

# BC

JULY – AUGUST 2015

# Forest

## PROFESSIONAL

### TASS, TIPSY and Other Provincial Modelling Tools

Projecting the Economic  
Value of Timberlands

### Conceptualizing a Greener Vancouver

The Softwood Lumber  
Agreement Revisited



**VIEWPOINT**  
Modelling the Future

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**BC Forest**  
PROFESSIONAL

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*"In the field it has saved us time and simplified field surveys. In the office it has saved us a significant amount of staff time" ...*

Ricardo Velasquez,  
District Silvicultural Forester  
Ontario Ministry of  
Natural Resources



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## Prioritize Accountability, Not Exams

Another iteration of the ABCFP's exam/entrance process has passed, and I feel it's time for another comment or two.

I have a unique perspective I think. Not only do I work in the same office as several budding RPFs, but I have also been their neighbour after hours. In the past year alone, I have witnessed three very talented young new Foresters-in-Training on their way to becoming highly-skilled professionals. Fortunately, their maturation into foresters has everything to do with on-the-job training, experience and mentoring; and very little to do with the RPF exam and essay process.

What I have witnessed with all of the new forester candidates is them locked in their houses over beautiful sunny weekends, instead of going to community functions or enjoying our February beaches. I have witnessed and experienced the frustration of losing thousands of wage dollars because of under-implementation; or the same frustration by having to waste annual leave days to prepare and study.

I strongly ask that the ABCFP stop ruining months of people's lives through this onerous and needlessly stringent process. I ask also that the association stop wasting thousands of dollars from our annual dues and lost wages by insisting on this exam process, which in my opinion is closer to academic hazing than to any means of aiding or ensuring professionalism.

BC forest professionals have much to be proud of. There also have been monumental forestry failures, all presided over by us and the association. These successes and failures have very little to do with the association's entry, registration and exam process. The association puts too much emphasis on front-end/entry processes, and not nearly enough on true accountability—the result I believe is an overall culture of false diligence.

Instead of an exam, why not spend association money on a mandatory two-day training course on the *Code of Ethics*, and other BC-specific forestry topics? Or why not develop a mentorship-based approach? In my opinion there are much better ways to work towards true professionalism than this large waste of time and money I witness every year.

MARK SALZL, RPF

## Aboriginal Title: An Advanced Concept that Needs a Legal and Institutional Framework

Perspectives on Aboriginal title in the last issue were timely given the release of the report of the Truth and Reconciliation Commission of Canada. Geoff Plant spelled out reconciliation in terms of forests, as full participation by Aboriginal people in the forest economy.

While the Viewpoints articles were well informed and interesting, they somewhat sidestepped essential truth about Aboriginal title. It is a community-based sustainable trust that devolves trusteeship from the province. It is incompatible with the existing legal and institutional framework of timber harvesting rights under the *Forest Act*. If we try to manage Aboriginal title under the *Forest Act*, it will reduce Aboriginal trusteeship to a child that has to be supervised and we will have a situation that mirrors the problems of the *Indian Act*.

The community-based sustainable trust concept of Aboriginal title is an advanced concept that needs a legal and institutional framework to make it work. It needs some form of democratic representation from the community and it requires some trained professional resource managers.

The best way to make Aboriginal title compatible within a framework for sustainable stewardship of Crown forest is to turn the rest into local trusts. Forest-dependent communities have been somewhat dispossessed of their healthy forests by the existing framework of harvesting rights. Local trusts could reconcile the situation and bring sustainability. In some areas, there will be competing Aboriginal title and community forest claims. One local trust can be designated as a ward system from the various Aboriginal and other communities can make up the board of governance. Trained forest professionals would supply management on all Aboriginal and other Crown forest under devolved local stewardship.

Aboriginal title is an advanced concept of a sustainable community forest trust that should apply to all forest-dependent communities. We need a new legal and institutional framework to make it work. Rub all communities with the same brush.

ANDREW MITCHELL, RPF



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## Increasing Weather Extremes Require Swift Action

In Robert Mohr's letter in the May/June issue of **BC Forest Professional** he states "...the IPCC's own technical summary of the most recent research indicates that there is little or no evidence of increasing extreme weather events." This statement goes too far. In my reading of this technical summary I found many statements indicating significant evidence of increasing extreme weather events. For example on pages 6 and 7 of this technical summary, "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation," I found the following statements:

- "There is evidence from observations gathered since 1950 of change in some extremes."
- "There is medium confidence in a warming trend in daily temperature extremes in much of Asia."
- "In many (but not all) regions over the globe with sufficient data, there is medium confidence that the length or number of warm spells or heat waves has increased."
- "There have been statistically significant trends in the number of heavy precipitation events in some regions. It is likely that more of these regions have experienced increases than decreases, although there are strong regional and subregional variations in these trends."
- "There is medium confidence that some regions of the world have experienced more intense and longer droughts, in particular in southern Europe and West Africa..."
- "It is likely that there has been an increase in extreme coastal high water related to increases in mean sea level."
- "It is likely that anthropogenic influences have led to warming of extreme daily minimum and maximum temperatures at the global scale."
- "There is medium confidence that anthropogenic influences have contributed to intensification of extreme precipitation at the global scale. It is likely that there has been an anthropogenic influence on increasing extreme coastal high water due to an increase in mean sea level."

The IPCC quite clearly states there is in fact significant evidence of increasing extremes for many weather events. Furthermore I am confident that as the globe continues to warm, extremes will continue to "increase" in number, extent and degree and I fully support and encourage forest professionals and others who are working hard on mitigation and adaptation. There will be no better time.

MIKE GEISLER, RPF

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## Successful Fire Management in a Changing Climate

I have some concerns about the new BC Timber Sales Climate Change Strategy and the article on "Adapting Silvicultural Practices to Minimize Climate Change" that was featured in the March/April issue of **BC Forest Professional**.

Climate change, as we all know, could result in hotter, drier summers, which results in more intense larger, wildfires. We are already seeing this displayed in fire seasons, as they are starting earlier, ending later, generally larger and burning with more intensity. There are a number of measures we can take now that will improve the likelihood of being successful in keeping the damages and size of future fires down.

- 1) Broadcast burning selected cutblocks throughout the Interior to 'break up' the fuel mosaic. It has been proven a number of times that a regenerated block is very resilient to wildfire when it has been broadcast burned. This was demonstrated in 2010 on some of the Quesnel area wildfires that were hard to contain. As soon as the fires reached the edges of 25-year old broadcast burns, Crown-involved fires fell to the ground and became low-intensity ground fires with minimal spread.
- 2) Plant fire-resistant species suited for the particular area.
- 3) Prescribe lower stocking standards in the two-kilometre area around subdivisions. A forest with lower crown closure will have less intense wildfires than a forest with a high crown closure.

The choice is ours to make now; do we regenerate our forests to make them vulnerable to future intense wildfires, thereby reducing the available fibre, or do we create a fire-resilient landscape level forest? It will be pay now or pay later. I believe we must pay now.

CHRIS BETUZZI, RFT

**Letters Continued:** See page 29 for more letters

**CORRECTION:** In Robert Mohr's letter titled "Climate Change Science Spreading Misinformation?" in the May/June 2015 issue of **BC Forest Professional** magazine, the term "availability cascade" was edited to read "available cascade." Availability cascade is specific term defined as, "a self-reinforcing cycle that explains the development of certain kinds of collective beliefs." The edit was made in error and we apologize about any confusion it may have caused.

## Have a Compliment or Concern? Write us!

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.

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## It's Legal... But is it Stewardship?

Throughout my career I have heard, “it’s legal, but is it good forest stewardship?” enough times to be concerned. Maybe you’ve heard it too or even said it yourself. Professionals say it when they are trying to reconcile their interpretation of the regulatory framework with the often competing interests of economics and stewardship. Are our decisions truly independent? Sure we can assess and recommend... but can we implement and enforce? We don’t usually get the final say on approving the investment on our recommendations — we are obviously managing for multiple stakeholders, including our employers.

A critical part of professional reliance is the assumption of professional accountability. However, professional accountability must be supported by professional independence. Council has made professional independence a focus area in our strategic plan — without it, we know that our ability to serve the public interest is jeopardized.

What is professional independence? Professional independence is the ability to apply your professional judgement and expertise to a given set of circumstances without the influence or bias of an outside pressure — including from employers, other professionals or situations.

What does professional independence look like in a day-to-day setting? There are wide interpretations when terms like ‘practicable’ are applied to rationales, when assumptions are made around the management of the timber profile, when questions are raised about the sustainability of the timber supply and the rate of harvest. And that’s good — resource management is a complex arena and these are complex issues requiring a high degree of professional assessment and judgement. That’s what our members are trained to do.

Why, then, do we sometimes hear our members say, “It’s legal but it just doesn’t feel like stewardship.” Stewardship and protecting the public interest may seem nebulous to some and very clear to others. Why such a broad interpretation? Maybe because we assume that the regulatory framework represents the public interest — therefore minimum legal thresholds equal stewardship? But does it? Evolving to a professional reliance model was meant to provide flexibility and latitude to apply professional judgement and ultimately improve stewardship — not to provide us with the option to lessen our responsibility and say “I’m a professional — don’t worry about it.” So what’s happening?

- Are our members not keeping pace with the evolving demands placed upon our profession?
- Are plans and prescriptions not receiving sufficient support at implementation to achieve the results needed?
- Do plans and prescriptions not have recent or good enough data to support making informed recommendations?
- Is there a culture shift occurring which makes financial considerations and legal minimums the benchmark for decision making — with stewardship decisions becoming secondary or even tertiary?

I believe all may be true to some degree. I also believe that these are surmountable challenges. We can acknowledge the issues. We can invest in finding solutions and improve our inventories and decision-making tools. We can continue to improve our processes. The harder part is choosing to collectively steer our culture.

Imagine you have a life-threatening illness and you visit your doctor. The doctor optimizes your situation based on his/her expected profit margin and how your treatment regime might conflict with his/her golf schedule. Oh, and your health of course. No one would dispute that all these things matter but in what order of priority? Which issues are most influencing the decision making?

From my experience, these situations are not endemic, but they do occur regularly enough that we need to open the conversation. Left unchecked, this type of behaviour can achieve a tipping point and become culture. If we allow ourselves to treat stewardship as anything less than our primary objective — we risk losing our social license, the public trust and likely our profession all together.

If you haven’t been in this situation yourself, perhaps you have a colleague who has? I want to hear from members on this topic and I hope you will share your opinions and stories with me at [president@abcfp.ca](mailto:president@abcfp.ca).



# Professional Reliance Advice

AS MANY OF YOU KNOW, MLA MIKE MORRIS, THE PARLIAMENTARY SECRETARY to the Minister of Forests, Lands and Natural Resource Operations, has been carrying out a review of professional reliance as it relates to wildlife habitat. Mike Larock, RPF, our director of professional practice and forest stewardship, and I sat down with Mr. Morris at the beginning of March of this year.

As a follow-up to our meeting, we indicated that we would consult forest professionals for their opinions regarding professional reliance in the forest sector and get back to him with more information. Here's what we heard.

Forest professionals confirmed that there are areas within the FRPA framework that require improvement.

**i. A Land-based Management Strategy:** a business process shift that changes the way agencies and land users address public land values and stakeholder interests is needed. Using the forest land as the basis for all resource planning will strengthen communication among resource users and allow early identification of troublesome issues. This strategy also has the capacity to link planning processes back to stewardship objectives for the land and create efficiencies for all parties currently struggling to work on the landscape. Characteristics of this business process shift include:

- a. Government could establish a standing stewardship committee that determines the land-use balance on a sub-regional basis. Resource professionals would assist with the science of natural resource management to help achieve the desired balance. It would also be an opportunity to incorporate meaningful public input into the planning that follows.
- b. Landscape plans that describe specific objectives for specific areas will provide clear regional objectives for resource values.
- c. A continuous landscape planning process will allow adaptation to changing conditions and information.
- d. A 'resource balance' reduces the need for resource constraints and instead uses legal resource objectives to define the resource outcomes.
- e. The landscape-level objective and legal-resource objective would apply to all resource users on the land.

