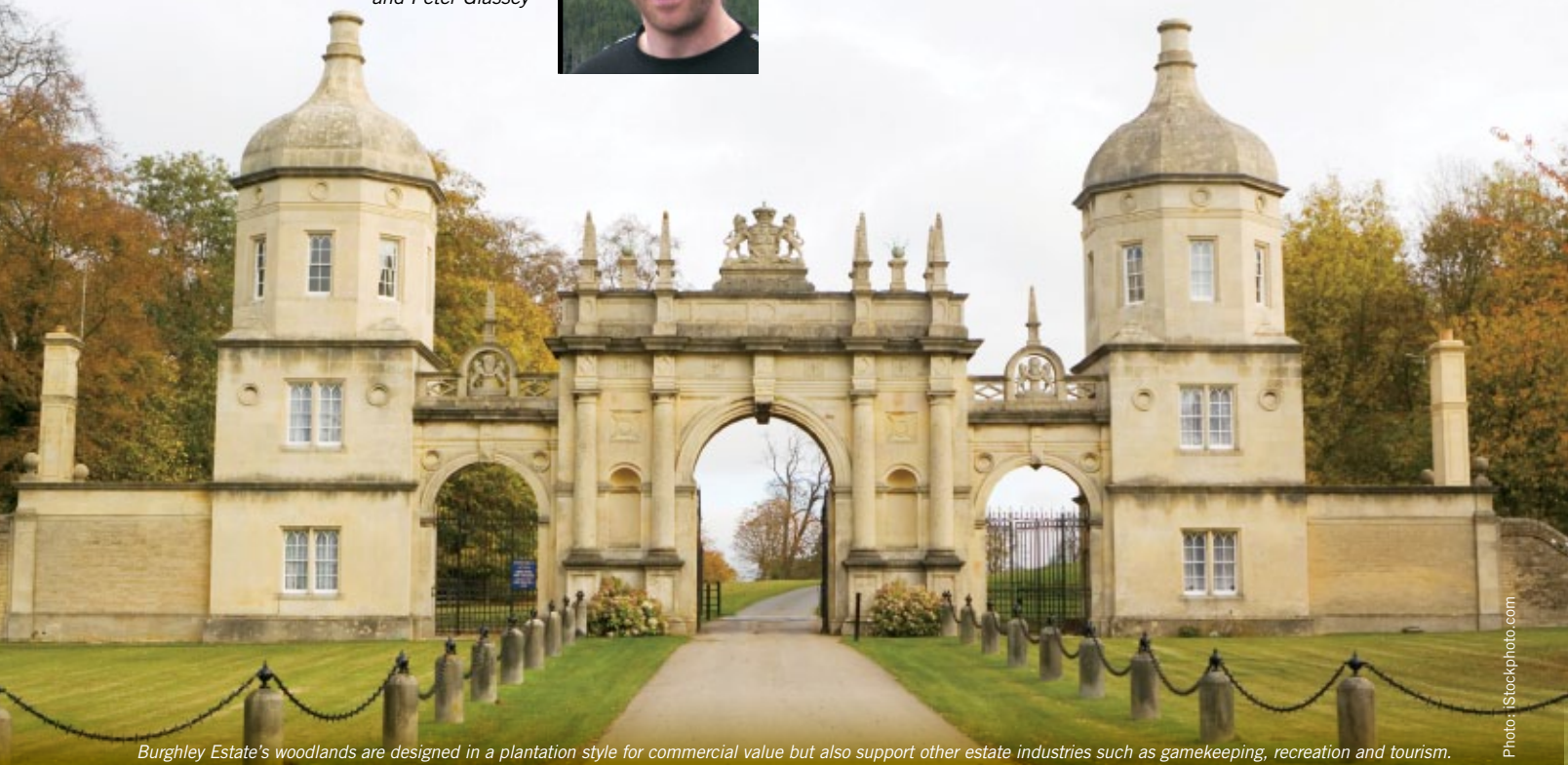
References

- 1 Weaver, D. (ed.) (2012) Silviculture Survey Procedures Manual -Regen Delay, Stocking and Free Growing Surveys - plus Alternative Survey Methodologies. BC Ministry of Forests, Lands and Natural Resources Operations, Resource Practices Branch, 293 pp.
- 2 Mather WJ, Simard SW, Sachs DL (2012) An investigation into the health and stocking of lodgepole pine plantations in the Interior-Cedar Hemlock zone of the Columbia Basin. Columbia Basin Trust Report, unpublished, 47 pp.
- 3 Heineman JL, Sachs DL, Mather WJ, Simard SW (2010) Investigating the influence of wwwclimate, site, location, and treatment factors on damage to young lodgepole pine in southern British Columbia Canadian Journal of Forest Research, 40: 1109-1127.

References continued on Page 29

Viewpoints

By Sam Coggins, PhD, RPF
and Peter Glassey



Burghley Estate's woodlands are designed in a plantation style for commercial value but also support other estate industries such as gamekeeping, recreation and tourism.

Photo: iStockphoto.com

Stand Management on Private Land in the United Kingdom

WHEN YOU THINK OF GREAT BRITAIN, YOU PROBABLY DON'T THINK forest. After all it is a tiny overpopulated island off the coast of mainland Europe! The UK usually brings to mind images of bad teeth, bland food and warm beer along with heavy industry, steel manufacturing and land clearance. And you might have a point. In terms of forest cover the UK is hardly comparable to British Columbia. However, the UK was once mostly forested. But forested land dropped to approximately 5% in the 1900s and has now rebounded to 12% because reforestation is greatly encouraged.

The majority of forest land in the UK is owned and managed by private land owners—from farmers and private estates, to large organisations such as the National Trust. The UK Forestry Commission represents the national government in England, Scotland and Wales, and was formed in 1919 with a goal to create a strategic timber reserve and reforest marginal land that had no use for agriculture. Unlike British Columbia, reforestation is not mandatory in the UK, so private land owners in the UK are financed by the Forestry Commission through the Woodland Grant Scheme, a government initiative created to encourage reforestation and afforestation. Grants contribute to the costs of most major management activities including:

- writing management plans;
- planning woodland composition;
- establishing new plantations by providing £4,800/ha for broadleaf planting and £4,200/ha for conifers;
- improving a woodland's capacity to benefit the public (including access) and to prevent decline in sustainable growth from threats such as pest and disease;
- funding for capital investment to improve woodlands; and
- construction of infrastructure and roads to extract timber.

Like British Columbia, stand management on private estates addresses a complex mixture of public and private values. Private estates typically contain a large stately home as a centrepiece surrounded by parkland and forests. This land is managed for numerous values and often in conjunction with other industries such as agriculture, gamekeeping, recreation and tourism. Often forest plantations are planned and developed to compliment these industries as well as providing harvestable timber.

One example of private land forestry is Burghley Estate. Burghley is a large (3,500 ha) private estate in middle-eastern England, near the town of Stamford, Lincolnshire. The estate features an Elizabethan mansion surrounded by a deer park that attracts thousands of visitors each year and consists of parkland, forest, agriculture and homes. Burghley Estate's woodlands are designed in plantation style for commercial value with trees planted in straight rows at a set distance apart.

Typically, the life cycle of a plantation starts with a management plan, outlines the management activities over a five-year period, with an aim to produce sustainable forest management. Like British Columbia, blocks are clearcut and then prepared for planting shortly afterwards. The UK receives little snowfall compared to Canada so tree planting occurs between October and March when the ground is not frozen. Often shelters are placed around individual trees to help prevent browse damage from rodents and ungulates. To maintain healthy growth, herbicide and mechanical weeding are used to control competitive weeds, sometimes up to several years after planting.

Unlike forest management in British Columbia, plantation maintenance does not cease once the trees reach a free-growing stage, albeit that most forest is easily accessed and generally involves smaller blocks.

See **United Kingdom** continued on Page 29



Using Decision-Support Tools to Make Science-Informed Intensive Silviculture Decisions

INTENSIVE SILVICULTURE INVESTMENT DECISION-MAKING REQUIRES

extensive knowledge of growth and yield, stand dynamics, ecological principles and economics. Must we rely on what we gleaned at university, experience from the past and gut feel to make these complex decisions that affect long-term forest health, industry viability and community stability? Robust decision-support tools such as SYLVER incorporate decades of research and the best available science to help silviculture practitioners assess a range of predictive variables for choosing the best silvicultural options for achieving specific timber and non-timber goals.

At this year's Summer Coastal Silviculture Committee Workshop, we used SYLVER's capacity for assessing a range of predictive variables to evaluate the 'winner' of the Industrial Challenge Plots at the UBC Malcolm Knapp forest. In 1987, UBC challenged government, industry and academic coastal silviculture experts to implement what they felt were the best silviculture strategies for managing very high site stands of coastal Douglas-fir. Each challenger designed and implemented silviculture regimes using various combinations of juvenile spacing, commercial thinning, fertilization and pruning treatments on a quarter hectare plot of land. The resulting stands varied greatly in structure, tree size and density. Twenty-five years later, who was the Industrial Challenge winner?

