

# BC

# Forest PROFESSIONAL

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WINTER 2024

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Evaluating Ecosystem Integrity

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**Managing Avalanche Risk**

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Opinion: Responding to  
the Climate Crisis

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**Introducing the Affiliated  
Forest Professional**

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National Forest Week Photo  
and Art Contest Roundup

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*"...abundance is not as limitless  
as the human appetite."*

'NAMCIS FIRST NATION AND WESTERN FOREST PRODUCTS  
- EMBRACING A NEW PARADIGM IN FORESTRY





**Cones on a fallen spruce tree at Greer Creek Falls,  
outside of Vanderhoof, in June.**

*2023 National Forest Week Photo Contest Winner,  
Willow Ellsworth, RFT.*



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An avalanche located in the Coast Mountains of BC. Photo credit: Brad White.

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Cover Photo:

This place is Makwala ("Moon") in the Kwakwaka language. Mukwilla Creek is the anglicized form of Makwala, named after 'Namgis Chief Makwala (Muh-kwah-lah).



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For detailed submission guidelines, please visit [fpbc.ca](http://fpbc.ca) for more information. Email letters to: [editor@fpbc.ca](mailto:editor@fpbc.ca)

# BC Forest PROFESSIONAL

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Forest Professionals British Columbia recognizes that our business and the work of our registrants occurs on lands that Indigenous People have occupied and been responsible for since time immemorial.

We are committed to supporting reconciliation through inclusion, awareness, and providing ongoing education and training opportunities to our registrants on the culture, history, and rights of Indigenous People.

## Northern Silviculture Committee (NSC) 50 Year Anniversary: Share Your Memories

Many of you know well the Northern Silviculture Committee (NSC) and have attended our field tours, winter workshops, and webinars over the years. The NSC has been one of central and northern BC's longest-enduring and (dare we say it) best-loved forestry communities-of-practice over the decades, and we are turning 50 in 2024. The NSC (later incorporated as the NSC Society) was founded in 1974 by a number of pioneering northern silviculturists including Les Herring, RPF, and the late Norm Crist, RPF, and others. From its inception, the NSC has always been a non-partisan, volunteer-run, and not-for-profit organization. Our key goal has always been to promote cooperation, understanding, and improvement in the application of central and northern BC silvicultural and forest management practices at the field level.

Over the years, NSC members and event organizers have strived towards: (1) building bridges in the sharing of silvicultural and forestry knowledge across our communities, (2) keeping a down-to-earth and field-oriented orientation to forestry practices, (3) promoting discussion and dialogue, and (4) addressing not just the challenges of the present but also new ideas about future forests and forestry practices.

We are looking to celebrate NSC's 50th anniversary by remembering our past and

learning more about our history as well. For a volunteer-run forestry education organization like NSC, our history is not just about events — like field tours and workshops — but also about all the participants and volunteers who attended and/or helped organize NSC events over the years, and for whom the NSC may have influenced their forestry practice.

We're reaching out to ask you to share your NSC memories with us. What was the earliest NSC field tour or workshop you attended, and where was it? What was your most memorable NSC moment(s), presenter(s), or place(s) visited? What past NSC organizers or speakers inspired you? How has the NSC influenced your forestry practice? We're sure you have many more.

We invite you to share your NSC memories, memorabilia (such as event programs) if you wish, and your knowledge of the NSC's long history. You can contact our NSC 50th history-project volunteers at:

- [northernsilviculturecommittee@gmail.com](mailto:northernsilviculturecommittee@gmail.com)
- Ljiljana Knezevic at 250-613-5240
- Greg Rose at [rose1@cnc.bc.ca](mailto:rose1@cnc.bc.ca).

Thank you and we look forward to hearing from you.

**Ljiljana Knezevic, RPF; Greg Rose, RPF; and Mike Jull, RPF**

## Re: Wildfire Resilience – Ambitious Rethinking Needed, BCFP Summer 2023

In his summer 2023 *BC Forest Professional* article, *Wildfire Resilience – Ambitious Rethinking Needed*, Mr. Donaldson asserts that with recent forest fires, we are experiencing something new and catastrophic. In fact, the situation is neither new nor catastrophic. Several studies from the US point to the fact that “Approximately 1.8mIn ha burned annually in California prehistorically (pre 1800),” and “The idea that US wildfire area of approximately two million hectares annually is extreme is certainly a 20th and 21st century perspective. Skies were likely smoky much of the summer and fall in California during the prehistoric period.” (Stephens et al., 2007. Prehistoric fire area and emissions from California forests, *Forest Ecology and Management*. Vol 251, Issue 3, pp.205-216).

Mr. Donaldson suggests the new approach (lens) to managing forest fires should be forest resilience so that forests identified for future harvesting become less vulnerable to catastrophic wildfires.

I would suggest that we use a different lens — common sense — and focus on forests deliberately NOT identified for future harvesting as a solution to limiting the extent and severity of wildfires.