**ii. A Requirement to Use Professionals in the Forest Practices Legislation:** Currently, professional reliance does work where forest professionals operate within their scopes of practice, seek other professional expertise, refer tough interpretations to their peers, are conscious about the impacts their judgment has in both the short and long term, can independently consider other aspects to resource management, and have an employer who respects professional recommendations and/or decisions. Many forest land users have internalized this process and have standard operating procedures within the organization to support professional reliance. Characteristics of a professional requirement to ensure stewardship include:

- a. Professional certification of resource objectives, prescribed, implemented and achieved. Require land users to obtain professional certification over all objectives set by government by

expanding FRPA section 16 and the Forest Planning and Practices Regulation (FPPR) section 22.1.

- b. Recognize the role of a coordinating resource professional who plans the interaction and cumulative impacts of various interests and uses on the land.
- c. Professional certification of the forest stewardship plan.

**iii. Strengthen Land-Use Monitoring:** the government established two specific management instruments for monitoring the effects of resource use over time. An expansion of these management instruments in FRPA will lead to more effective information gathering, transfer, and use in resource management.

- a. Require land user participation in the FRPA monitoring process (FREPP).
- b. Expand the third-party 'oversight' role over all resource lands and values for the Forest Practices Board (FPB).

**iv. Public Education of Resource Stewardship:** The stewardship model in BC changed with the establishment of FRPA. After 10 years, it is evident that the public and other resource users require a better understanding of how they can impact decisions on the land. Re-establish a communication strategy that informs the public and stakeholders on how they can be involved in the management of BC resources.

We also asked forest professionals some preliminary questions regarding the stewardship model in BC. It is clear to us that forest professionals do understand their role in providing advice and direction to their employers.

While Forest professionals' advice and direction often forms the direction in the management of forest resources, we also heard that their advice and judgement, in many instances, was not followed or did not form the basis of the management decision if it was not the most cost effective option. If professional judgement is not followed, professional reliance ceases to exist.

Equally troubling is when professional judgment is not acquired at all. If professional service is not requested and relied upon, then clearly professional reliance does not exist.

Similarly, if the advice or direction of the professional is somehow constrained, then a reliance on professional judgment does not occur. For example, the FPB investigation report #38<sup>1</sup> on forest road crossings points again to the concern that if professional service is not properly applied, then professional reliance does not exist.

The real danger regarding professional reliance is that there is an inherent public trust that the professional will get it right, and that we, as individuals or society, are safe because of because of the professionals' involvement. If this is not happening then there is a substantial risk to the professions, the professional reliance model in FRPA, and to the employers.

We need to collectively work on mechanisms that improve the partnership among government, tenure holders, lease holders, other forest land users, and the professions. Good stewardship of forest land is a result of several partnerships including the reliance on professional judgment and advice. 🌱

<sup>1</sup> Bridge Planning, Design and Construction. Forest Practices Board.

## Thanks to our Volunteers

The ABCFP wishes to recognize the volunteer contributions of the following members who have served the profession on the Board of Examiners (BoE) and are now retired from the BoE. The BoE is a vital committee of the ABCFP and functions to examine enrolled members, while advising council and staff on entrance standards. These volunteers have given generously of their time and energy to the profession:

Dr. Kathy Lewis, RPF, has provided dedicated and excellent service to our BoE for many years. We want to recognize the exceptional contribution she has made to the ABCFP and to her profession. Kathy has been instrumental in the development of our take-home exam questions and has made important contributions to the development and marking of the sit-down exams. In addition to her work in crafting challenging questions for aspiring forest professionals, she has spent countless volunteer hours coordinating our marking teams and marking these exams. As well, she has been an exceptional advocate for the maintenance of the highest standards for entrance into the profession. Besides her work on the board as a whole, she volunteered for a number of the BoE subcommittees and provided important advice to enrolled members in regards to filling competency gaps and preparing for upcoming exams. Her knowledge of many subject areas including forest pathology, disturbance ecology and stand dynamics, and dedication to the work of the BoE will be missed.

Gretchen Prystawik, RPF, has been a tireless leader in the development of exam questions and the coordinated effort of marking papers. Gretchen also had a pivotal role in the development of the Natural Resource Professional designation on behalf of the profession.

Warren Burkinshaw, RFT, was chair of the BoE and greatly assisted the profession in tackling a wide variety of issues for technologists.

Cheryl MacKenzie, RPF, has given many hours of time in the marking of exams and contributing to BoE discussions about policies and guidelines.

ABCFP committees depend on the good work of our volunteer members. Should you be interested in the work of the BoE or other committees, please contact our staff.

## Awards Program Now Accepting Awards

The ABCFP's awards program is now open and accepting nominations for all awards. We've made some changes to the program to make it easier to nominate a colleague. If you know someone who has gone above and beyond or who has steadily worked for years to improve forestry in BC, be sure to submit an award nomination. We also have awards for non-members so don't forget your non-forest professional colleagues! For more information, visit the Awards page of the website or e-mail Brian Robinson, RPF, director of member relations and professional development, at [brobinson@abcfp.ca](mailto:brobinson@abcfp.ca).

## Recording of the Policy Review Seminar Now Available

A recording of the Policy Review Seminar that was held at Thompson Rivers University in Kamloops on June 11 and 12 is now available. This is an excellent opportunity to receive a summary of forest policy and legislation related to various professional issues and is an effective way to prepare for the registration exams or engage in professional development.

You can order a copy of the recording by visiting the Policy Review Seminar page on our website, filling out the seminar registration page and checking off the webinar recording box. If you have any questions about Policy Review Seminar, please contact Brian Robinson, RPF, at [brobinson@abcfp.ca](mailto:brobinson@abcfp.ca).

## Advisory Resolution Accepted

A group of members put forward an advisory resolution concerning member and public education around the coastal Douglas-fir (CDF) biogeoclimatic zone at the most recent conference in Nanaimo. Following the conference, council considered the advisory resolution and unanimously voted to adopt it. The stewardship committee will now get to work on the educational component of providing information about the CDF biogeoclimatic zone to ABCFP members. In terms of public awareness, we will work to put information about the zone on our website.

## Associate Members: Get Your Stamp Today

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CG image by: Patricio Jeri, UBC-CALP

Exit Future Vision

## Forecasting the Future of Forests

**WE'VE ALL SEEN IT BEFORE:** INTRICATE ILLUSTRATIONS OF REAL ESTATE DEVELOPMENTS years before ground is ever broken; statistics that project a new wave of retirements in an organization by the year 2020; digital renderings of a city's skyline 50 years into the future — the list goes on. Governments and businesses, including those in the business of forestry, have become increasingly adept at making detailed projections about the future. The July/August issue of *BC Forest Professional* is dedicated to the technologies and methodologies used by forest professionals to forecast the future, whether in the areas of inventory, management options, economic projections or aesthetics.

A recurring theme woven into this issue's Viewpoints stories is the imperfect science inherent in the practice of scenario planning. Given that models incorporate assumptions and variables, challenges exist in drawing on accurate data sources, interpreting results and reducing complexity enough that large models are digestible by the professional forestry audience at large. At the same time, many acknowledge they view models with reserved skepticism and as such, the articles here indirectly reinforce the importance of professional reliance.

Aside from the in-depth look at modelling, this issue explores another timely forestry issue: the looming expiration of the Softwood Lumber Agreement. With current speculation that the agreement will be allowed to expire in October and questions about resulting implications, we revisit the circumstances that brought us to where we are now. Our Science in Action column, on the other hand, introduces us to two bright-eyed young scientists who are excelling in the international science fair circuit with their studies of invasive plants and bumblebees. This issue also features the first of several pieces on public trust, a concept that is of particular importance in our sector, given our right to exclusive practice and self-regulation. While the public generally views forest professionals as trustworthy, the actual percentages indicate an opportunity for improvement, which as a profession, we would all benefit from. 🌱

### The Principles of Stewardship<sup>1</sup> and Modelling/Scenario Planning/Challenges with Forecasting

As outlined in the *Foresters Act*, one of the objectives for the ABCFP is to advocate for and uphold principles of stewardship for forests, forest lands, forest resources and forest ecosystems. This is a big task involving a tremendous amount of data. BC has approximately 59 million hectares of forested land base, incomplete inventories/data gaps and constantly changing variables, many due to climate change. To minimize overall risk, forest professionals must integrate modelling into project planning and forecast short, mid- and long-term scenarios involving forestry activity impacts on timber inventory and other associated values.

As data collection technologies become more efficient and cost effective (e.g. LiDAR), further complex problem resolution methods will need to be developed. Where data gaps exist, forest professionals will need to advocate with their employer and/or the Crown (when operating on public land) to invest in refinement of baseline data and models. As landscape units very rarely contain only one natural resource activity, a crucial piece of the solution is for forest professionals to develop efficient communication networks to share their knowledge outside of the usual circles. Multidisciplinary teams, from all natural resource sectors, benefit when knowledge is shared collaboratively, with natural resource activity cumulative effects identified spatially and temporally.

<sup>1</sup> The main document can be seen at [http://abcfp.ca/publications\\_forms/publications/committee\\_reports.asp](http://abcfp.ca/publications_forms/publications/committee_reports.asp)

# Projecting Value in Timberlands

*Sales in the world market are not sales; they are returns on long-term investment.  
What matters is the total return over the lifetime of the investment.*

Peter Drucker, 1989

**NO MATTER HOW INEFFICIENT OR INEFFECTIVE THEIR BIO-PHYSICAL** layout, over a period of time, growing forests create things — they are living multi-production facilities. To a person interested in the “dismal” science, the tree and the land on which it grows represent both capital and output. Like a factory, it produces a variety of products at various times in its life cycle. Needless to say, the multi-production bio-facility has economic value<sup>1</sup>.

American speculators are often interested in the market value of that bio-factory — the land and standing timber. Speculators in British Columbia, because of the overwhelming amount of public forest land, are interested in the value of the timber. Investors in both countries, on the other hand, are interested in the forest’s propensity to create wealth over the long term. Americans seem to have been aggressive in their search of economic tools that predict the relative merits of that investment against the exposure of that investment to risk. Canadians, on the other hand, often seem to trust their public institutions to minimize their exposure to risk and have lagged behind in wealth assessment.

Forest professionals need to think of themselves as long-term investors. Their careers are their portfolios. Forest professionals need to understand that all the values associated with any management strategy are measures of the quality of their professional woodmanship. While not all of these values are economic, there should always be a strategy that maximizes economic value of the forest estate if for no other reason than as a report card on the progress of management for the forestland owner.

## The Timberlands Investment

The economic characteristics and opportunities of the timberland investment are different than more classical cases of stocks and bonds, and closer to real estate. Timberlands offer some unique challenges that elude more traditional investments, including:

1. The real value of timberlands fluctuates more than the rate of their biological growth. While biological growth in older second-growth on the Coast is between two to three percent annually, their historic economic growth has ranged from minus eight to 12%.
2. Timing is everything in the decision to harvest; a short-term decline in the forest’s economic value means it can be held on the stump and accumulate biological growth until favorable market conditions return.

3. Investment returns on timberland in the US are made of 30% value of timber, 60%, biological growth and 10% for land value (Wagner, 2014).