We used the SYLVER system to model the silvicultural treatments and timings used in each of the Industrial Challenge plots and examined the results on a myriad of factors including mean annual increments, tree diameters and heights, log and lumber total and merchantable volumes by grade, internal rates of return and net present values (NPV). Who won depends which of these factors was deemed to be the management goal, which market is targeted and the assumptions built into the simulations. If the objective had been to maximize merchantable volume, then MacMillan Bloedel's strategy of spacing to 1200 sph and harvesting early was the winner. If the objective was to maximize NPV of logs then Dr. Gordon Weetman's regime of thinning to 500 sph at age 15 and fertilizing at age 16 was the winner. But if the objective had been to maximise the NPV of lumber, then CANFOR's regime of spacing to 650 and pruning to 4 metres at age 15 and fertilizing at age 20 was the winner.

We also tested SYLVER's capacity to make science-informed silviculture decision-making at this year's Winter Coastal Silviculture Committee Workshop. First, we modelled Douglas-fir planted at 1,000 sph with a genetic gain of 14% on a wide range of site indices, assumed ingrowth of 4,000 sph and no forest health issues. We then modelled the

response to six levels of spacing and/or three levels of fertilization on a myriad of factors including mean annual increments, tree diameters and heights, log and lumber total and merchantable volumes by grade, internal rates of return and net present values. This is what the modelled responses told us: Fertilization increased mean annual increment (MAI), merchantable volume, lumber grades and NPV more consistently than spacing. Spacing without fertilization increased diameter at breast height (dbh) but decreased MAI, merchantable volume and NPV over those of the untreated control; and spacing with fertilization increased sawlog volume but decreased overall merchantable volume.

These examples show that silvicultural investment decisions must consider a number of factors to ensure an optimum decision.

Clearly, the SYLVER system can be used to provide useful insights into how to achieve specific forest management objectives. But what about optimizing other important values? In fact, SYLVER has moved past the relatively narrow goal of intensifying fibre production and embraced a wide range of environmental and social objectives. SYLVER outputs now include estimates for such values as job generation, snags and coarse woody debris, carbon sequestration, biomass and crown cover for habitat. Patterns of variable retention that create structural diversity can be modelled to examine potential loss to windthrow and effects of decreased light on growth of regeneration. Forest health can be evaluated with linked models for root rot (ROTSIM) and spruce weevil attack (SWAT). More recently, output of crown volume and height can be input into fire spread models to determine optimum treatments that help to fire proof communities as well as provide a timber supply. Soon, the fertilization module will be updated to include higher site indices and multiple applications. Looking

forward, the next major milestone is the release of TASS III that can model complex stands resulting from mixed species and silvicultural systems.

TASS is the only managed stand growth and yield model supported by the Ministry of Forests. Managed stands currently occupy nearly 30% of the provincial timber harvesting land base, and that area grows by almost 1% every year. The new TIPSYS and upgraded FAN\$IER has been distributed to 40 test users and the scheduled release is October 2012. Interested readers who would like a copy should contact Mario Di Lucca.

Of course, models are never perfect. It is critical that users understand the model assumptions and ensure that inputs (site index, log values, etc.) are correct. Further research could improve the precision

Understanding SYLVER

(Silviculture on Yield, Lumber Value and Economic Return)

SYLVER evaluates the impact of Silviculture on Yield, Lumber Value and Economic Return. The components of the SYLVER system include: TASS that generates the growth and yield information; BUCK that cuts each tree according to specifications that maximize the value of the logs; SAWSIM that applies cutting patterns to each log and selects the one that produces the maximum value based on the determined average market prices; GRADE that characterizes lumber by quality class using criteria including knot content, juvenile wood, dimensional lumber length, width and thickness; and FAN\$IER (Financial Analysis of Silviculture Investment and Economic Return) that uses stand, treatment, costs, and product information to evaluate the impact of selected silvicultural treatments on the discounted value of end products. The model is calibrated using data from long-term measurements of about 15,000 permanent plots and the from over 500 destructively sampled trees that were X-ray scanned.

TIPSYS (Table Interpolation Program for Stand Yield) electronically accesses managed stand yield and product recovery tables generated by TASS and SYLVER, and is linked to FAN\$IER to economically analyse simulated silvicultural treatments.



The Secret Life of BC's Forests

...decisions made to get a stand to free growing are not necessarily the same as those that would be made to get a stand to rotation.

McWilliams and McWilliams, 2009

THERE IS A SECRET PERIOD IN THE DEVELOPMENT OF FOREST STANDS

about which many forest professionals in BC have little knowledge. It is not secret due to any sort of obfuscation, impenetrable complexity or magically mysterious means. It's simply that we fail to look. We pay a lot of attention to the regeneration stage of stand development, but once a stand passes the free growing assessment we promptly put on a set of blinders and hope beyond hope that all turns out well in the end.

It is true that most of what we can actually do to influence long-term outcomes happens in the regeneration phase, and this will continue in the future. It is appropriate, then, that we do spend a lot of effort here making sure that appropriate species, stand densities and spatial patterns are established. However, while the bulk of human influences occur early in a rotation, the actual processes of forest stand dynamics that are key to growing the products we want occur later. If we don't properly understand these processes and set stands up for growth patterns to proceed along paths to our liking, we deserve any substandard outcomes that result.

Let's assume for a moment that wood quality and value are important to us. In this case, we need to pay a lot of attention to inter-tree competition, or crowding, in our stands. For example, as trees grow and crowns coalesce, the lower branches become shaded and die. As trees grow taller and taller, the bottoms of the crowns lift further and further from the ground. This process of self-pruning has important implications for log taper, knot size and the proportion of juvenile or crown-grown wood

focused primarily on smaller trees, the effect may be indistinguishable from self-thinning. If site occupancy is affected through losses of larger trees, clumps of trees or substantial numbers of scattered trees, there can be serious impacts on yield and frequently on wood quality. Recent reports (e.g. MoFR 2009) have suggested that such effects are a serious problem for Interior lodgepole pine, but any species can be affected.

I suspect that many forest professionals in BC that are responsible for reforestation pay little attention to these processes of stand dynamics. Instead, they rely on the expertise of others and assume that all the critical decisions that need to be made have already been built into the stocking standards. In reality, however, the default stocking standards that are applied by most licensees across the province were developed 30 years ago, using a very limited (by today's standards) modelling exercise. They are based loosely on a single dominant principle: B-level stocking, or the minimum number of uniformly spaced trees at which full yield is achieved (Wyeth 1984). There is no built-in redundancy (extra trees) to allow for scattered mortality other than self-thinning. There is also no inclusion of many of the stand density factors that impact wood quality and grade assortment.

I've heard many bureaucrats argue that there's no problem because our stocking standards regulations permit movement away from the concept of B-level stocking to allow for improvements. However, there is little incentive and/or realistic ability to do so. Our



Example of the impacts of early management decisions: three adjacent stands of Douglas-fir from the Industrial Challenge on the Malcolm Knapp Research Forest, all with identical origins but with different pre-commercial thinning prescriptions imposed by various companies and government. Treatments were applied approximately at the age of a free growing assessment today. Stands retaining the highest densities had the highest yields at age 50 by a large margin, along with the smallest knots, lowest degree of taper, and presumably the lowest proportion of juvenile wood. Conversely, the same stand could not be commercially thinned due to low live crown ratios and concerns regarding wind stability. The lower density stands would presumably benefit from somewhat reduced per cubic metre logging costs, but likely no value gains as a result of the 10 to 15 cm mean diameter increase.

in a tree. This latter factor has huge implications for lumber strength, stiffness and dimensional stability, particularly for species such as Douglas-fir, lodgepole pine and Sitka spruce (Jozca and Middleton 1994).

Also important to consider are patterns of ongoing mortality. Self-thinning is a normally occurring competitive process whereby the smallest trees in a stand gradually lose access to resources and eventually die. In most cases, this pattern has few if any negative implications, and before they die the succumbing trees can contribute to effects such as self-pruning. For pest related mortality, the impacts are more variable. If tree losses are light, randomly to uniformly distributed in space and

current professional reliance system appears to assume that we each individually know what's best for the forest and society, and have full support from our employers to carry it out. If only that were true.

Dr. Gordon Baskerville, Dr. Gordon Weetman, many practising forest professionals and most recently the Auditor General of BC have been very critical of our system of administering by rules rather than managing to achieve objectives. If we truly want to be recognized as stewards of the forest lands of BC, we need to finally make substantive progress on



Overview: British Columbia's Land Based Investment Strategy

IN RECENT YEARS THE MINISTRY OF FORESTS, LANDS AND NATURAL Resource Operations has had a mix of programs to fund activities on the land base, including the Forest Investment Account (FIA), Forests for Tomorrow (FFT) and lesser funded programs delivered as part of regular ministry operations. In 2010, these programs were consolidated into the Land Based Investment Strategy (LBIS). The largest component of this program is Forests for Tomorrow which had its start in 2005 as a result of the 2003 catastrophic fires and increasing concerns over the ongoing mountain pine beetle infestation in the Interior of the province.

The purpose of the LBIS is to guide ongoing resource investments and short-term targeted investments in British Columbia's natural resources to realize environmental sustainability and economic prosperity. (LBIS web page: <http://lbis.forestpracticesbranch.com/LBIS/home>)

LBIS supports a diverse range of environmental and timber investment categories (see figure 1), each directed by a specific investment strategy, key objectives and outcomes as listed in appendix 2 of the LBIS which can be read here: <http://tinyurl.com/cug2sqv>.

Land Based Investment Strategy Budget for 2011/12

Investment Category	Sub Category	2011/12 (\$M)
Forest For Tomorrow	Current reforestation	34.515
	Timber Supply Mitigation	11.85
	Forest Health	7.16
	Invasive Plants	0.60
Tree Improvement		3.5
Inventory	Site Prod VRI	5.45
	EBM	0.50
	Visual	0.15
Fire management		0.085
Fish Passage		1.5
Ecosystem Restoration		0.75
Range		0.50
Recreation		0.75
LBIS Plan		0.69
Total		68.00

Figure 1. Land Based Investment Strategy 2011/12 Budget by Investment Strategy.

My involvement with the LBIS is in the coast resource region, working on the Forests for Tomorrow program, which has the broad intent of improving fibre supply through reforestation and incremental silviculture while supporting forest resilience. The two main components of the Forests for Tomorrow program, current reforestation and timber supply mitigation, are delivered by recipient agreement holders, ministry stewardship staff and BC Timber Sales staff.

Current reforestation investments address:

- Burnt plantations
- Catastrophic killed plantations with no legal reforestation obligations
- Defaulted legal reforestation obligations
- Catastrophic killed mature timber
- Burnt mature timber
- Treatable backlog NSR (pre-1987)

Investments in timber supply mitigation are focused on mitigating impacts on timber supply caused by catastrophic disturbances in the Interior, or constrained timber on the coastal, northwest and southeast areas of the province, due to landscape planning designations and ecosystem based management (EBM) on the coast.

Eligible activities for timber supply mitigation funding include: surveys, pre-commercial thinning, fertilization and conifer release. Candidate stands must be free growing and meet silviculture funding treatment criteria for species, site index, return on investment (ROI) and forest health.

Combined with use of improved seed during planting of current reforestation activities, these treatments are intended to have one or more of the following outcomes: shorter rotation, increased piece size or volume at harvest, or change in stand species composition. Such treatments may have added benefits to harvest flow patterns, carbon sequestration or wildlife habitat enhancement.

LBIS - Forest for Tomorrow Five Year Planning

The intent behind consolidating all provincial land based investments under a single funding umbrella is to ensure efforts are focused on specific objectives and outcomes. District and regional ministry staff work with licensees to prioritize activities in a five year plan that aligns with LBIS priorities.

See **Investment Strategy** continued on Page 31

2012/13 FFT Program at a Glance Summary

Area	Trees Planted Spring	Trees Sowing Fall Target	BCTS Sowing Fall Target	Surveys MPB/ WF/ ITSL	Backlog Surveys	Site Prep	Brushing	TSM Surveys	Fertilize	Spacing	Conifer Release Brushing
South Area	9,237,815	6,156,470	6,499,230	43,886	10,190	8,068	248	13,570	7,500	1,380	-
North Area	3,772,038	6,316,500	4,669,837	79,900	12,733	2,850	-	16,000	13,500	775	629
Northeast Area	1,360,000	-	-	3,045	25,040	-	104	-	-	-	-
Coast	-	118,000	-	2,125	1,890	-	128	21,640	7,000	470	-
Province	14,369,853	12,590,970	11,169,067	128,956	49,853	10,918	480	51,210	28,000	2,625	629

Figure 2. 2012/13 Forest for Tomorrow projected activities, trees planted and hectares treated. (Source: FFT News letter <http://www.for.gov.bc.ca/hcp/fia/landbase/fft/updates/FFT-Newsletter-May-2012.pdf>)



The Future of BC Forests

FUTURE COMMUNITY AND FAMILY HEALTH, AS WELL AS GOVERNMENT revenue, are dependent upon a new focus on forest management.

The 1990s saw government and industry become global leaders in forest management by focusing on: land-use planning, public involvement in forest decisions, vibrant forest research and inventory programs, initial actions to integrate First Nations into the forest sector economy, third-party sustainable forest management (SFM) certification, and collaboration among industry and major environmental groups following the 'war in the woods'. All contributed to long-term forest stewardship.

The first decade of the 21st century brought a government change in focus from stewardship to short-term economics. Industry will always focus on the short-term, unless a company has a clear philosophy that balances the two approaches. Therefore, it is incumbent upon government, as the public's agent, to ensure maintenance of long-term stewardship through regulation and policy.

Examples of actions taken over the last decade that caused decline in SFM and loss of global leadership recognition are as follows:

- Government directive to staff to help in implementing policies to increase industry competitiveness, implying this was a priority over long-term stewardship
- Allowing timber harvesting practices to take preference over previously identified values such as tourism, recreation, water, benchmark forests, vulnerable species, habitat and ecosystems)
- Decline in forest inventory staffing and funding
- Decline in forest research funding
- Decline in staffing and funding for monitoring and assessment of forest practices on all identified forest values (e.g., water, soil, wildlife)
- Corporate lawyers advising companies to commit only to the minimum requirements in their forest stewardship plans to avoid potential legal action if commitments are not acted upon, even if justified
- Relaxation of industry and government commitments

The relaxation of industry and government commitments are many and varied. Here is a summary:

- Deferral of the requirement to update tree farm license management plans for up to 10 years beyond contractual commitments
- Reduction in the reforestation of wildfire areas, BC Timber Sales mountain pine beetle (MPB) harvested areas and small MPB salvage-logged areas
- Off-loading the cost of implementing wildfire interface management plans onto communities without sufficient funding
- No response to curb the decline in vulnerable species and ecosystems and in the restoration of habitats and ecosystems
- No concerted effort to address cumulative impact management (i.e., integration management of all resource extraction activities), especially in the northeast
- Removal of funding for land use implementation committees thereby limiting or removing public involvement in monitoring implementation of land-use plans

The focus on short-term economics and the reversal of these negative actions and other deficiencies (including no vision for public forests to guide decision-making and a lack of demonstration of the future forest conditions) have to be corrected to achieve a desired future forest for healthy communities and families.

Government and industry have used voluntary third-party forest certification as the indicator of practicing SFM. However, certification is relying on the good forest management activities of the past such as up-to-date land-use plans and government programs in forest research and inventory to meet requirements and standards. The substantial decline in resourcing of these activities by government could put company certifications in jeopardy and, at the least, induce customers to raise questions.

We can have forests that achieve community and family health and increased provincial revenue but action is needed now. This requires a 10-year investment strategy. Recognizing the current provincial economic conditions, it is recommended government direct adequate investments and human resources toward maintenance and enhancement of the public's forest asset over the next five years by:

- 1) Creating a BC forest vision to guide development and review of legislation, regulation, policies and forest practices;
- 2) Enabling and requiring community involvement in strategic decisions about local forest lands;
- 3) Establishing adequate endowments as stable funding for forest resource inventories, for forest research and for forest practices monitoring and assessment programs;
- 4) Investigating, jointly with industry, opportunities that will encourage investment in forest management other than by government, without privatizing BC forests;
- 5) Aggressively providing forest management mechanisms, in partnership with industry, that promote and support economic diversification within communities;
- 6) Developing and begin implementation of a 10 year strategy to convert economically justified wildfire and MPB generated NSR lands to fully functional forests;
- 7) Taking action to prevent decline of non-timber values and vulnerable species and ecosystems
- 8) Funding forest treatments and habitat-ecosystems restoration to create healthy forests in areas where the forest industry does not have contractual commitments; and,
- 9) Ensuring industrial contractual commitments are fulfilled.

Political parties will begin formally developing their election platforms this month. I would encourage all forest professionals and interested parties to ask their MLAs and candidates how they would respond to these recommendations. There is no risk to you in asking and a significant risk to the forest for not.

Politicians have advised that specific recommended actions are required for each of the 2011 key issues identified. These are being



Interest

By Jackie Hipwell, RFT, on behalf of
the Professional Practice Committee

Am I Practising Forestry?

LOOKING AT PROFESSIONAL PRACTICE ISSUES IS AN ONGOING JOB AT THE ABCFP. Some of the recent work in this area includes clarifying the change of status process for members who believe they are not practising professional forestry in order to provide a clearer understanding of available options as they manage and progress through their professional careers.

As members move through their careers, there are many reasons they may change their status from practising to non-practising and back again. Members may go back to school, have family obligations, or need to take a medical leave—these are all reasons for taking a leave of absence and switching to a non-practising status. Most of these members eventually return to become practising members again. Resignation from membership is another option for members who are not practising professional forestry; however, this decision should not be made lightly as the process to re-register after resignation can be onerous. We also have retired and life membership for members who have ended their careers but still want to remain active and engaged with the ABCFP.