In the typical timberland ‘factory,’ economic returns are generated both by revenues from the sale of forest products and from the surplus value of the land. Revenues from forest products are the market price obtained by the various products minus the costs of harvest, delivery, payments to capital, taxes and profit. Variables include:

1. Market price that varies by species, product, grade and demand.
2. Harvesting costs that vary by product size, volume per unit area and logging system.
3. Transportation costs that vary by distance, transportation type and/or road class.
4. Profit that varies with risk due to type of harvest operation, cost of capital, the location and size of the operator.
5. Due to public ownership, in most cases in BC, the value of the land is not considered a decision factor.

The large number of inter-related variables confuses the assessment and decision-making processes. Since variables often cross disciplinary lines their consideration usually increases the probability of error in estimating financial considerations.

Most errors can be eliminated in the stewardship of second growth and plantation forests. During the life-cycle of a forest the variety of products generated can be quite predictable as to amount, quality, economic value and timing. Since the forested area has already been cut in the past, harvesting and delivery costs can be rather precisely estimated. It is the estimates of these variables that drive the building of a forest investment management strategy.

## Timber Econometrics

With an eye for the possibility to expand my consulting business, I attended a course titled, “Financial Analysis for Resource Managers” in Olympia, WA in March 2013. The course was taught by a forest professional, William E. Schlosser, PhD. Bill’s course focused on the data and types of analysis needed to make economic decisions about renewable forest resources in the United States. On the second evening Bill introduced a computer program that he designed to analyze economic characteristics of forestlands from the timber management perspective. His Forest Resource Analysis System Software (FRASS) combines forest inventory data, a large

<sup>1</sup> The theory of economic valuation is based on individual preferences and choices. People express their preferences through the choices and tradeoffs that they make. Market price is NOT the same as economic value. Market price is the minimum price consumers are willing to pay for the good or service.



## Douglas-fir 2 Sawmill Real with RPA Forecast

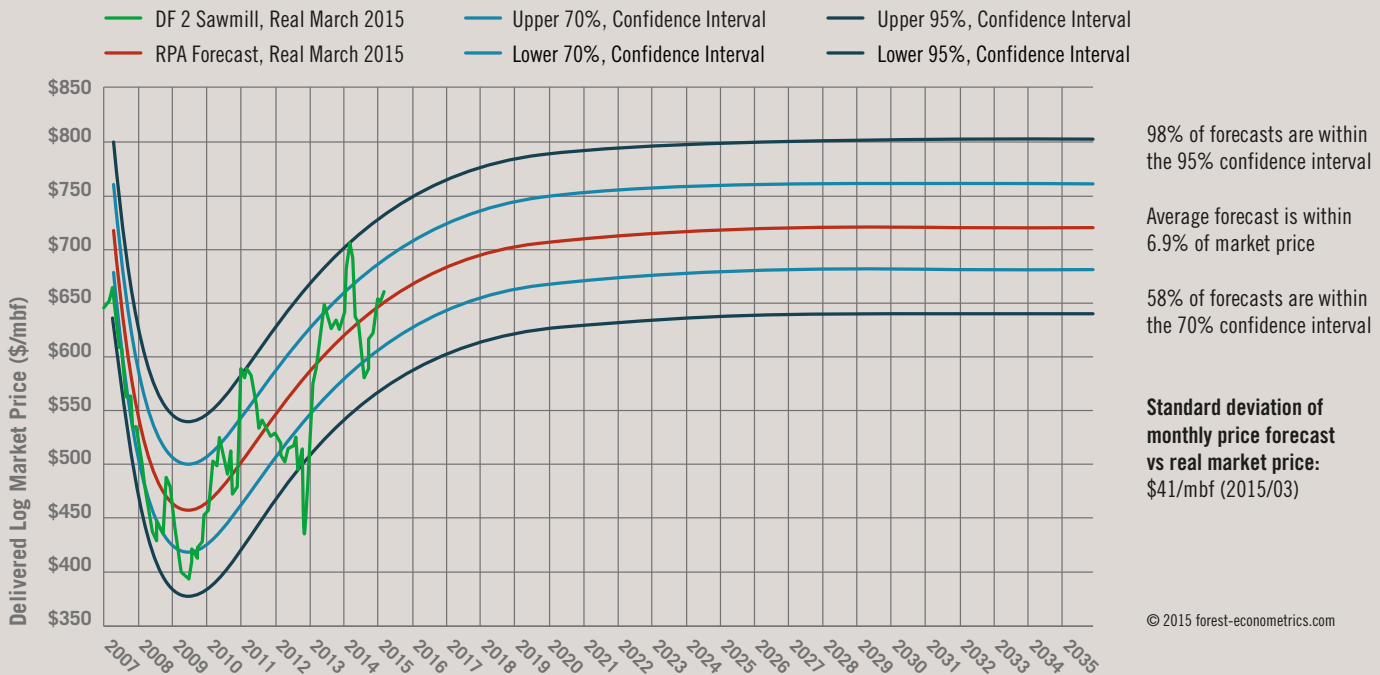


Figure 1. Example from the the Real Price Appreciation Forecast Tool

financial portfolio that uses real price trends<sup>2</sup> in delivered log markets, physical site characteristics, road networks and zoning for threatened, endangered and sensitive species, and riparian areas.

Where timber production is the highest and best use, FRASS generates financially optimal timber rotation determinations for parcels of forest land into perpetuity and bare land values. It looked to me to be a one-stop-shop for the timberland decision-maker. Next, I needed to understand the accuracy of his forecasting tool and what would make his programs applicable to the economic situation in BC?

### Real Price Appreciation

Figure 1 shows price predictions for Douglas-fir 2 Sawmill delivered log sort price in the Puget Sound log marketing area. It is evaluated with an initiation date of April 2007, a turning point of June 2009 (a period from relatively stable real prices, through the trough of the Dark Recession and the beginnings of recovery). The real price devaluation was drastic. Over a 2.17 year period, it devalued 23% per year! The price recovery period — significantly longer in proportion to price disruption term — is projected, in this case, to recover 99% of its initial real price range by 2020. This particular forecast was made in 2010.

This Real Price Appreciation Forecast Tool was developed by Dr. Schlosser and Dr. Wandschneider, for use in various delivered log markets. The tool creates price forecasts for delivered log sort prices, or associated services, such as logging, log trucking and logging road construction costs to be analyzed as patterns within time-sensitive price forecasts, expressed in continuously updated real terms. The RPA Forecast Tool is encapsulated in the FRASS platform to analyze

characteristics of timberland properties to determine financially optimal harvest rotation timing strategies, one block at a time.

### Conclusion

Whether timberlands are managed to benefit shareholders of a US company, or the Canadian public trust, the conversion of the tree from the forest to a log delivered to a mill should have a clear and purposeful objective to maximize financial returns in concert with other resource needs (wildlife habitat, aquatic environments, aesthetics, etc.). The FRASS platform does this through combining financial forecasts for costs and returns with biometric prognoses, physical site characteristics and landowner characteristics specific to each timberland parcel. I am sure that there are other means of doing the job but it clearly is a tool that has application in BC.

Programs like FRASS using the Real Price Appreciation Forecast tool would have great utility to organizations like TimberWest, Island Timberlands and BC Timber Sales. Knowing what you have is only the midterm examination, actually realizing their optimal asset value is the final mark! 🌲

*Will Wagner, RPF, resides in Campbell River where he is continuing research initiated while with the Canadian Forest Service. He studied forestry at UC Berkeley, forest engineering at Oregon State and the economics of forest resources at the University of Victoria. He has practised forestry in three regions of the US and also in the Interior and on the coast of BC.*

**Reference:** Wagner, W.L. 2014. "Grounding a Vision: Timberlands, William E. Schlosser, and FRASS" *The Forestry Source* May 2014, Volume 19, #5, pages 12 and 13

<sup>2</sup> Nominal value refers to a value expressed in money terms of a given point in time. By contrast, real value refers to an adjusted nominal value with an adjustment for inflation to state it in constant terms.

# Strategic And Tactical Timber Supply Planning



Photo: endostock - Fotolia



# Viewpoints

By Mike Buell, RPF

**A KEY INPUT TO THE DETERMINATION OF THE ALLOWABLE ANNUAL** cut (AAC) for BC forest management units is timber supply analysis — strategic-level timber supply modelling to explore sustainable harvest levels that meet economic, social and environmental objectives. I contend that our current analysis approach should evolve to address current issues regarding timber scarcity. In many cases timber is included in the allowable cut that is economically inoperable, while in other cases excluded from the allowable cut to meet environmental objectives that can be addressed fully in other ways.

Over the years the province has altered legislation related to the AAC and in 2004 cut control requirements were removed — requirements that forced companies to periodically meet their apportioned AAC, within limits. Since then, licensees are not penalized for missing minimum harvest-level requirements but risk losing AAC when they undercut. The licensee's traditional operating areas may be altered or transferred to other licensees in the management unit.

When economically operable harvest volume is available in the licensee's operating area, undercut is rarely an issue since operators can find the volume identified during the AAC process. But in many cases the strategic AAC levels are not economically available and licensees must negotiate with the Ministry or other licensees for economic volume that is administratively reserved in their operating areas or in neighbouring areas.

To avoid this situation, strategic planning models should include tactical (operational) harvest plans that extend as far into the future as possible (preferably five to 10 years into the strategic harvest plan). The tactical plan can be fine scale (assumptions and data) and based on one-year increments, as opposed to large scale strategic models where harvest levels are reported as the average harvest over five or 10 year periods.

The initial development of the tactical plan may be contentious due to conflicts among licensees and stakeholders, but can be facilitated with the appropriate planning tools. Once the initial tactical plan is developed, key assumptions (prices, costs, access) and base data can be easily updated and any adjustments to the plan results quickly vetted amongst licensees and other stakeholders.

### **Tactical Modelling Demonstrates The Realistic Short-Term AAC**

The tactical plan can be supplied by licensees operating in the management unit or can be determined through a roll-over analysis where a timber supply model with tactical reporting capabilities can be used to supply the short-term economically viable spatial harvest blocks to licensees. This can then be accepted or altered based on experience within the management unit. The use of a model will also assist in developing economically viable plans that adhere to the numerous forest cover objectives (e.g. wildlife, ecosystem representation, visual quality) specified for a landscape unit or watershed.

Tactical models based on fine scale data can provide information about the value chain including the location of future road networks and landings as well as information on harvest by species and end-use-sort and harvest system. Economic assumptions and indicators

should also be included and based on yearly observations; harvest by species and end-use-sort, price trends, harvest revenue, harvest costs, road costs and administrative costs

The tactical harvest plan does not have to be a perfect blueprint for operations, but it should ensure that harvest blocks are realistic given anticipated markets, costs and infrastructure (current and future roads, landings, mills). This realistic plan will also allow for equitable sharing of economically-viable harvest volume as opposed to strategic models that may be based on coarse scale data and timeframes.

### **Tactical Modelling And Forest Reserves**

In addition to ensuring that the short-term harvest is economically available, tactical modelling can be used as the basis for negotiations to access the administratively inoperable or currently reserved areas (e.g. OGMAs). Negotiations can begin early in the planning process, 12-24 months before a potential block is harvested. Pilot projects (Stella Lake, San Josef Landscape Unit, and the Prince George and Kootenay Lake TSAs) are underway that demonstrate the potential to optimize constraint objectives while minimizing impacts on the timber harvesting land base (THLB).

These pilots demonstrate that gaining access to portions of the reserved forest land base can increase economic harvest volume while allowing for other conservation values to remain intact, or in some cases increase. Since it may take 6-24 months to gain approval for access to current reserves it is important to have early and ongoing planning with tactical models serving as the basis for this planning.

### **Proactive Not Reactive Planning**

British Columbia is a leader in sustainable forest management of which setting the AAC and strategic forest modelling plays a key role. Through detailed planning frameworks, processes and models, the province ensures that harvest levels meet economic, social and environment objectives. Regardless of this, the timber supply process should be modified to ensure that strategic plans are based on economically viable short-term operational plans — evolving plans that are revisited on a yearly basis.

In other jurisdictions tactical models are used to drive yearly earnings from Crown lands that are tied directly to funding schools, universities and key services (e.g. police and fire). Perhaps it is time to evaluate a framework and process that will deploy yearly tactical economic models that will direct and report on the progress of generating income for beneficiaries. The benefits of utilizing a dynamic tactical model that allows for ongoing negotiations, monitoring and reporting with timely solutions far outweighs the costs of initial efforts that may be needed to bring this type of planning to fruition. 🌲

*Mike Buell, RPF, is a programmer/analyst at Cortex Consultants Inc. based in Victoria BC. Mike develops models of forest assets to support mergers and acquisitions, asset valuations and forest management planning. He enjoys spending time with his wife and young daughters while fitting in pre-dawn rides with his cycling club.*



Photo and rendering courtesy of Ken Polsson, FLNRO

## TASS: Looking Back on

**THE TREE AND STAND SIMULATOR (TASS) HAS BEEN USED TO PREDICT** the growth and future value of British Columbia's future forest for over 50 years. Ken Mitchell (retired FLNRO) began developing TASS in 1963 for his PhD at Yale. In 1980, anticipating the increasing demand for managed stand growth and yield information, the Ministry of Forests, Research Branch, hired Dr. Mitchell to establish a research program in stand modelling and continue developing TASS for BC. The Stand Development Modelling Group within FLNRO's Forest Analysis and Inventory Branch continues this work. Today, TASS synthesizes and integrates extensive multi-disciplinary and inter-agency research.

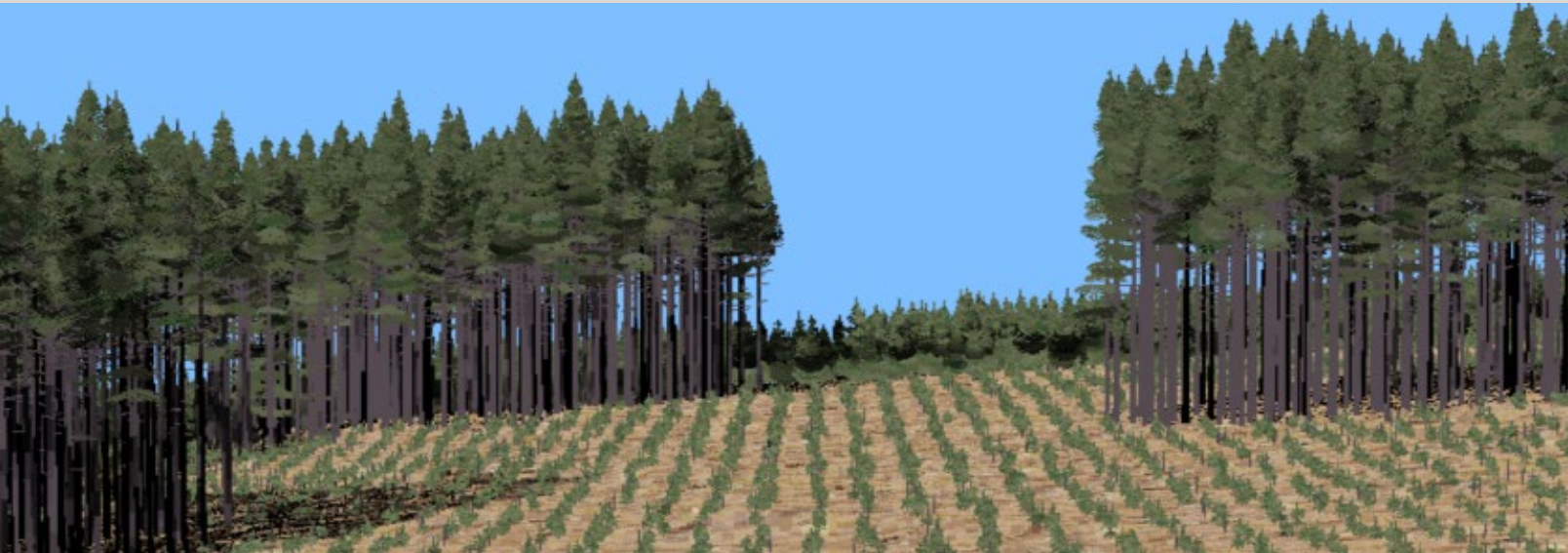
Over the last 25 years, the TASS-derived application, TIPSYP (Table Interpolation Program for Stand Yields), has been the primary source of managed stand yields used in forest-level analyses supporting provincial AAC determinations. TIPSYP continues to provide BC's forest professionals with access to TASS growth and yield predictions while the next generation of TASS (TASS III) is being developed. TASS III expands TASS to address the complex stand structures observed in mixed-species or multi-cohort stands as well as those modified by disturbance agents and forestry practices. To do this, TASS III incorporates light modelling to help regulate crown size, growth and mortality of trees. Leveraging advances in computing speed and capability, TASS III is the first public release of interactive TASS on the PC platform.

Ongoing model development and validation requires data in many forms. Long-term plots remain the best source of data for treatment response, growth and mortality. FLNRO's extensive legacy of field

experiments and permanent sample plots remain the primary sources of these data. Collaboration with other research institutions and agencies provides other sources of valuable data, such as university research, regional and federal governments (Alberta, Ontario and Washington and Idaho, Sweden, France and New Zealand), and several private companies. Models must be extensively evaluated against independent data that have been collected as part of a rigorously designed monitoring or experimental permanent plot program. FLNRO's young stand monitoring (YSM) and change management inventory (CMI) databases provide important verification touchstones now and into the future.

TASS and TIPSYP also help inform BC silviculture investments, policies, and legislation (e.g. *Forest and Range Practices Act*), including stocking standards, genetic gain, fertilization, thinning and variable retention. TASS's unique model structure is intended to realistically simulate fundamental tree growth and stand development principles, i.e., the effect of inter-tree competition on crown dynamics and individual tree growth. This is important because crown dynamics drive the response to most silvicultural actions, including espacement, thinning, fertilization and pruning. The focus on the accurate depiction of inter-tree crown competition and other key biological processes facilitates the realistic exploration of new questions in the absence of existing local research, such as new or modified silviculture practices and/or changing climatic conditions.

Today, TASS supports more than just timber production. Predictions of stand structure and associated light regimes serve as inputs for other models that predict a wide range of future non-timber forest values,



This rendering along with the cover art were both created by Ken Polsson, stand modelling analyst with the BC Ministry of Forests, Lands and Natural Resource Operations, using the Tree and Stand Simulator software developed by the Stand Modelling Group of the Forest Analysis and Inventory Branch.

# 50 Years of Looking Forward

including wildlife habitat, biodiversity and visual quality. Carbon and biomass were added to TASS to help forest professionals explore the effects of management options on carbon sequestration biofuel production. TIPSy is also linked to Natural Resources Canada's Carbon Budget Model.

Close collaborative work with Forintek (now, FPInnovations) in the late 1980s resulted in TASS becoming the tree-growth simulator for a suite of software programs that collectively form an integrated value-chain decision support tool known as SYLVER (effects of Silviculture on Yield, Lumber Value, and Economic Return). TASS creates the tree list with upper stem dimensions and wood quality attributes (e.g., size and distribution of knots and juvenile wood). A bucking routine creates simulate logs, which are passed to a sawmill simulator that produces a product file (logs, lumber, chips, biomass, carbon). The simulated products list becomes the input economic analysis tool called FAN\$IER (Financial ANalysis of \$ilviculture Investment and Economic Return), which conducts the financial and economic analyses key to comparing investment options. The distributed user software TIPSy (defined above) now reports product yields and automates their export to FAN\$IER, which is now seamlessly linked to and distributed with the program. These tools are currently helping guide silviculture investments by the Ministry's Land Base Investment Strategy.

Over the years, actively seeking collaborative opportunities has leveraged a number of TASS innovations. To further refine product yield and value predictions, TASS developers partnered on numerous wood quality studies over the past 30 years with researchers from Canadian Wood Fibre Centre, FPInnovations and the UBC Department of Wood

Science. These studies have enabled predictions of key characteristics affecting product value such as juvenile wood and knot size. Partnerships with research entomologists and pathologists at Natural Resources Canada's Pacific Forestry Centre have helped TASS predict the impact of spruce weevil, root rot and mountain pine beetle on wood production. Additional collaborations with other Ministry researchers enabled the incorporation of genetic gain and fertilization response in TASS, and a new stem rust module is in development.

TASS development will continue to emphasize research synthesis and sustainable forest management. This approach has proven to be a responsive and cost-effective framework for supporting business needs addressing the growth and value of managed stands in BC (currently occupying nearly 30% of the provincial harvesting land base and expanding by almost one percent every year). Evolving priorities and the expanding suite of forest management practices continue to place new demands on forest prediction tools, especially for models that apply to stands with complex structures. Continued support of TASS III and its linkages to other models will provide sound quantitative information to assist foresters making management decisions for stands and forests. 🌲

*Jim Goudie received his MSc in 1980 from the University of Idaho, College of Forestry, after which he was hired by the BC Ministry of Forests Research Branch to join the modelling group led by Dr. Ken Mitchell, creator of TASS. Jim was appointed to the group leadership position in 2003. In his spare time, Jim enjoys his two granddaughters, bicycling, golf and house restorations, which, like growth models (and his golf game), are never finished.*



### Option 1: Walls and Roofs

If no alteration to the street level is made, the urban forestry cover can still be increased with the installation of green walls and roofs. Any structurally sound surface is safe to install growing infrastructure on, and can be done by both businesses and residents in any quantity. Residential units are especially easy to convert, as the individuals can participate in planting habits right on their very own balconies!



### Option 2: Replace Street Trees

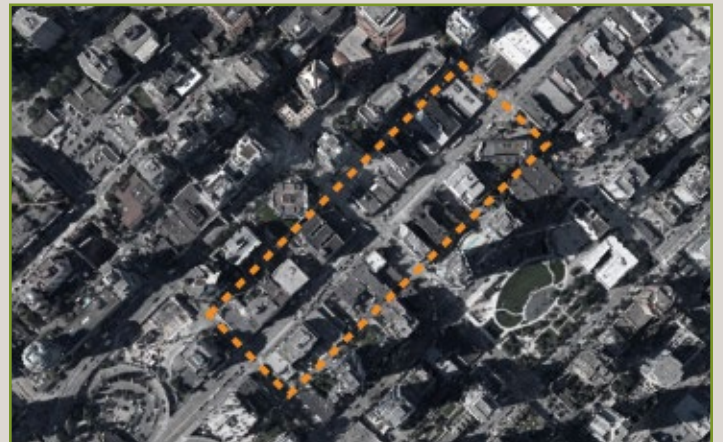
By simply replacing the current street trees with appropriate species for an urban environment, the new trees will have the opportunity to thrive. A healthy tree canopy will provide shade for pedestrians, parked cars and buildings, reducing heating/cooling costs, as well as create a much more comfortable atmosphere and aesthetically appealing street.

# Modelling a

**AN URBAN FOREST IS MORE THAN A COLLECTION OF TREES. IT INCLUDES** the understory, the plants growing along the street, and the gardens personally tended on your balcony. A healthy urban forest is diverse. It has a variety of plant species — that live in a range of ages — it can support wildlife habitat and can also positively affect the buildings and social atmosphere of the neighbourhood. Maintaining and improving the urban forest coverage is critically important for the overall health of our cities.