While the above examples are simple and clear cut reasons for status changes, many members apply for a leave of absence or resignation because they believe—or their employers have told them—that they are no longer practising professional forestry. A common misconception is that employers can determine whether or not someone is practising professional forestry. To help members correctly decide for themselves whether or not they are practising professional forestry, and to help them demonstrate to themselves and to the PPC the rationale for their decision, they are expected to complete and submit the professional practice questionnaire which will soon be included, with the change of status request form. In accordance with the *Foresters Act*, authority to determine whether or not a person is practising professional forestry rests with the ABCFP. That authority has been delegated to the professional practice committee (PPC).

Beginning in 2011, the PPC started to look at change of status requests—including resignations—where the member continued to work in BC to determine if the practice of professional forestry is occurring within the member's ongoing employment. Any member who does not plan to work in BC for the coming year (for example, returning to school, taking parental leave or moving out of Canada to work) has his/her change of status request reviewed by the board of examiners as these requests do not require a determination on practice and can be quickly approved.

It is important to remember that even if you are only practising forestry one day a month, it is still necessary to maintain your professional designation. Likewise, it does not matter how small a portion of the job tasks include the practice of professional forestry, as any amount of professional practice required by a job necessitates a forest professional.

The PPC uses an established process to assess and determine whether or not the practice of professional forestry is involved within a particular job. A three-person PPC review team looks at each request and compares the information provided to four tests which reflect the definition of

the practice of professional forestry in the *Foresters Act*. Information provided by the member is evaluated, and where insufficient information is provided in a request (a frequent occurrence), the team cannot make a practice determination and will therefore not recommend approval of the change of status request. One of the PPC's goals is to provide members with enough information to accurately make their own decision on whether or not they are practising so that the PPC can examine the request quickly and recommend approval of the change of status.

There have been a few recurring challenges with the information that has been submitted to support change of status requests, so the PPC offers the following advice to members who plan to request a

change in their membership status while continuing to work in BC.

- Ensure the job description is current, detailed and accurately reflects your job tasks. It should not be so generic that it would apply to a number of positions but should contain job tasks specific to your position and not just a summary of work completed.
- Ensure that the job description or position information is validated by your employer.
- Complete and include your professional practice questionnaire.
- Be sure to seal the Non-Practice Declaration.
- Provide a rationale that demonstrates how your position tasks fall outside the *Foresters Act* definition of the practice of professional forestry. Be sure to consider all the tasks within your position and their potential interaction with BC's forests, resources, ecosystems and lands.

Ensuring that only active registered members practice professional forestry is part of the ABCFP's mandate to ensure BC's forests are in good hands. 🌲

Jackie Hipwell, RFT, joined the ABCFP staff in 2009 as a resource associate and is part of the professional practice and forest stewardship team.

What to Submit with Your Change of Status Request?

- Reasons the change of status is being requested;
- A current, accurate and detailed description of the task(s) you are performing (i.e. current job description);
- Your rationale as to why the tasks in the description do not include the practice of professional forestry;
- Your completed professional practice questionnaire; and
- Your Non-Practice Declaration form signed and sealed.

What is the PPC?

The professional practice committee (PPC) is a volunteer committee responsible for addressing issues that relate to the professional practice of members and the practice of professional forestry. Council has delegated to the PPC the authority to make practice determinations and the PPC reports to the CEO.

Forestry Team in Action

Dust Stabilization Research

IN 2012 FP INNOVATIONS, IN PARTNERSHIP WITH THE BC MINISTRY of Forests, Lands, & Natural Resource Operations (MFLNRO), and Interfor, will construct calcium stabilized sections of road on the Adams West forest service road (FSR) as part of ongoing research on dust stabilization in BC.

Implementation and maintenance of dust stabilized gravel road surfaces is a costly undertaking and performance depends on many variables. Existing aggregate deterioration models, developed in other countries and for untreated surfaces only, have their limitations in our BC context and thus need to be validated. There are currently over 15 FSRs administered by government that have had major resurfacing upgrades with controlled crushed surfacing aggregate stabilized with chloride additives. Many of these FSRs also receive annual dust control treatments which are believed to prolong the life of the road surface.

MFLNRO engineering officers, licensees and road maintenance crews require technical information to improve the performance and service life of selected treatment alternatives. This research will provide information to assist in determining the site-specific utility of road surface stabilization; lead to development of best management practices for treatment considerations, implementation and maintenance; help predict aggregate life, road performance and estimates of road maintenance and transportation costs.

Project Team

Interfor: Erik Kok, RPF

FPInnovations: Glen Legere, MEng, FEng

MFLNRO: Brian Chow, MEng, PEng; Barry Markin, RFT; Daryll Cairns, RFT

Can-Am Infrastructure Services: Bill Sadar

Contact

David Beleznyay, RPF, EIT

Email: David.Beleznyay@fpinnovations.ca



Beyond Lumber – Art From Nature Conference and Art Show

COMPARED TO COMMON FORMS OF LAND USE, CREATING ART FROM nature can potentially yield the highest value per square metre of forest. Therefore, by supporting artisans who work with natural materials, we can help diversify our natural resource economy while extracting the highest and fullest value of our forests.

On June 29 and 30, 2012, northwest BC artisans who work with natural materials gathered in Terrace to learn from each other and industry experts on how to succeed in the art world and showcase their talents.

The Beyond Lumber – Art From Nature Conference and Art Show offered several valuable workshops for artisans including: Working with Galleries, Marketing Your Work, Photographing Your Work and Business Start-Up.

The artists who participated in the event worked with a range of material including different types of wood, bark, stone and more. Their works of art ranged from chainsaw-carved statues to hand-carved totem poles, baskets and hats woven with cedar bark to vases and bowls made of wood and stone.

The intention behind Beyond Lumber was to highlight the full value of northwest BC's forests and natural resources, raise the profile of northwest BC artisans as a whole, and help individual artists market and sell their work. Feedback from the approximately 30 artisans who attended the event tells us the event was beneficial—professionally and artistically.

Project Team

Skeena-Nass Centre for Innovation in Resource Economics (SNCIRE):

Rick Brouwer, RPF and Sarah Artis

Skeena Diversity Society: Sasa Loggin

Northwest Community College: Seth Downs

With help from: The Terrace & District Arts Council, George Little House, Kitselas First Nations, Kitsumkalum First Nations and others.

Contact

Rick Brouwer, RPF, Executive Director, Skeena-Nass Centre for Innovation in Resource Economics (SNCIRE)

Ph: 250.638.1006 E-mail: rick.brouwer@sncire.ca



Wildfire Management Branch's International Reputation Spreads like Wildfire

THE OUTSTANDING SUCCESS OF TWO TRAINING INITIATIVES IN GREECE and South Korea this year proves the BC Wildfire Management Branch (WMB) has what it takes to be a leader in wildfire management.

This March, the Hellenic Fire Brigade (HFB) and the Korean Fire Service (KFS) invited the WMB to share wildfire knowledge and experiences. These exchanges were an opportunity to educate agencies and strengthen international relationships.

In Athens, WMB staff delivered five courses (fire assessment, fire weather, intermediate fire behaviour, fire line organization, burn-off and back firing operations) over a course of seven days to 20 Greek fire officials. A presentation on firefighting fundamentals was also delivered to 110 volunteer firefighters.

The trip to Greece was the latest initiative of a multi-year training program to increase the capacity of the Hellenic Fire Brigade to better respond to wildfires.

Similarly, the six-day exchange to South Korea was also a big success where WMB personnel presented two lectures at national training centres in South Korea. The lectures consisted of a classroom and field-based session which focused on fire burn indicators. Students also had the opportunity to work on an actual fire.

The South Korea trip was also an excellent learning experience for WMB staff. Personnel learned about the different fuel topographies and fire causes in South Korea and are now able to adapt the North American course in wildfire origin and cause determination to better suit Korea's needs. When the KFS officers visit BC this October, there will be a course catered specifically to them.

The latest South Korea exchange is part of a larger seven-year training program funded by the Korean government and discussions are ongoing for additional training.

Project Team

Ministry of Environment -
Conservation Officer Service Branch: Ian Douglas, RFT
Ministry of Forests, Lands and Natural Resource
Operations - Wildfire Management Branch: Steve
Lemon; Steve Grimaldi, RFT; Ian Meier, RPF; Hugh
Murdoch, RFT; Dennis Rexin, RFT; Andrew Voigt

Project Funding

Stavros Niarchos Foundation
Korean Government

Contacts

Erin Catherall
E-mail: Erin.Catherall@gov.bc.ca
Karlle Shaughnessy
E-mail: Karlle.Shaughnessy@gov.bc.ca

West Coast Lumberjack Shows Provide Education and Entertainment to Many

West Coast Lumberjack Shows have been providing family focused entertainment to fairs, festivals and special events for the past 30 years. The show highlights some of the traditional work practices of the coastal British Columbia lumberjack, while trying to help preserve the history and folklore of a bygone era when loggers were known as 'lumberjacks' (typically prior to the invention of the chainsaw). While the primary goal of the show is to entertain, the secondary purpose is to educate and remind people of the importance the forest industry had in shaping both this province and the country as a whole.