For being one of the most livable cities and priding itself on access to nature and public green space, Vancouver's downtown neighbourhood has shockingly minimal green coverage. This example study focuses on a section of Granville, two blocks from Drake Street to Helmcken Street. By conducting a hypothetical retrofitting scenario here on these blocks, businesses, residents and the city can take the information and pieces provided and apply it to any block or street within Vancouver's downtown.

The benefits are invaluable, resulting in improved appearances, air and water quality, energy conservation, reduction in noise pollution, richer wildlife habitat, enhanced psychological well-being and increased property value. Urban forestry has a significant role in achieving more sustainable cities and landscape architects are the leaders at the forefront of change. With guidance, both residents and businesses can be equipped with the tools to make their own impact, whether that is replacing the street trees, installing green walls or roofs, transforming sidewalks and vehicular lanes into greenways, urban planting beds and agriculture, or a combination of all of these



interventions. Any measure that occurs will improve the urban forest of the block, and these strategies can then be applied to any street to eventually improve the green coverage of the entire city. Vancouver cannot achieve its greenest city goals without devising new innovative models of how we design our streets. Small steps are all that are needed for Vancouver to reach its sustainability goals, and looking at its urban forest is one of the most effective ways to come through successful. 🌱

*This conceptual planning exercise involved UBC students studying forestry, landscape architecture and urban design. It was intended to explore innovative ways to increase urban canopy and greening in areas to achieve the many environmental, climate, aesthetic and community benefits of urban forests.*



# Viewpoints

By Kristin Defer, Siyuan Zhao, Alfred Duval, Mengqui (Roger) Chen, David Flanders, Alicia Lavalle and Stephen Sheppard



### Option 3: Implement Greenway

Greenways, long segments of parks, lawns, or open natural space, can be implemented in urban areas by eliminating a lane of traffic, extending sidewalks, or incorporating them into existing public walkways. Green surfaces not only help stormwater runoff and beautify the street, but they provide places for pedestrians to socialize and linger, and are exciting spaces for business to expand out to. They encourage destination points and guide visitors through the site.

### Option All: The Full Toolkit

Eventually, if every part of this toolkit is implemented, your street can be transformed into a beautiful, lush, thriving urban forest! Phasing and gradual installation makes visions like this a realistic experience to achieve, and can be done with the participation of businesses, residents and the City of Vancouver.

# Greener Vancouver

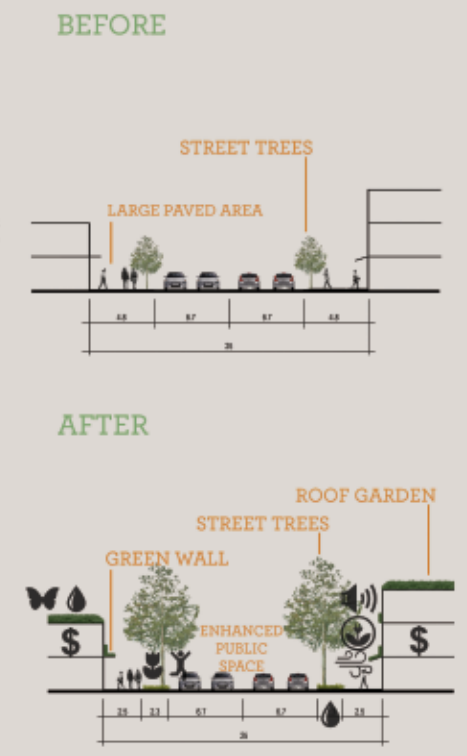
## Residential Improvements



### WHAT ARE THE BENEFITS?

-  **Improved Air Quality**  
Problematic gaseous pollutants are absorbed through the stomata on the underside of leaves.
-  **Energy Conservation**  
Natural cooling in summer from mature trees, and insulation potential in winter from rooftop gardens.
-  **Improved Water Quality**  
Improved water quality - reduction in stormwater quantity due to increased evaporation on leaf surfaces.
-  **Reduction in Noise Pollution**  
Natural buffer from noise of people and cars.
-  **Improved Wildlife Habitat**  
Nesting and food sources.
-  **Improved Appearances**  
Vegetation breaks up hard lines of built structures.
-  **Enhanced Psychological Well-Being**  
Green spaces have been shown to lower stress levels.
-  **Increased Property Value**  
9% to 25% increase in value with increased canopy cover.

## Commercial Improvements





## New Research Alert: Modelling Climate Change Impact on Tree Regeneration and Future Migration

**Project Context:** As global mean temperatures are expected to increase 2 to 5°C by the end of the century, significant changes to the phenology and distribution of plants and animals are expected as a result of climate change. Alarming changes have already been recorded over the last 30 to 40 years as species range shifts are occurring in latitude and altitude. Being able to accurately predict future tree species migration rates and subsequent future tree range will prove essential in the overall health and management of tomorrow's forests.

**Building the Story:** In my doctoral research, I am currently investigating the relative contribution of a series of climatic and site factors which influence the regenerative capacity of sugar maple (*Acer saccharum*). As increasing uncertainty exists to the future of our forested ecosystem, it becomes imperative that research investigates potential impacts and effects of climate on trees and their regeneration.

More specifically, my research will focus and assess the following: (1) the impact of temperature and temperature shifting (early/late spring) on seed germination representing provenances across species range within a controlled environment. (2) A transplantation study of species-wide seed provenances to assess the impact of site and climatic variables within, at, and beyond current species range limit. (3) Explore the current status of germination and the influence of overstorey canopy composition by mapping three permanent plots within the transition zone (deciduous-boreal). (4) By using the information collected in the previous projects develop a model that better incorporates fecundity into future stand dynamics.

**Modelling and Application: Modelling Questions.** Our focus in the modelling aspect of the research project will allow us to answer the following:

- How will the spatial variation affect the tree species' fecundity when accounting for stand dynamics?
- Does spatial variation impact a species fecundity more than interspecies competition (influence of conifers on deciduous distribution)?
- What will the species range look like in 20, 50 and 100 years?

**Research Challenges:** Modelling a forest ecosystem can prove to be quite difficult especially when you begin to consider that many of the major processes occur at different scales: photosynthesis at the cellular scale, biotic interactions and consumer-resource dynamics at the individual/plant scale, while migration and major disturbances occur at the landscape scale (Boulangeat et al. 2012). Recently however,


there have been advances in the modelling approaches and analysis. Previously, scale up modelling required large computational power and time (Strigul et al. 2008; Tuttolo et al. Submitted). However, advances in new modelling techniques and faster processing times have led to more robust and accurate models. Modelling a tree's fecundity and subsequent migration potential has been especially poor in North America, due to the failure to incorporate edaphic variables with climate and regeneration to capture the northern limit of species (Canham and Thomas 2010), or more importantly building conclusions with only a portion of a species range (Iverson et al. 2008). In addition, the most important initial aspect of migration of a tree species (germination and establishment) still needs to be further incorporated into the process-based models.

**Model:** In this research we aim to accurately predict a tree species' future range/distribution by improving and combining a series of models. The basis of the proposed model will be developed to include the process-based model, PHENOFIT, which was developed to predict species' distributions based upon the survival and reproductive success as a function of the plant's life cycle and local seasonal fluctuations in climate (Chuine and Beaubien 2001). Essentially, this model will give an output of the probability of presence in context that it will survive to the next reproductive season and produce viable seed by the end of the annual cycle. However, this model only links climate to fecundity, and not in the context of species migration and stand dynamics. As such, we will combine this model with a second model; the Perfectly Plastic Approximation (PPA) model by Strigul et al. 2008. The PPA model was created to interoperate a more plastic crown competition as well as provide a much faster (in terms of computational time) model. The final model will then be validated using a series of long-term research plots representing the current species distribution from the provinces of Ontario, Québec, New Brunswick and the Forest Inventory Analysis data from the US Department of Agriculture.

**Follow my Research:** For those interested in knowing more about my research or who have questions or comments, I can be reached in the following ways:

E-mail: [kevinsolarik@hotmail.com](mailto:kevinsolarik@hotmail.com)

Website: <http://cef-cfr.ca/index.php?n=Membres.KevinSolarik>

Linkedin: Kevin A. Solarik 

*Kevin A. Solarik is a doctoral candidate in the Biological Sciences department at the Université du Québec à Montréal.*



1. Germinate pushes radicle through seed coat in lab germination trials.

2. First year seedling transplanted into the boreal forest.

3. Multiple seedlings display the potential of sugar maple to establish in the boreal forest, currently outside present species range.

4. Early winter plot establishment to ensure that transplanted seeds were exposed to overwintering conditions, while also avoiding input of natural seed from overstorey canopy.

5. 216 transplant plots were established in 12 sites, where cages were built and placed over seeds to protect from predation.





## Economics in the AAC Determination Process

**THE PROCESS OF DETERMINING THE ANNUAL ALLOWABLE CUT (AAC)** in BC is an economic analysis that has developed in response to our changing interests and values. It is effective and ad hoc. I mean this as a compliment — the AAC process has evolved to include and accommodate new issues and obligations as they have developed.

The fact that the determination of AAC is essentially an economic analysis is appropriate. Our forest industry contributes \$12.4 billion to BC's GDP and provides 146,000 jobs; 40% of BC's regional communities are forest-dependent.

The process of determining the AAC was designed to set the operating rate for the industry on a management unit and to communicate the rationale for the decision to the operators and citizen-owners of the forest resource. As a principle of good governance, the owners should be provided with information that is sufficiently comprehensive and transparent to allow understanding of the costs and benefits of administrative decisions, including, for example, decisions regarding land base and various market restrictions.

The *Forest Act* is somewhat vague on the economic measures to be considered, and on the objectives driving the determination of the AAC. The *Forest Act* (section 8) states that the chief forester (CF) must consider the economic and social objectives of the government, and that (section 4) the Ministry should encourage a vigorous, efficient, and globally competitive timber processing industry. The Minister's letter to the CF (2006) states that one of the government's goals is to create more jobs per capita than anywhere in Canada.

In setting the AAC, the CF takes into consideration (1) productive capacity of the forest area, (2) the (demonstrated) demand by industry for timber in that area, (3) the social and economic objectives of government (4) and any abnormal infestations and devastations in the area. All within the context of land use, environmental and socio-political constraints set outside the AAC process.

Given that these considerations are met, I conclude that the CF attempts to maximize the AAC in order to maximize jobs and the health (or competitiveness) of the forest industry.

A core element of the AAC determination is a timber supply analysis — a modelling process of determining a schedule of harvests that can be sustained on a given management unit. This is a complex data assembly and modelling exercise that categorizes the forest land base, incorporates growth and yield assumptions and reflects current management practices.

Each of these components requires economic reasoning but log prices and operating costs are not considered explicitly in the timber supply modelling analysis. Management assumptions are based on 'what is' and issues of economic efficiency are not addressed. The modelling process is driven by the objective of maximizing volume harvested subject to arbitrary constraints on harvest flow and forest cover objectives.

Compare this approach with that of private forest landowners in the US Pacific Northwest. The rate of harvest is set annually according to a harvest schedule determined by a financial model of the forest estate. The harvest schedule is part of an optimal management plan determined by a model that considers all management costs and log price forecasts, and determines the set of management actions (including harvests) that maximizes the value of the forest land asset.

It is a financial analysis, undertaken for the benefit of the landowner, not an economic analysis conducted for the benefit of the economy of state. And the private land analysis is certainly not driven by a desire to maximize jobs. As it is fee-simple land, all of the socio-economic considerations of BC's CF are irrelevant to the determination of the rate of cut of the forest estate, or considered external to the problem.

The US private land approach to determining the rate of cut is financially efficient to the landowner but it is not clear that the BC AAC determination is economically efficient for the owners of the BC resource. Incorporating log price and operating cost data into the timber supply analysis would ensure that the AAC was economically available, and would provide economic information about the resource base to the CF, independent of the 'what is' assumptions provided by industry. The AAC determination and the timber supply analyses that support it need to explicitly consider and report economic indicators and measures of economic efficiency.

I believe this will become ever more important as forest land 'ownership' becomes more complicated with the recognition of Aboriginal title, which conveys the right to the economic benefits of the land, and the ability to determine how the land is used. If a First Nation chooses to continue to manage their lands under the Crown process, the CF will be reporting to two owners with (likely) different needs and objectives. 🌲

*Doug is a partner and CEO of Cortex Consultants Inc. and has observed and commented on the evolution of the BC forest economy for over 30 years. His current practice focuses on forest land valuation in Canada the US Pacific Northwest.*

<sup>1</sup> The AAC determination process allocates forest land among alternative uses in a manner that maximally benefits BC society, subject to various restrictions.

<sup>2</sup> MNP. 2015. BC Forest Industry Impact Study. 49 pages



## Interest

By William L. Wagner, PhD, RPF

# Caught in the Bite: Consumers, Workers and Softwood

Photo: Sergii Figurnyi - Fotolia

WHEN THE FEDERAL GOVERNMENT OF CANADA ‘BOUGHT’ MANAGED trade in softwood lumber from the Americans, besides deserted mills and boarded up storefronts in forest-dependent communities, one wonders what Canada achieved when it left a billion dollars in wrongfully collected ‘countervailing’ and ‘anti-dumping’ duties to the Bush administration. To add to the injury, some of those funds went to establish a new program to “...advance systemic, transformative and sustainable change for the health and vitality of the nation’s working forests and forest-reliant communities. As an added insult, Canadian industry contributed \$5.4 billion in US dollars when it was trading favourably against the Canadian dollar. The funds were returned to Canada when the Canadian dollar was comparably strong and the US dollar was relatively weak. Thus, historic exchange rates indicate that the Canadian industry was returned about 60 cents on the dollar instead of the 80 cents touted by the Canadian federal government.

In the 2006 US-Canada Softwood Lumber Agreement (SLA), the US would return \$4.4 billion of the \$5.4 billion in US-held Canadian ‘cash deposits’ to Canada. The US would keep \$1 billion. Specifically, the SLA required Canada to ‘donate’ \$550 million to two entities, the Coalition for Fair Lumber Imports (\$500 million) and a Canadian-based Bi-National Council (\$50 million).

Today, negotiators from the two countries are again behind closed doors bargaining the future of trade in softwood between the US and Canada. With the SLA due to expire this October one wonders whether there will be a new agreement, an extension to the current one or move to freer trade and a return to squabbling over legalities of whether Canada subsidizes its industry with its public forest policies. Further, as a result of the Tsilhqot’in decision, First Nations should be new entrants in the negotiations.

Before extending the current agreement or negotiating a replacement, it may be timely to re-evaluate the impact of the SLA and managed trade. Should trade decisions in North America be relegated to government-

derived trade policies, known for their unintended consequences, while a perfectly functional international model of the market exists?

### Managed Trade

The Canadian economy depends on trade to the United States to a greater degree than the US does to Canada. The two nations have a larger total volume of two-way trade than any other two nations in the Western world with about 20% of everything produced in Canada exported to the US. On the other hand, about two percent of the production of the huge American economy is exported to Canada. However, a closer look at trade in forest products indicates an almost one-way flow from Canada to the US. This causes the two countries to view trade realities in softwood from differing perspectives. There tends to be agreement in vision when markets are robust but when they drop, the commonality disappears, leading to trade disputes that have been going on and off for more than 30 years.

With the SLA, Canada bought relative peace in the decades-old dispute. The American consumer eventually paid heavily and left quite a bit on the table for the US industry at the same time. In US international trade law, consumers are not really protected because the injury has to be within the zone of interests meant to be regulated or protected under the statutory guarantee in question. Thus, the Department of Commerce (DOC) in its various determinations has not been working for the American consumer but in the interests of 350 US lumber producers. Quite an ally!

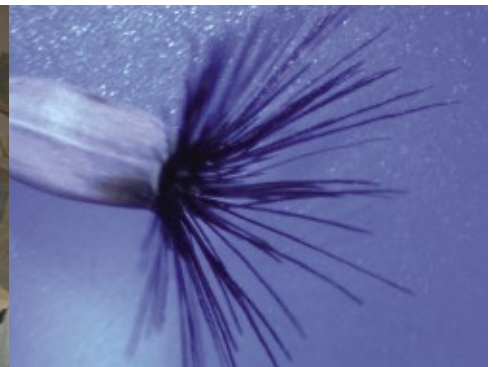
Managed trade was being attempted while the forest sectors of both countries were struggling through difficult economic times. The US forest industry continued divesting itself of its forested lands to real estate income trusts and other institutional investors while major Canadian forestry firms were consolidating and

Please see **Caught in The Bite** continued on **Page 28**

## Young Scientists in Action at Canada-Wide Science Fair

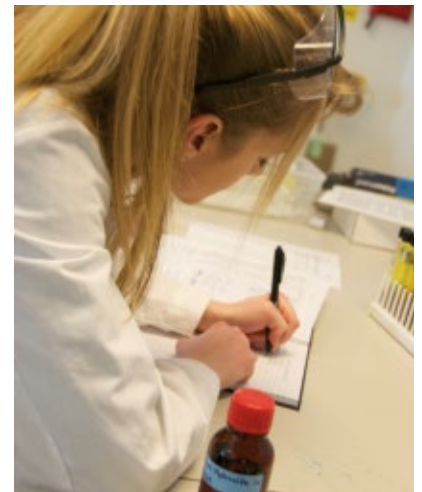
EVERY YEAR THOUSANDS OF STUDENTS IN CANADA PARTICIPATE IN SCIENCE fairs. Science fair projects, often maligned by parents because of the work involved, are a saviour for some students. Working on a science project — one chosen based on interest and not curriculum — can inspire a deep sense of wonder and personal growth in a student. Successful students work years above their grade level, gain new skillsets for each project and dedicate hundreds of hours outside of school to complete it. Most students in high school do not receive school credit for completing a project. These are very dedicated students.

The Canada-Wide Science Fair (CWSF) is held at a different university each year. Up to 500 students in grades 7 to 12 from all over Canada travel to participate in the fair. Each region in Canada is allowed to send a specific number of students. These top young science minds compete for up to \$1,000,000 of awards, prizes and scholarships. Even more important, they meet like-minded students, are invited into the labs at the host university, travel around the area for sightseeing adventures and, through the judging process, have intelligent conversations with university professors and industry people in their area of research. This seven-day adventure is often life-changing for the participants.



Both Meagan and Victoria are veteran science fair students and have been extremely dedicated to their environmental projects. Meagan has been to three CWSFs, achieving a bronze medal in 2010, a silver medal in 2012 and a gold medal in 2014. Her projects take almost two years to complete. Victoria has been to two CWSFs achieving a bronze medal in 2013 and a silver medal in 2014. She recently returned from the Taiwan International Science Fair with a gold medal in Environmental Studies. BC is allowed to send two students to Taiwan each year. To attend, students must have attended at least two CWSFs, placed in the medals and are required to write a letter as to why they deserve to attend. Victoria is the first student from our area to achieve a gold medal at the Taiwan fair.

As a mentor, working with science fair students is invigorating. As they enter a sharp learning curve, so do I. Science fairs are about problem solving, learning to design a project, completing tasks over the months and then learning to present it to the general public in terms everyone can understand. It is the ultimate 'project-based' learning model. 🌱





## They've Invaded: A Project on Invasive Plants

Victoria Platzer, Grade 9

In grade 7 I started my first project on invasive plants. The spread of invasive plants is an issue in Northern British Columbia because there are so many resource-based industries in the backcountry. During 2012 to 2014 I conducted two science fair projects that proved invasive plants travel in the dirt on a vehicle and in the hay fed to animals. Invasive plants adapt quickly, can survive in adverse conditions, and thus, can easily destroy entire ecosystems. Some invasive plants, if ingested, harm animals and humans including causing miscarriages, impaired vision and even death. Ecosystems are altered when alien plants overtake native plants.



In my project, 'They've Invaded,' I set out to determine if invasive plants travel in the dirt on vehicles. I collected 51 dirt samples from various vehicles and I removed 948 potential seeds from the vehicles. From the vehicles surveyed (pickups, semis, school buses), pickups transported the most seeds. These trucks travel on all types of roads in any condition, which can then increase the spread of invasive plants.

In my second project, called 'Hay Aliens,' I was trying to determine if invasive plants travel in hay. I collected 22 hay samples from five different areas around my hometown of Fort St. John. After sifting the hay, I sent pictures of my seeds off to a seed specialist who helped me identify them. I ended up removing a total of 5,568 potential seeds from which 628 were identified as invasive. Some of the invasive plants found included Stinkweed, Lamb's-quarter, and seeds in the Asteraceae family. The Asteraceae family is made of numerous invasive plants including Canada Thistle, Scentless Chamomile and Common Tansy. These plants can drastically affect animals and environments.

Even a single invasive plant, if allowed to grow, can produce thousands of seeds. For example, Lamb's-quarters can produce 500,000 seeds per plant. I found 110 of these seeds in my hay samples. In both of my science fair projects I was able to prove that invasive plants travel in the dirt on vehicles and in hay. Whether it is one invasive plant or 55,000,000 of them, they are all potentially deadly to our native animals and habitat.

To help prevent the spread of invasive plants all vehicles should be washed when they come off dirt roads. By doing this, seed-contaminated dirt that collected on vehicles will not be spread to new areas. Native plants should be used instead of hay when roads and other forest areas are being reclaimed. This will keep native plants in the area instead of introducing invasive ones. Companies working in forestry and oil and gas often transport invasive plants because they travel great distances to work sites on gravel roads and to new undisturbed areas. Company policies can ensure vehicles are clean when entering and leaving work sites.

My goal is to attend university to become a veterinarian.

## Keeping the Bumblebee: A Nutritional Study of Peace River North

Meagan Haugen-Koechl, Grade 12

I've been participating in science fairs since grade 1. These projects have allowed me to explore topics that wouldn't normally be taught in school and to work with experts at colleges and universities.

My last two science fair projects have been concerned with understanding the nutritional needs of bumblebees. I used the native plants that evolved with bumblebees in my area as a baseline for their nutritional needs and compared it to plants, trees and shrubs that have been introduced to the Peace River area. In my first project, I analyzed the amount of protein in the different pollens, and in the second, I extracted and measured the types of fatty acids in pollen. Samples of pollen were gathered from spring to fall, taking only pollen bees collected.



Bumblebees have a shortened life cycle in the North. In early spring the queen emerges from hibernation in search of great quantities of pollen. The nutrition in the pollen helps to boost her body and sustain her while she begins to lay eggs. The pollen is also needed to feed her first generation of worker bees. The first available pollen in my area is from the willow trees and crocus (both are native plants). No introduced plant has available pollen this early. In August, the next year's queen bees and males emerge to mate. At this time, there are many native and introduced plants blooming.

In 2012, I showed native plants had higher protein rates at the beginning of the season (May) and then towards the end of the season (August). This coincided with bees requiring higher amounts of protein in early spring when the queens emerge from hibernation and then again in August when new queens mate. Introduced plants, though, gave the bees additional variety of pollen and higher protein content from the end of May to the beginning of July. The highest percentage of protein was found in willow, crocus, fireweed and vetch, all native to this area. Dandelion registered the highest amount of protein for introduced plants.