In 2008, the company was purchased by Darren R. Dean, RPF. Darren now takes the company across Canada and the United States every summer, performing at small rural fairs and the largest exhibitions in the country. This past summer the show travelled as far as Regina, SK and here in BC had stops at the 100th anniversary Prince George Exhibition, the Cloverdale Rodeo, the Penticton Peach Festival, the Bulkley Valley Exhibition (Smithers), the Comox Valley Exhibition and the Interior Provincial Exhibition (Armstrong.)

In the 'off-season' lumberjack shows are performed in and around Vancouver, Whistler and Victoria for conventions and other private functions. Also during the off-season, Dean, the company's principal, keeps his forestry skills honed by returning to 'real' forestry work as an independent consultant for four to six months every winter.

Project Team

Darren R. Dean, RPF; Dan Dyble, RFT; Terry Basso, RPF; Leigh Black, RPF; Doug Folkins, RPF; Brad Laughlin, RFT; Nick Russell, RPF

Contact

Darren R. Dean, RPF Ph: 250.830.4065
E-mail: darren@westcoastlumberjacks.com



Riding for Tree Research



EVERY YEAR FOREST PROFESSIONALS, ARBORISTS AND CYCLING enthusiasts gather for the STIHL Tour des Trees—America's largest fundraising event for tree research. Participants raise a minimum of \$3,500 in pledges to ride between 800 and 1,000 km during the week-long event. Phil Graham, RPF, has ridden the tour almost every year since 2003 and raised more than \$40,000 for tree research.

The tour offers cyclists and tree lovers opportunities to experience different parts of the world while cycling, plant trees, and raise awareness of the importance of tree research and proper care for urban trees. During last year's tour more than 45 new trees were planted and more than \$500,000 was raised.

The Tree Research and Education Endowment Fund (TREE Fund) is the primary organizer of the tour. In Canada, the Canadian TREE Fund manages funds raised by Canadian riders. The two organizations work in partnership to support research, scholarships and education programs essential to the discovery and dissemination of new knowledge in the fields of arboriculture and urban forestry. They support research that has led to important developments in:

- Understanding air pollution reduction and carbon sequestration by trees
- Determining the costs and benefits of urban trees
- Improving conditions for tree growth in difficult sites
- Strategies to manage diseases and pests that affect urban trees

Note: Although the 2012 Tour des Trees (running through Oregon from August 5 to 11) will be finished before the printing of this magazine, donations can still be made at Phil's fundraising page: www.active.com/donate/teamcanada2012/pgcan2012

Project Team

Canadian TREE Fund, TREE Fund, STIHL Tour des Trees

Contact

Philip Graham, RPF E-mail: phil.graham@bchydro.com
Ph: 250.549.8545

Forest Stewardship Action Plan for Climate Change Adaptation

ADAPTING BC'S FOREST PRACTICES TO A CHANGING CLIMATE is both an immediate imperative and long-term proposition. In February 2012, the Ministry of Forests, Lands and Natural Resource Operations released a Forest Stewardship Action Plan for Climate Change Adaptation. This action plan signals an important new policy direction for climate change adaptation within BC forest management. It identifies goals, objectives and initial actions the ministry will take over the next five years to adapt BC's forest management framework to a changing climate. It is the first step in a broader adaptation strategy for the natural resource sector that will grow and evolve moving forward.

The climate change adaptation team sought input from a broad array of partners, including industry, government, and community forest managers. The most promising opportunities were identified through four regional workshops in Creston, Kamloops, Nanaimo and Prince George.

The resulting plan aims to reduce risks, capture opportunities, and improve the ability of BC forests to withstand, recover from, and adapt to the full amplitude of climate change and variability. Three goals were identified: 1) foster resilient forests; 2) maintain future options and benefits; and 3) build adaptive capacity.



Project Team

Frank Barber, RPF; Rob Bowden, RPF; Christine Fletcher, RPF; Kathy Hopkins, RPF; Rein Kahlke, RPF; Deb MacKillop, RPF; Leslie McAuley, RFT; Katharine McCallion; Don Morgan, RPBio; James Sandland; Dave Spittlehouse, PAG; Kristine Weese; Ralph Winter, RPF

Contact

Kathy Hopkins, RPF
Email: Kathy.Hopkins@gov.bc.ca
Ph: 250.387.2112
Website: www.for.gov.bc.ca/het/climate/index.htm

Executive Sponsors

Dave Peterson, RPF, and Tom Ethier

Forest Practices Board Field Tests iPads



Clare Vincent, RPF, completing a field sample.

APPARENTLY SOME AUDITORS DREAM OF PAPERLESS AUDITS AND THE Forest Practices Board took a step in that direction in June when it tested iPads in the field for an audit of Amabilis Contracting Limited in Williams Lake. Using the free Avenza PDF Maps application and the tablet's GPS, auditors easily located their position on georeferenced PDF overview, site plan and road maps. Another inexpensive application—PDF Expert—was used to view and mark up site plans, assessments and maps, and also to record observations on PDF forms. Pictures taken with the iPad can also be inserted directly into forms in the field. Benefits include less of an administrative burden on the auditee and faster compilation of field forms, while the main drawback is that it can be difficult to see the screen on overcast days without shading the screen. Initial results were encouraging and testing will continue this field season.

Project Team

Brian Hansen; Jacqui Leggett, RFT; Chris Oman, RPF; Glen Pilling, RPF; Tim Slater; Clare Vincent, RPF

Contact

Chris Oman, RPF Ph: 250.213.4714

Teachers Learn Lessons in Coastal Forestry

OVER THREE BEAUTIFUL JULY DAYS, A TEAM OF VANCOUVER ISLAND forest professionals gave 20 teachers a world-class opportunity to learn about everything from managed forests to marmots in this year's Festival of Forestry tour based in Campbell River.

The BC Festival of Forestry is a non-profit organization committed to providing quality professional development experiences for school teachers. The annual tour is an interactive learning experience where teachers can enhance their understanding of the complexities of sustainable forest management issues and share great ways to bring this information into their classes.

The 2012 tour was organized by the Festival of Forestry board and planned and executed by a committee of local forest professionals from industry, government and education.

There were opportunities to hear the perspectives of First Nations, learn about forest fire planning and management, and tree seedling production from local experts, and to engage in discussion on the often controversial topic of forestry. One teacher described the experience as, "probably the most productive three pro-D days of my teaching career."

It was clear from the teachers' comments that they could see that all forest professionals involved in the tour, no matter their job title or employer, had a true passion for the profession and a desire to be involved in providing educational opportunities to the public—teachers and future students alike.

The 2012 local planning committee found it a rewarding experience and encourage other groups of local forest professionals to team up and bring a Festival of Forestry tour to their area.

Project Team

Interfor: Joe LeBlanc, RPF

Island Timberlands: Morgan Kennah, RPF

Ministry of Forests, Lands and Natural Resource Operations: John Andres, RPF

TimberWest Forest Corp.: Rick Monchak, RPF

Vancouver Island University: Michel Vallée, RPF

Western Forest Products Inc.: Cindy Fife, RPF; Lisa Perrault, RFT

Local Project Lead and Contact

Lisa Perrault, RFT E-mail: lperrault@westernforest.com

Ph: 604.820.3762

Website: <http://www.festivalofforestry.org>

Tour Sponsors

Canadian Forestry Association, Canadian Institute of Forestry, Canadian Women in Timber, Forestry Innovation and Investment, Forest Products Sector Council, International Order of Hoo-Hoo, Interfor, Island Timberlands, SFI Implementation Committee, TimberWest, The Truck Loggers Association, University of British Columbia, Vancouver Island University, Western Forest Products

Local planning committee at TimberWest log sort



Protecting Sites of Bat Hibernation in the Southern Interior



THIS PROJECT BEGAN IN 2011 WITH THE GOAL OF IDENTIFYING AND protecting valuable sites of hibernation (hibernacula) of threatened and endangered bat species in the BC southern Interior. Human intrusions into hibernation sites are a significant threat to bat populations. In addition to vandalism, human access can cause bats to abandon their sites and may contribute to the spread of pathogens such as White Nose Syndrome. Protection of significant bat hibernacula associated with mine shafts and caves can be achieved by the installation of gates and by road deactivation to prevent public access.

To date, five hibernacula currently used by Townsend's big-eared bat have been identified as potential priority sites. Interfor's foresters helped with the initial funding application and are providing mapping and logistical support to the project.

Major funding for the project is being provided by the Sustainable Forestry Initiative® (SFI®), Conservation and Community Partnerships Grant Program.

Project Team

BC Bat
International Forest Products: Rhiannon Poupard, FIT; Randy Waterous, RFT
Ministry of Forests, Lands and Natural Resource Operations
Mitchell Firman
Nature Conservancy of Canada

Contact

Rhiannon Poupard, FIT
E-mail: rhiannon.poupard@interfor.com
Ph: 250.679.6818

Bulkley Higher Level Plan Order Analysis

FOREST MANAGEMENT STRATEGIES THAT ADDRESS MULTIPLE objectives set by government can make it challenging to identify where licensees can harvest timber that is consistent with these objectives. In the Bulkley TSA, major licensees and a community forest recently pooled their resources to analyse and report the current and near-future status of strategies that address various non-timber resource objectives.