In 2014, I extracted fatty acids from 10 different pollens (six were native and four were introduced). Fatty acids are important to bee development, nutrition and reproduction. Of the 10 plant pollens studied, all had similar fatty acids. However, native plant pollen had higher total fatty acid content than introduced pollen. This would provide higher nutrition and energy to sustain bumblebees. Three of the six top fatty acids common in bee-collected pollen have antimicrobial abilities. These are important to nest hygiene and help prevent bacterial diseases that kill larvae. In general, the native plants had considerably more antimicrobial fatty acids than the introduced.

Native plants and bumblebees have coevolved in a symbiotic relationship. I believe native plants are essential to the general health of bees.

In my future, I plan to study business, take up the art of craft beer brewing and open a microbrewery.

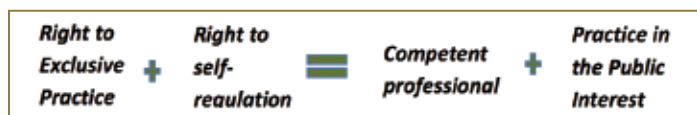
# What Is Public Trust?

**WHAT TAKES A LONG TIME TO EARN BUT ONLY AN INSTANT TO LOSE?** The answer is public trust. The concept of public trust includes the belief that certain individuals in society are privileged to have practice rights and a title, with the expectation that they will hold the interests of society above their own interests. For example, firefighters and police officers have the right to detain the public, or act on your property and call themselves firefighter or police officer. In exchange, they promise to protect you and members of the public, even in the face of potential personal danger. When they, individually and as a collective, act in this manner, they are putting society's interests above their own.

Public trust is the degree to which the public believes that the profession and the professional will act in a particular way that serves and protects the public's interest.

We trust professionals for a variety of reasons. Trust can be based on the person, the credentials, their uniform, and/or our experience. You may trust your doctor because she went to a top medical school or because she's a nice person with great bedside manner. The same is true when it comes to forestry. The people of your community will trust you because you're an approachable person, or because you take the time to explain things to them, or because you have an RPF or RFT designation after your name. Regardless of the reason, they are giving over their vulnerability, risk and values to your judgement and decisions. This social exchange of recognition and empowerment for acting in society's best interest is referred to as public trust.

Public trust in forestry can be presented schematically as follows:



*The professional receives exclusive rights to practise and the ABCFP receives the right to self-regulate professional practice and members. In exchange, society receives assurance that only competent members undertake the practice and that they do so in the public interest.*

Society needs confidence that certain aspects of everyday life are attended to in order to function properly. If every member of society needed to become knowledgeable about a circumstance, consider all possibilities, and make a decision, then nothing would ever get done. And things that were done, would likely not be done correctly. So society needs to trust individuals who have dedicated their education and careers to a specific line of work. Those individuals who are best positioned to establish the level of care that is required for the public are the community of professionals themselves. This is the importance and privilege of self-regulation.

Citizens trust that treatments such as a harvest of the forest that are conducted by government and companies will provide suitable

benefits to society and protect the forest for future generations because of the decisions and involvement of forest professionals in those treatments. Society has entrusted that those who hold the title 'professional forester' or 'registered forest technologist' or 'natural resource professional' not only have the necessary knowledge, but also apply that knowledge for their employer in the interest of society and the forest. Therefore, a constant focus of the profession is to ensure that the work of the ABCFP is aimed at achieving the requirements and expectations identified in the *Foresters Act*.

Self-regulation requires the active participation of the community of practitioners and their adherence to a common set of principles and practice. Professional principles including honesty, competency and understanding society's values are important ingredients to practice. In the last few decades, there have been several stark examples of a public trust failure — just look at the accounting profession in the US and Enron.

The most recent public opinion poll — which was conducted by an independent survey company in fall 2014 — shows that the people of BC do trust forest professionals. In the survey, we learned that all resource professionals are trusted much more than other groups such as politicians, environmentalists and journalists. You can find a full report on the survey on our website on the Surveys and Polls page.

While it's great that forest professionals are seen to be trustworthy, the numbers are not that high. Only 32% of respondents reported that RPFs were perceived as the most trusted and 26% reported that RFTs were the second most trusted resource professional. There's a lot of room for improvement.

Other groups can put a strain on the trust the public has for the profession of forestry. For example, untruthful or misleading statements made in the media can erode public trust. We can't control what the media prints but we can comment on it. Part of our *Code of Ethics* is to "...promote truthful and accurate statements on forestry matters." If you see a misleading statement, write a letter to the editor or e-mail the journalist directly. Just be sure to present factual information rather than emotionally responding to the error.

Public trust must be constantly monitored and treasured to make sure we meet the expectations of society. It is not something that you look at once a year, but rather something you incorporate into your practice on a daily basis. 🌱

This article is the first in a series.

In future articles, we'll try to answer the following questions:

- Do we have the public's trust?
- How does the ABCFP work to achieve the public's trust?
- How do forest professionals pursue public trust?





Photo illustration: iStock

## Membership Statistics

### ABCFF — April 2015

#### NEW REGISTERED MEMBERS

Daniel Peter Braun, RFT  
Taisa Louise Brown, RPF  
Richard Jose Chavez, RPF  
Robbie Kenneth Clark, RPF  
Sheena Doreen Colton, RPF  
Eric Scott Dunnack, RPF  
Kathlene Jane English, RPF  
Katherine Elizabeth Gunion, RPF  
Stephanie Lynne Jeannette Howard, RPF  
Cheryl Leigh Johnston-Schuetz, RPF  
Eliot Michael King, RPF  
Aline Claire Lachapelle, RPF  
Darcy Ray LeBourdais, RPF  
Jennifer Lynn Leslie, RPF  
Changru Li, RPF  
Cynthia Fane Lu, RPF  
Heather Irene McKenzie, RPF  
Cheryl Elaine McNolty, RFT  
Daniel Richard Oxland, RPF  
Christopher Michael Reeves, RPF  
Christopher William Rosen, RPF  
Nicholas James Seymour, RPF  
David Douglas Strahl, RPF  
Tyler Gordon Wood, RPF

#### NEW ENROLLED MEMBERS

Timothy Alexander Barteaux, TFT  
Zachary Leon Fisher, TFT  
Andrew James Greschner, FIT  
Mathew James Hodgkin, TFT  
Jonathan Kan, FIT  
Katherine Christine Leppala, FIT  
Jordan L. Newman, TFT  
Natalie Amelia Swift, FIT  
Alexandre Normand Therrien, TFT  
Kyle Jun Fa Wang, FIT

#### NEW ASSOCIATE MEMBERS

Rylan Isaac James Parchoc, ATE #0123

#### DECEASED

Blair P.J. Pigeon, RPF

#### THE FOLLOWING PEOPLE ARE NOT ENTITLED TO PRACTICE PROFESSIONAL FORESTRY IN BC:

##### NEW RETIRED MEMBERS

Anna M. Monetta, RPF(Ret)  
Rick D. Weisgerber, RPF (Ret)

##### REINSTATEMENTS (RETIRED MEMBERS)

Mr. Christoph Hans Schmid, RFT(Ret)

##### LEAVE OF ABSENCE (REGISTERED MEMBERS)

David Christopher Banham, RFT(on LOA)  
George Dennis Buis, RFT(on LOA)  
Paul Andrew Maika, RFT(on LOA)  
Denis Grant Marleau, RFT(on LOA)  
Kimberley Lillian Meyer, RFT(on LOA)

##### REMOVALS NON PAYMENT (REGISTERED MEMBERS)

David Fredrick Simard  
Donald Stuart Wylie

##### RESIGNATIONS (REGISTERED MEMBERS)

Raymond W. Crampton  
Romona Majcher

##### RESIGNATIONS (RETIRED MEMBERS)

Charles Western

##### RESIGNATIONS (ENROLLED MEMBERS)

Ms. Barbara Aline Harrison, RFT(on LOA)  
Alli Reet Meere

### ABCFF — May 2015

#### NEW ENROLLED MEMBERS

Graham John James Burrows, FIT  
Joshua Logan McLennan, TFT  
Marina Rayner, TFT  
Kenneth Joseph Sharp, TFT

#### NEW ASSOCIATE MEMBERS

Robin Mark Landucci, NRP

#### REINSTATEMENT (REGISTERED MEMBERS)

Michelle Ann Goodkey, RPF  
Donald K. Roy, RPF

#### DECEASED

W. John Revel, RPF(Ret)

#### THE FOLLOWING PEOPLE ARE NOT ENTITLED TO PRACTICE PROFESSIONAL FORESTRY IN BC:

##### NEW RETIRED MEMBERS

Grant A. Thompson, RPF(Ret)

##### REINSTATEMENTS (RETIRED MEMBERS)

David M. Armit, RPF(Ret)

##### LEAVE OF ABSENCE (REGISTERED MEMBERS)

Glen Eric Swanson, RPF(on LOA)

##### RESIGNATIONS (ENROLLED MEMBERS)

Jeffrey David Bleach  
Milosh Ivkovich



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Effective April 17, 2015, Davis LLP combined with DLA Piper LLP, and adopted the name DLA Piper (Canada) LLP.

## In Memoriam

It is very important to many members to receive word of the passing of a colleague. Members have the opportunity to publish their memories by sending photos and obituaries to [editor@abcfp.ca](mailto:editor@abcfp.ca). The association sends condolences to the family and friends of the following member:

### William John Revel

RPF #401

January 6, 1935 – April 30, 2015

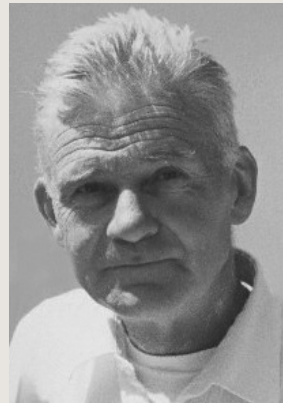
Born in Belfast, Northern Ireland, and immigrating with his family to Enderby in 1948, young John Revel took to the landscapes and forests of British Columbia like a fish to water. His love of the outdoors was shaped by his upbringing in the northern Okanagan, the family cabin at Mara Lake, and the forests of the Shuswap. After high school, he worked in the woods as a timber cruiser and assistant forest ranger.

John enrolled in the UBC Forestry Program in 1956. And UBC is where he met his beloved wife, Sharon (“Shae”). He graduated at the top of his class in 1960. At UBC, he was strongly influenced by the teachings of Dr. Vladimir Krajina and became one of the first BC silviculturists to incorporate ecosystem science and tree physiology extensively into reforestation practices.

With his UBC forestry degree, John joined the BC Forest Service in 1962, and in 1964, moved with Shae to Prince George, where they made their lifelong home, raising their two daughters Heather and Jennifer.

With his extensive knowledge of BC forest ecology and talent in successfully combining the theoretical and practical aspects of forestry, John became known as the ‘father of silviculture’ in northern BC. He spearheaded many enduring silvicultural, reforestation and research initiatives. He established long-term silvicultural field trials throughout the north, founded the Red Rock Forest Nursery and was instrumental in re-establishing the Aleza Lake Research Forest.

He was always very modest about his achievements, but was universally held in the highest esteem by his peers and colleagues. In 1988, in recognition of his many accomplishments, the ABCFP awarded John Revel the distinction of the very first Professional Forester of the Year.



John deeply treasured his forestry education and experiences, especially the many lifelong friends made during his education at UBC, during his career with the BC Forest Service and throughout the BC forestry community. He retired from the BCFS in 1993 after 32 years of service. He and his wife spent many happy years travelling, welcoming two treasured grandchildren, tending gardens, and summering at Mara Lake. Shae passed

away in 2005 after 43 years together.

He lived his life simply and without pretense. Family and friends were the centre of his life. He was a keen observer, a good listener and an excellent mentor. Having himself faced many personal challenges, he was a gentle man with a knack for making friends with people of all ages and walks of life. He travelled to many places throughout Canada and many other countries. His joys were the people and places around him. He was very creative, writing hundreds of poems and many articles about the history of forestry in BC.

John Revel passed away quietly at age 80, in Prince George, surrounded by family and friends. He is survived by his children Heather (Myles) and Jennifer, grandchildren Jessica and Josiah, his sister, brothers, nieces, nephew and his extended family.

His life touched so many of us, and we are so much the richer for John’s influence in our lives. And his profound influence on BC forest management lives on.

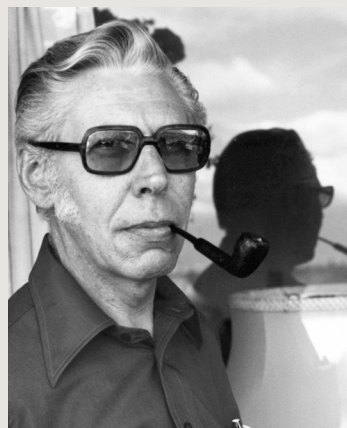
*Submitted by Mike Jull, RPF, with contributions from Gerry Burch RPF(Ret), and the Revel family.*

### Calvin Oliver Bardal

RPF #384

September 16, 1923 – April 29, 2015

Born in Winnipeg on September 16, 1923, Calvin passed away on April 29, 2015. Cal proudly served as an officer in the Royal Canadian Naval Volunteer Reserve in WWII. Graduating from UBC as a forester in 1951, his career was spent in BC’s forest industry. His work culminated with a 15-year term teaching



forestry and mathematics at the College of New Caledonia in Prince George. He retired to Kelowna and eventually to Victoria. Cal is survived by his wife, Shirley Margaret and by son Harry (Joan Watterson) and daughter Beverly (Gerald Vanderwoude), two grandchildren, Harry and Nina Vanderwoude, niece April Brown, and nephew Paul Bardal. A private family service will be held at a later date.

*Submitted by Beverly Bardal*

## In Memoriam

### Alan Richard De Lisle

RPF #1114

April 11, 1953 – June 7, 2015

A member of the Association of BC Forest Professionals (#1114) and a member of the Real Estate Institute of British Columbia (RI(BC) #2288), Alan lost his fight with cancer on Sunday June 7, 2015. Alan brought over 35 years' experience in the industry working with the government as well as providing consulting services in forestry and land management. After 13 years working for the province of BC, Alan brought real hands-on experience in the areas of land exchange and land acquisitions. This experience is strengthened by 10 years with the British Columbia Assessment Authority as a forester doing timber valuation and appraisals. Alan also worked at the grass-roots level as a logging super-



visor, giving him a unique perspective of the industry from all levels. Alan started VanWest Forestry Ltd. in 2003 and made a name for himself among his many clients in private industry and First Nations communities as a forestry professional with integrity and high professional standards.

Alan and his brother, Ian, were the first set of twins to become registered with the ABCFP.

Alan will be missed by his common law partner, family and colleagues. Anyone wishing to donate to the Melanoma Research Foundation Canada in Alan's name is welcome to do so. Melanoma took Alan from us too many years before we were ready to say goodbye. <https://www.canadahelps.org/en/charities/canadian-melanoma-foundation/>

*Submitted by Ian De Lisle, RPF*

### CAUGHT IN THE BITE from Page 21

expanding their interests in BC's public forests (Marketwatch, March 2, 2015). Prior to 'managed trade' many smaller independent companies bought their wood on the open market — had about 11 million cubic metres a year of Crown wood reserved for their use. After the SLA that volume wound up in the hands of the larger companies — “the non-competitive sector,” the ones the SLA was negotiated to penalize! In the last decade, a time when small, family-owned forest products businesses in BC have folded at an average rate of one every two or three months, these big companies have not only squeezed out smaller operations here in BC, they have also purchased more than 30 sawmills in the US.

#### Conclusion

Why, at a time when drought, beetles and fire are working together to cause an emerging environmental crisis in the forests of Western North America, are the two countries prepared to continue to depend on a political institution that is producing serious unintended economic consequences?

Much has changed in the structure of the lumber industry in both countries, including the entrant of First Nations, a new power source in the Canadian forest economy, potentially causing a natural lessening of tension in trade of softwood lumber. While there is an increasing deterioration of resource endowment in Canada and the US caused in part by natural disaster, economics and more by land-use policy, the collapse of the US housing triggered mill closures and

layoffs in BC. The majority of those mills were closed forever.

The resulting excess fibre, much of it from ecosystem-based management areas, is exported, largely to Asia, where it was milled, remanufactured, and then often sold to former Canadian customers in the US. The SLA only applies if BC wood manufactured into BC products. Further, when the funds were returned to the Canadian forest industry, it invested in mills in the US, many in the Southeast where the Coalition for Fair Lumber Imports is headquartered. Finally, what if the American consumer became involved in the dispute and their standing was changed?

Theodore Roosevelt noted the most important reason for trade: “No nation is self-sufficient in essential raw materials. The welfare of every nation depends on access to natural resources from other nations, which it lacks. Fair access to natural resources from other nations is therefore an indispensable condition of permanent peace (Pinchot, 1940).” Canada, the US and Mexico live together on a beautiful part of the world. Maybe we can learn to live with it so that both workers and consumers, along with industrialists, share the benefits of being part of the global economy through freer and fair trade. 🌱

*Will Wagner resides in Campbell River where he is continuing research initiated while with the Canadian Forest Service. He studied forestry at UC Berkeley, forest engineering at Oregon State and the economics of forest resources at the University of Victoria. He has practised forestry in three regions of the US and also in the Interior and on the coast of BC.*

## Reflections on Ethical Requirements

Many models of natural systems have been developed for management and research over the past several decades. Often, they are used to forecast the future conditions of natural systems to assist in decision-making. In forest resource management, models include those that help the practitioner adapt silvicultural practices to minimize climate change impacts, to ones that predict wildfire risk, as well as financial models of a forest estate.

Bylaw 11.4.6 says, "To keep informed in the member's field of practice and to be aware of current issues and developments in forestry" and 11.3.3 says "... to seek to balance the health and sustainability of forests, forest lands, forest resources, and forest ecosystems..." In changing environmental and economic conditions forest professionals incorporate the latest science (forest prediction tools) into the forest management decisions for stand-level and landscape-level improvements.

In a recent issue of the *Globe British Columbia* (June 10, 2015, Section S-1), Justine Hunter reported that the Great Bear Rainforest is entering a new phase of preservation. Nestled at the bottom of page seven in the *Campbell River Mirror* on the same day, however, was the announcement of the imminent demise of the North and Central Island's forest economy. It was cloaked in a request for public input as to "Potential Biodiversity, Mining and Tourism Areas and Proposed Land Use Objectives" and a lot of jargon like "blue-listed plant communities." But the South Central Coast portion of the Great Bear Rainforest is largely second growth. It may take some time before 70% of these stands will be 250 years old. It would seem only logical to partition the South Central Coast out of the Great Bear Rainforest and embrace landscape management of ecosystems in this portion of the Great Bear Rainforest.

While I am not certain as to the threshold for the collapse of the whole North and Central Island economy, an estimated \$60,000,000 to \$120,000,000 a year hit to the primary forest sector cannot help but be felt. We can expect the continued exodus of younger families and the curtailing of services and infrastructure if these measures are adopted. The requiem for the North and Central Island's renewable resource economy will be sung sometime after August 10<sup>th</sup>.

WILL WAGNER, PhD, RPF



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## Common Sense, Common Sense Where For Art Thou?

When I read the President's Report in the May-June 2015 issue of **BC Forest Professional**, there was a particular statement contained within it that drew my attention:

*"...Ensuring we have qualified people managing BC's Forests isn't just important — it's the ABCFP's mission statement. Attracting, developing and retaining new forest professionals are critically important parts of this situation..."*

Attracting, developing and retaining new applicants to add to the ABCFP membership, what a concept. It seems like only yesterday that en masse, hundreds of forest technicians from a number of forestry disciplines, including many grandfathered into eligibility based on their many years of experience, became Registered Forest Technicians after writing and passing the eligibility exam. And the ranks of the ABCFP suddenly swelled. An increased membership meant greater levels of association dues every year. So it was good for the association to have that extra funding to become more aggressive on fronts such as advocacy. The government also benefitted as it could point at the increased membership numbers and say that the public expectation of trust that the forests were being adequately managed was that much greater. Everyone was happy for a time.

Perhaps with those rose coloured glasses on there was unfortunately a level of naivety that creeped in as well. Was a crystal ball needed to see that this short term blip of an increase in ABCFP membership really would not have long term membership retention benefits? When a person thinks about the vast majority of the RFT memberships that were added at the time, many had over 15 years of forestry experience already. So although that meant that a great amount of expertise was being brought to the professional forestry fold, it also meant that retirement wasn't that far off in the future either.

And here we are in 2015. The forest industry is on a definite upswing, there is a large demand for RPFs and RFTs from all forestry sectors but demand is outstripping supply because many of the membership that came on only a few years ago have now retired or will soon retire. Not to mention the high number of members who seem to be taking leaves of absences.

Should there have been more forethought by the association to ensure that there was adequate continued recruitment to meet this demand? Is there an underlying reason preventing the association from being able to maintain those recruitment numbers?

I believe that one of the answers lies within the eligibility requirements and criteria that the association is applying to applicants that come from programs that are not part of what is considered "Approved Schools." I can speak to this point based on personal experience. Back in the day when I was an ASFIT, I argued tooth and nail with the association to have the courses and programs that I considered equal to those in the approved programs be considered with my application. I won some battles, lost some others, but I accepted what I was doing because I thought that by making my point future graduates from that school would not have to go to the same pains. I wanted to believe that they did because it only made sense that reviewing a program's course offerings, course curriculum and course outlines that the Association only needed to perform this review once or every so often and it would principally remain the same from class to class, year to year. Apparently that is not the case and that does not make sense to me.

As an example, I have an association enrollee (TFT) at my work unit and we both believe that he is being given the proverbial red tape treatment. Many graduates from this out-of-province school have become practicing forest professionals in this province. Would it not seem prudent to believe that precedent should already have been set? Graduating classes behind the original applying members should benefit because the program stays essentially the same year after year? Wrong assumption again. This gentleman is being asked to produce the exact same course listing, course curriculum and course outlines that many before him have already presented to the association.

What can possibly be discovered in current reviews of programs that was not considered in the review of the program in the past? It impacts the enrollee with regard to devoting considerable amounts of effort trying to obtain this information again from the school. Not to mention that it is costly, time-consuming and downright frustrating and discouraging. And what about the association itself? Is this the best application of association's time or resources? On the risk/reward spectrum where would the repeated review of the same program rank, particularly at a time when the industry is demanding the need for more practicing professionals? It wouldn't take a stretch of imagination to believe that this scenario is playing out on more than a few occasions every year.

Accountability, professionalism and common sense—a golden triad of principles for an individual to strive towards. Not such a bad idea for an association either.

WALTER FISTER, RPF

## A Moment in Forestry

Submit your Moment in Forestry photo or artwork to Doris Sun at: [editor@abcfp.ca](mailto:editor@abcfp.ca)



### Summertime Madness

Submitted by Doug Ellis

Captured last year at the Drought Hill fire in Peachland, this photo is a sobering reminder that low snowpack and dry warm weather may cause another active forest fire season.

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