The licensees worked closely with Ministry of Forests, Lands and Natural Resource Operations staff to ensure that these objectives were monitored consistently; starting with a common definition for the Crown forested land base. The project combined overlapping objectives for biodiversity, grizzly bear habitat, caribou habitat, watersheds and stand-level retention to produce:

- A simple and easily updatable MS Excel dataset that provides detailed summaries for each issue and allows users to sort and filter data;
- A set of digital map products (biodiversity, wildlife, watershed, patch size and overall status) for planners and others to understand and visualize the resource values and their current status; and
- A report that summarizes the approach used and status for each indicator.

This analysis helped industry planners identify where they could most efficiently target harvest planning efforts and provided an important due diligence reference for their forest stewardship plan commitments. It also provided land managers with a unique set of tools for exploring and understanding the landbase.

Project Team

BC Timber Sales: Cindy Barden; Shasta Gillanders, RPF; Jason Pope, RPF
Canfor: Jim McCormack, RPF
Forsite Consultants Ltd.: Cam Brown, RPF; Patrick Bryant, RPF
Ministry of Forests, Lands and Natural Resource Operations: Glen Buhr, RPF; Hubert Burger, RPF
Silvicon: Bill Golding, RPF; Lorna Halverson, RPF
West Fraser: Alan Baxter, RPF; Bonnie Grunewald; Dave Ripmeester, RPF

Contact

Patrick Bryant, RPF
E-mail: pbryant@forsite.ca
Phone: 250.832.3366 x216



Quesnel TSA Silviculture Strategy

THE FULL EFFECT OF THE MOUNTAIN PINE BEETLE IS BEING FELT by many communities in the BC Interior. One critical question to ask is if there is anything significant that we can do, with limited resources, to make a difference to mid-term timber supply. This is the question being addressed through the Quesnel TSA Silviculture Strategy Project.

The project was initiated in 2011 by the Resource Practices Branch of the Ministry of Forests, Lands and Natural Resource Operations. It is being implemented in collaboration with the local district office, along with input from local forest licencees. The project is focused on examining the impact of different management regimes and silvicultural investments on short and mid-term timber supply, looking to meet agreed to fibre supply and fibre quality objectives. It also considers species deployment, potential climate change risks, benefits to non-timber resource values and future support for strategic forest management planning.

To date, the project has involved a series of workshops to investigate and confirm timber and non-timber resource objectives as well as the current understanding of the landbase (inventory, extent of forest health impacts, understorey conditions, growth and yield, etc.). A full landbase dataset has been developed that brings together both standard VRI (Vegetation Resources Inventory) as well as Landscape Vegetation Inventory (new era of forest inventory). Analysis is currently underway and will help better understand the likely mid-term timber supply crunch as well as the impacts of different forest management/silviculture regimes. Final results are expected early fall 2012.

Project Team

Decision Tree Forestry Consulting: Phil Winkle, RFT
Forsite Consultants Ltd.: Breck Alward, RPF; Sean Curry, RPF; Jeremy Hachey, RPF; Simon Moreira-Munoz, FIT; Mike Scarff, RFT; Stephen Smyrl; Randy Spyksma, RPF

Ministry of Forests, Lands and Natural Resource Operations: Mike Pelchat, RPF; Brad Powell, RPF; Paul Rehler, RPF; Ralph Winter, RPF

Contact

Sean Curry, RPF Ph: 250.819.8556
E-mail: scurry@forsite.ca

Seedling Establishment in a Changing Climate

SEEDLING ESTABLISHMENT IN NORTHERN BC IS ONE OF THE MOST challenging aspects of reforestation and choosing the best planting spot microsite is critical. Often, environmental conditions such as soil temperature, soil moisture, a lack of nutrients (or inadequate uptake of macro and micronutrients) and frost make successful establishment by basic raw planting challenging at best. Climate change has become our newest challenge with regards to providing a suitable growing median.

In order to address these multiple challenges, British Columbia Timber Sales in the Nadina District have implemented a tea bag fertilization trial. This trial is supported by the principles of the Sustainable Forest Initiative (SFI) certification system.

The trial area is composed of 1,500 seedlings in five blocks of four species per block (Pli, Sx, Fdi, Lw) planted with two different treatments (regular N-P-K tea bag fertilizer and N-P-K with hydrations polymers). The area has also been fitted with sensors to monitor air and soil temperature impacts on seedling establishment, growth and development. Data collection with detailed foliar conditions will be monitored for a period of 15 years.

The Forest Stewardship Action Plan for Climate Change Adaptation has established overarching goals to foster resilient forests, build adaptive capacity and maintain long-term benefits and objectives. It is anticipated that this project will promote the development of a framework for managing uncertainty in BC silviculture.

Project Team

BC Timber Sales (Babine Business Area): Donna Brochez, RFT; Tim Cartmell, RFT; Gord Stanley, RFT; Frank Varga, RPF
College of New Caledonia: Scott Baker (student)

Intergal Forest Management: Darius Butcher, RPF

Ministry of Forests, Lands and Natural Resource Operations: Jodi Krowoski, RPF

Windfirm Reforestation Ltd: Andrew Bacon, Francis Jackson, Rick Ness, Ryan Zapisocki

Contact

Frank Varga, RPF E-mail: Frank.Varga@gov.bc.ca



TD Insurance Meloche Monnex

Let us help you with your home insurance needs.

Get an online quote at
www.melochemonnex.com/abcfp
or call **1-866-269-1371**
Monday to Friday, 8 a.m. to 8 p.m.
Saturday, 9 a.m. to 4 p.m.



The TD Insurance Meloche Monnex home insurance program is underwritten by SECURITY NATIONAL INSURANCE COMPANY. The program is distributed by Meloche Monnex Insurance and Financial Services Inc. in Quebec and by Meloche Monnex Financial Services Inc. in the rest of Canada. Due to provincial legislation, our auto insurance program is not offered in British Columbia, Manitoba or Saskatchewan. ®/The TD logo and other trademarks are the property of The Toronto-Dominion Bank or a wholly-owned subsidiary, in Canada and/or other countries.

Secret Life continued from Page 16

this issue. A major part of this evolution is clarifying our forest management goals and making sure we achieve them. An important element of this stewardship responsibility is understanding and working with the dynamic development of forest stands over the entire rotation.

We clearly need to shift the focus of stand establishment away from free growing to one in which each stand is evaluated against its contribution to a desired future forest condition. This in turn is defined based on the landscape or management unit objectives, which should include overall species composition, seral stage composition, desired grade mix and a range of other targets. Such a management system needs to be firmly embedded in the principles of stewardship, whereby forest professionals are responsible and accountable for their decisions and actions toward achieving objectives as opposed to the current minimal achievement of contractual and statutory obligations.

Barring such a paradigm shift, the most likely short-term band-aid is a redefinition of our free growing goals. They need to explicitly recognize that there is much more to designing a future crop than targeting B-level stocking using one or more ecologically suited species. At the very least, they need to include concepts of density management to help produce desirable end products, and risk management to protect against and account for the effects of stochastic disruptions. Most of all, they need to help us expose ourselves to the secret life of BC's forests. 🌲

Craig Farnden, PhD, RPF, spent 19 years working in Prince George, specializing in silviculture and growth and yield. He currently resides in Vancouver, where he recently completed his PhD in forestry at UBC.

Jozsa, L.A. and G.R. Middleton. 1994. A discussion of wood quality attributes and their practical implications. Special Report 34. Forintek Canada Corp., Vancouver BC. 42 p. <http://www.laszlojoza.com/documents/SP-34.pdf>

MoFR 2009. Forest Stewardship Plan Stocking Standard Evaluation. FREP Report No. 19. B.C. Ministry of Forests and Range, Forest Practices Branch, Victoria, B.C. <http://www.for.gov.bc.ca/hfp/frep/publications/reports.htm>

McWilliams, J. and E. McWilliams. 2009. A review and analysis of the effect of BC's current stocking standards on forest stewardship. Association of BC Forest Professionals, Vancouver BC. http://www.abcfp.ca/publications_forms/publications/committee_reports.asp

Wyeth, M.H. 1984. British Columbia Ministry of Forests regeneration survey system. In: New Forests For a Changing World. Proceedings of the 1983 convention of The Society of American Foresters, Portland OR, Oct 16-20, 1983. Society of American Foresters, Bethesda, MD. pp. 149-152.

Future of BC Forests continued from Page 18

developed for each of the recommendations and will be distributed to the four main political parties and posted on the Healthy Forests-Healthy Communities website in September. They will be in draft form as more information will be acquired as output from the expert and community workshops being held during September-November. I would suggest readers check the website in September. 🌲

Bill Bourgeois PhD, RPF, has 38 years of experience in promoting advancement of BC forest management and is the coordinator of the Healthy Forests-Healthy Communities: A conversation on BC forests initiative providing community dialogue and the views of experts (<http://bcforest-conversation.com>).

Canadian Institute of Forestry Voice of Forest Practitioners since 1908

The Forestry Chronicle

the national journal for forest practitioners

Our membership includes foresters, forest technicians and technologists, educators, scientists and others with a professional interest in forestry.

Reduced membership fees for ABCFP members

www.cif-ifc.org

PRO GROUP Sales and Leasing Inc.

"The Way Professionals Buy Cars"

Tel: 604-270-4466

Fax: 604-270-8355

Toll Free: 1-888-385-4466

New Car Purchase Plan
All Makes & Models

member benefit

for members of
the Association of B.C.
Forest Professionals

since 1985



Visit Us On-Line:

www.progroupbc.ca

Silviculture Decisions continued from Page 15

of production functions for species-site combinations and incorporate estimates of risk especially from forest health impacts. Given the sophistication of these decision-support tools, BC is in an excellent position to make better science-informed intensive silvicultural decisions. 🌲

Louise de Montigny, PhD, RPF, is the silviculture research leader with Resource Practices Branch, coordinating the provincial growth and yield field experiments program and providing science to support policy.

Mario Di Lucca, MSF, RPF, is a growth and yield applications specialist with Forest Analysis and Inventory Branch, developing tools to guide silvicultural decisions and support provincial timber supply analyses.

The New Reasonableness

IN 2008 THE SUPREME COURT OF CANADA (SCC) HANDED DOWN ITS landmark decision in *Dunsmuir v. New Brunswick*. *Dunsmuir* had nothing to do with the BC forest sector; it was about an arcane and amorphous administrative law concept known as the standard of review. Over the previous few decades, the courts had gone through all sorts of legal machinations to determine whether they should review decisions of administrative tribunals on the basis of ‘correctness’ (whether the court agrees that the tribunal reached the correct decision), or ‘reasonableness’ (whether the court considers the tribunal’s decision reasonable, even if the court would not necessarily have come to the same decision itself).

The significance of a standard of review is that the closer it is to reasonableness the more deference the court is supposed to give to the decision of the lower tribunal. The closer it is to correctness, the less deference is required. If the standard is reasonableness, an appellant or applicant for judicial review of an administrative decision is less likely to succeed given the court is more likely to defer to the original decision. If the standard is correctness, then all bets are off, and the court may come to its own conclusion regardless of the lower tribunal’s opinion.

The applicable standard of review is based upon the nature of the issue. Courts tend to defer to administrative decisions that are more factual in nature. The trouble starts when issues leak into the realm of legality given that courts are often better equipped than administrative tribunals to assess legal questions. The more a question related to the application of law, the more likely a court was to insist upon a correct decision (as opposed to a reasonable decision). Yet, specialized administrative tribunals often have a familiarity with the context of a particular legislative regime that is lost on the courts and that might help make for better decisions. As a result of these troubles, the question of what standard of review ought to apply in any given circumstances became hugely complicated and uncertain.

Dunsmuir was the SCC’s latest attempt to bring stability to the standard of review discussion. The court confirmed that, on questions of fact, deference is usually automatic – the reasonableness standard applies. More significantly, the court also made clear that “deference will usually result where a tribunal is interpreting its own statute or statutes closely connected to its function, with which it will have a particular familiarity.”

This conclusion is of considerable significance for appeals to the Forest Appeals Commission. Most, if not all, of what the commission does is make factual determinations and interpret its ‘home statute’

and closely related legislation. This past spring, the implications of *Dunsmuir* on appeals to the Commission became fully realized. In *Western Forest Products Ltd. v. Forest Appeals Commission*, the BC Supreme Court dismissed a licensee’s appeal of the commission’s decision to uphold a stumpage determination on the basis that the commission “was engaged in the interpretation of the CAM [Coast Appraisal Manual] and *Forest Act*...and its interpretations were well within the range of reasonable outcomes open to the Commission.” In *International Forest Products Ltd. v. British Columbia*, the court relied upon the same rationale to similarly dismiss the government’s appeal of the commission’s decision to allow an appeal of a stumpage determination. Finally, in *Telus Mobility Inc. v. British Columbia*, the court upheld the commission’s interpretation of the Wildfire Regulation even though the judge commented that the commission’s “interpretation of the legislation is not one I would have made given the wording of the section.”

In *Dunsmuir*, the SCC described reasonableness as “concerned mostly with the existence of justification, transparency and intelligibility...[and] with whether the decision falls within a range of possible, acceptable outcomes which are defensible.” While this may not make the commission the proverbial court of last resort in the BC forest sector, the new reasonableness has proven a difficult hurdle for appellants of all stripes, industry or government, to overcome so far. Ultimately, any reasonable decision of the commission is probably final, even if not correct. 🐾

Jeff Waatainen is a past adjunct professor of law at UBC, has practised law in the forest sector for over fifteen years, and currently works in the Forestry Law Practice Group of Davis LLP’s Vancouver offices.

DAVIS | LLP

www.davis.ca

JEFFREY WAATAINEN

DIRECT TEL 604.643.6482
DIRECT FAX 604.605.4876
MOBILE 250.618.5776
jwaatainen@davis.ca

2800 PARK PLACE, 666 BURNARD ST
VANCOUVER, BC, CANADA V6C 2Z7
T 604.687.9444 F 604.687.1612

VANCOUVER TORONTO MONTRÉAL CALGARY EDMONTON WHITEHORSE YELLOWKNIFE TOKYO

Discipline Case Update

The ABCFP discipline process has been quite busy over the past few years and we thought members would be interested in reading about the number and type of complaints the ABCFP receives.

ABCFP Discipline Statistics

AREA OF PRACTICE	2012*	2011	2010	2009	2008	2007	TOTAL	PERCENT
Protection of riparian areas & water	1	0	2	3		3	8	15%
Failure to protect endangered ecosystems/species	0	0	3			1	4	7%
Not having the required expertise regarding roads on unstable terrain	0	0	0	2			2	4%
Trespass due to unprofessional work	0	0	1	2			3	5%
Theft	0	0	0	1			1	2%
Unprofessional work on appraisals or cruising	0	3	1	2		2	8	15%
Safety related non-performance	0	0	0			2	2	4%
Lack of due diligence in daily work	2	3	1	1	2		7	13%
Making unprofessional remarks about another member	0	0	1	2	1	1	5	9%
Professional disagreement between members on technical matters not related to the environment	0	5	5		4	1	15	27%
TOTALS	3	11	14	13	7	10	55	100%

Note: While not shown in the table, recent complaints are split almost evenly between complaints from the public and complaints from members.

*to date

A number of the complaints involve important aspects of practice that should be part of members' continuing education. Here is a quick overview of some of the issues of concern from recent complaints. Being aware of what issues come up through the discipline process will, hopefully, help members stay on top of their practice.

Due diligence: Filing and Records

One important aspect of due diligence includes keeping and maintaining appropriate files and filing systems as well as document retention policies and practices. This includes appropriate backup for electronic data. Copies of work and ancillary documents must be retained. Members must have access to these documents if and when required. (This includes defending their reputation if it's called into question.) While much of this would seem obvious, there are a few aspects that may not be and can have implications for discipline cases including:

- Access must be assured even if the member is no longer employed at the organization where the documents were created.
- Access to the original electronic document as prepared by the member is required, even if it has been altered by another member at a later date.
- Electronic backup should include email communication and it should include an off-site back up system.

(Self Assessment Guide. 2010; Standards of Professional Practice: Guidelines for Interpretation).

Due diligence: Qualifications of Non-Members

When relying on others (ABCFP members or non-members) to collect data, ABCFP members must comply with Bylaw 12.5.1 (Due Diligence Standard). This includes ensuring that those relied on to collect data or perform other tasks are qualified and competent as described below: "When data is collected by another person, that person is qualified and competent to collect that data and the data collected makes sense based on the member's own personal knowledge." (*Standards of Professional Practice: Guidelines for Interpretation. 2010*)

How to determine if you are qualified/competent and sufficiently up to date to practice in an area

Bylaw 12.2.1 states that: "Competent members maintain sufficient knowledge in the field(s) of practice."

Bylaw 11.3.7 states that members are to: "To practice only in those field where training and ability make the member professionally competent."

The *Standards of Professional Practice: Guidelines for Interpretation* defines this as follows: To be judged knowledgeable, a member must be able to answer the following two questions affirmatively:

- 1) Do I have the necessary knowledge to complete the task?
- 2) Does this level of knowledge meet the expectations of my peers and the profession?

Members should be aware that some fields of practice have a body of knowledge that changes more quickly than others (appraisals being one example) and if you are practising in those fields, more frequent updating of your knowledge will be necessary.

Operating in Areas Near Settled Areas or Private Land

Many members are involved in forest operations that occur adjacent or near private land. The points listed below, while likely obvious to most members, should be considered. Good practice when operating close to private land can include:

- Planning and communication: Extra efforts (above and beyond legal requirements) in these areas prior to the commencement of operations can be helpful in avoiding issues later.
- Due diligence in avoiding trespass or resource impacts: It is important to remember that the consequences of an occurrence is high, and therefore the level of due diligence expected to avoid occurrences should be considered with this in mind.
- Records of communication: These are important in all cases, but particularly so when a situation is potentially controversial.
- Crossing private land: When the right to cross private land is a requirement it is strongly recommend that a written agreement signed by each landowner or someone with clear authority to represent each landowner be in place before any access to private land is sanctioned by an ABCFP member.

If you'd like to read more detailed case digests for the completed cases, visit the ABCFP website at www.abcfp.ca and click on Regulating the Profession, Complaint and Discipline and then Discipline Case Digests.

Membership Statistics

ABCFP—June 2012

NEW RPF

Matthew David Scott, RPF

NEW ENROLLED MEMBERS

Derek Bryan Burdikin, FIT

Aaron Nicholas Day, FIT

Eric Scott Dunnack, FIT

Enrico Antonio Fionda, FIT

Candice M. Randle, TFT

Andrew John Vander Putten, FIT

Eric Michael Wahn, FIT

TRANSFERRING ENROLLED MEMBERS

Joseph Alfredo Aquino, FIT (former TFT)

Andrea Marie Jancicka, TFT (former FIT)

REINSTATEMENTS

Paul R. Lucas, RPF

Tanya Ann Petri, RFT

DECEASED

Lubor Vaclav Josef Kraus, RFT(Ret)

The following person is not entitled to practice professional forestry in BC:

RESIGNATION

Steven J. Carr

Membership Statistics

ABCFP—July 2012

NEW RPF

Richard Jason Ward, RPF

NEW RFT

Paul Erik Rasmus Andersen, RFT

NEW ENROLLED MEMBERS

Sheena Doreen Colton, FIT

Owen Stewart Coombes, FIT

Joshua James Dick, TFT

Amanda Kathleen Harvey, FIT

Loreen Carole Hodgkinson, FIT

Stephanie Lynne Jeannette Howard, FIT

Amy Victoria Irvine, FIT

Joshua Richard Klok, TFT

Neil Allan MacDonald, FIT

Corey Wayne Mathieson, FIT

Susan Aileen McCormick, FIT

Desiree Adele Powell, TFT

Joel Patrick Richards, TFT

Alexandra Louise Ryland, FIT

NEW ENROLLED MEMBERS CONTINUED

Jenna Rene Schmid, FIT

Cody John Turner, FIT

Scott Wilson, FIT

TRANSFERRING ENROLLED MEMBERS

Jordan Duncan Carter, TFT (former FIT)

REINSTATEMENTS

Jimmy Biagioni, RFT

Gerald McVeigh, RPF(Ret)

REINSTATEMENTS FROM LOA

Jennifer May Eckford, RPF

Damon Joel N.A. Lawrence, RPF

The following people are not entitled to practice professional forestry in BC:

RETIREMENT

H. Ruth Edwards, RPF(Ret)

REMOVALS

Heather J. Cullen

Jennifer Lynn Leslie

United Kingdom continued from Page 14

In the UK, management continues to gain revenue throughout the life of a stand and add value to the trees. As trees mature the lower branches are removed to promote a clean stem which raises the value of the timber in the long term. When the canopy closes, lines of trees are removed in regular frequency (known as line thinning) to provide future access for harvest and extraction machinery. Subsequent thinnings select trees from the stand to achieve goals set out in the management plan and can be performed a number of times. Finally, the stand is clearcut or converted to a continuous cover silvicultural system and the cycle begins again.

To get a sense of the different cultural relevance forests have in Britain we need only look to Queen Elizabeth II and her Diamond Jubilee. In honour of the 60th anniversary of Queen Elizabeth II on the throne, Burghley Estate was included as one of 60 locations to plant a new woodland as part of the Diamond Woods initiative led by the Woodland Trust, a forest conservation charity. Burghley Estate will add to a 30 acre woodland, by planting a further 53 acres to create an area to enhance wildlife and timber values, as well as provide

additional recreation for the local town. It is difficult to imagine a 53 acre forest being planted in BC as part of a national celebration.

Stand management in the UK is achieved largely because government and private land owners work together to establish new woodlands and for reforestation. Government initiatives provide funding for plantation maintenance to improve and care for trees which in turn promotes sustainable forest management. If woodlands are managed properly, the hope is forest cover in the UK will increase which will build a strong industry and improve job prospects for people involved in natural resources. 🌱

Sam Coggins, PhD, RPF, is originally from the UK. He started his career in forestry in 1993, and worked for three private estates, including Burghley Estate. He moved to Canada in 2002, and now works for the Nisga'a Lisims Government, near Terrace, BC.

Peter Glassey has been the Head Forester of Burghley Estate for 20 years. His responsibilities involve managing the forests, parks, and gardens for the estate. In this role he oversees plantation management, which involves creating new plantations, and tending to the existing forest.

References continued from Page 13

- 4 Mather WJ, Simard SW, Heineman JL, Sachs DL (2010) Decline of young lodgepole pine in southern interior British Columbia. *Forestry Chronicle*, 86: 484-497.
- 5 Levin SA (2005) Self-organization and the emergence of complexity in ecological systems. *BioScience* 55:1075-1079.
- 6 Hume, M. (July 24, 2011). Herbicide's collateral damage in B.C. forests under attack. *The Globe & Mail*. <http://m.theglobeandmail.com/news/british-columbia/mark-hume/herbicides-collateral-damage-in-bc-forests-under-attack/article2108265/?service=mobile>
- 7 <http://www.news.com.au/business/iconic-photographic-company-kodak-in-decline/story-e6frfm1i-1226238118349>
- 8 Campbell E, Saunders SC, Coates D, Meidinger D, MacKinnon A, O'Neill G, MacKillop D, Delong C, Morgan D (2009) Ecological resilience and complexity: a theoretical framework for understanding and managing British Columbia's forest ecosystems in a changing climate. Technical Report - Ministry of Forests and Range, Forest Science Program, British Columbia. No. 055, 36 pp. ISBN 978-0-7726-6188-3.
- 9 Hume, M. (July 20, 2012). Applying reason to Nature's wrath. *The Globe & Mail*. <http://www.theglobeandmail.com/news/british-columbia/applying-reason-to-natures-wrath/article4432149/>
- 10 Simard, S.W., Martin, K., Vyse, A., and Larson, B. (2012). Meta-networks of fungi, fauna and flora as agents of complex adaptive systems. In: Puettmann, K., Messier, C., and Coates, K.D., *Managing World Forests as Complex Adaptive Systems in the Face of Global Change*. Earthscan, Taylor & Francis Group, London.

A Moment in Forestry

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



Unique Heart Rot. Submitted by Roland Doering, RFT, PCMP Cert.

Lise Gleasure, a UBC forestry co-op student, beside a unique formation of heart rot in an old growth cypress log discovered during an environmental inspection. The area is southeast of Nimpkish Lake Park on Vancouver Island.

FOREST Club



Brought to you by the Association of BC Forest Professionals, FOREST Club gives you exclusive access to discounts on products and services. Start saving today at abcfp.intrd.com



Fall
for these
Great Savings

HOTELS

TICKETS

TRAVEL

Save today at abcfp.intrd.com

Investment Strategy continued from Page 17

On the coast, there is broad support for fertilization, especially in Douglas-fir stands, although fertilization of other species is considered, if treatments are focused on the stands with the highest ROI. There are divergent opinions on the pre-commercial thinning; however, spacing for the establishment of alder in accordance with the coast alder strategy is generally well supported. A working group comprised of coast regional and district staff is also finalizing a post incremental treatment assessment (PITA) survey methodology, to refine stand selection criteria for future silviculture investments through monitoring of previous projects.

Conclusion

The Land Based Investment Strategy coordinates incremental silviculture treatments for the benefit of timber and non-timber forest resources in British Columbia and to address timber supply shortfalls caused by pests, fire and land use designations. On the coast, the Forest

for Tomorrow program will increase available timber volumes through fertilization and has nearly eliminated pre-1987 NSR. Judicious use of spacing will also enable some stands to be harvested at earlier ages. Planning that is informed by industry stakeholders and retrospective monitoring of the effectiveness of previous treatments will ensure future investments will be directed to the greatest benefit of the province's forest and environmental resources.

Those interested in learning more about the Land Based Investment Strategy, silviculture strategies, investment criteria and other planning tools can find additional information on the LBIS website at: <http://lbis.forestpracticesbranch.com/LBIS/>.

Kevin Telfer, RPF, RPBio, is on temporary assignment as a stewardship forester with the Coast Region, coming from his previous biologist position in the ecosystem section of the Ministry of Forests Lands and Natural Resource Operations.

Plant Wizard Software Update

It's here!

Plant Wizard 8 is the most powerful tree planting software yet.

Features

Redesigned / Simplified User Interface

Scalable SQL database

More field hardware options including: iPod/iPhone/iPad, and Android devices

Sync data real-time via any internet connection
(including cell phone connection)

Improved cost management features

Improved contractor features

Improved integration with JRP's online
Seed and Seedling Management System

Updating is easy.

Just call your representative today.

1-800-535-2093



Plant WizardTM

For more on Plant Wizard & other products, visit us online at www.jrpltd.com