Thousands of hectares of merchantable timber are currently deferred under the Old Growth strategy from harvesting in BC just because they meet some arbitrary threshold of age and size. In many cases, especially in central BC, these forest stands are over-mature, decadent, and falling apart with 40-60 per cent of volume rotting on the ground. If we do not remove them, nature will. These stands should be replaced by thriving, carbon absorbing plantations. Such an approach would not only diminish occurrence and severity of forest fires, making our national treasure more resilient, it would have a positive impact on global warming and also would provide a revenue to the province so that new, splendid social programs can be financed.

**Kris Zmudzinski, RPF, Victoria**

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# Supporting and Growing the Profession

**As I was driving through northern British Columbia this past summer** I was reflecting on my career in forestry and remembered what drew me to the profession: the amazing lands across our province and wanting to be part of managing the landbase. I was also thinking about the themes of my previous columns — mentoring, continuing professional development, and employee wellbeing. In my first article I wrote about mentoring and the value of being a mentor and of having one. I also challenged everyone to consider this for yourself, whether you are a mentor or a mentee. How are you doing with that challenge? People are our greatest asset and cultivating relationships is so important to our work.



As employers we are always thinking of how to recruit and attract people to come work for our organizations. We are all faced with recruitment and retention challenges. Where are we going to find more forest professionals to fill the expert roles needed? All of this got me thinking about what more can we do as employers and fellow professionals to help draw more people into the profession and to support trainees through the credentialing process.

As Forest Professionals British Columbia (FPBC), we are always discussing ways to attract more people into the profession. As a generation retires from the profession, we're optimistic seeing a new generation of trainees begin the work of entering the profession. There are approximately 650 trainees currently working through the learning modules and on their requirements to become fully registered. This is the pool of future forest professionals employers are seeking to draw from when recruiting for positions — members of a critical workforce who will be managing the landbase in BC.

What can employers, FPBC, and new trainees do together to build the pool of forest professionals? It's about trainees planning their development, building the timeline to work through the modules and the process, but it is also about employers supporting

their trainees by building development learning and practising time into their work days. As a regulator, FPBC can continue to modernize the systems and processes to enable development of trainees into professionals.

In my five years on the board of directors (formerly council), I have come to appreciate all that goes in to managing and running FPBC. In particular, all that goes in to managing the credentialing process, including the entrance requirements and standards, the registration system, processes, modules and exams. It takes a committee of volunteers and staff who are dedicated to reviewing applications, conducting competency assessments, keeping module questions current, conducting audits, and managing systems and databases to ensure we are in compliance with the *Professional Governance Act* as a regulating body.

To ensure the forested landbase in BC is managed by competent forest professionals for decades to come, we need to grow the profession. How do we grow the profession? In my opinion, it will take the combination of FPBC, employers, and students working together to achieve this.

FPBC will continue leading the way as a regulator by providing the tools, systems, and credentialing requirements for its registrant base. Employers must continue to support the development of their forest professionals by creating developmental positions and opportunities for staff to learn and work through training and career development. Employers also need to build the time and space into work weeks for learning and development. And trainees must commit to the registration process to fulfill the goal of becoming a forest professional. Make a plan, ask for help, and stick to it to get through the process as efficiently as possible. It's worth it. Trust me.

Lets work together to look after our greatest resource, our people. And lets work together to support our future forest professionals — the approximately 650 trainees who are working to become the next generation of trusted professionals managing the beautiful landbase of British Columbia. ✖



# Navigating the Pathway to Modern Regulation

**The beginning of a new year is seen as a time to look forward, set goals, and make plans. At the same time I also like to take a moment and reflect back on the year and what was accomplished.**

Forest Professionals BC had three driving priorities at the outset of 2023: responding to the state of professional regulation in today's world (modern regulator), responding to unlawful professional practice and professional complaints, and improving our technology.

All three of these items are related.

Professional regulation is intrinsically tied to public trust and perception of our profession. The introduction of the *Professional Governance Act* (PGA) came as a result of the perception that the public lacked trust in professionals working in the natural resource sector. In turn, the PGA increased

the amount of legal requirements for regulatory bodies, and led to an increase in the volume of complaints. At the same time, forest professionals increasingly reported instances of practice infringement. To best manage this increased workload and comply with new legal requirements, we needed to leverage new technological tools.

## Modern Regulator

Most of BC's forests are publicly owned and British Columbians are concerned with how they are managed. At the same time, public trust is in decline across the world. The 2023 Edelman Trust Barometer finds *"A lack of faith in societal institutions triggered by economic anxiety, disinformation, mass-class divide and a failure of leadership has brought us to where we are today – deeply and dangerously polarized."*

Concerns about public trust along with a shortage of skilled workers is presumably why the BC government also brought in the *Health Professions and Occupations Act* (2022), the *Skilled Trades BC Act* (2022), and the *International Credentials Recognition Act* (2023). Government also released the *Stronger BC: Future Ready Action Plan* in 2023 and created a Minister of State for Workforce Development. It appears the BC government is attempting to leverage professional regulation as a solution.

Modern regulation in BC means accepting new rules set by the government. At the same time, we strive for the 'right-touch' approach to regulation; only regulating what needs to be protected and applying the least amount of regulation to mitigate the risk.

We spent much of 2023 assessing barriers to entry in the profession and reviewing how to improve the existing credentials assessment process for allied science trainees. We began work to create new pathways into the profession including launch of the

Affiliated Forest Professional (AFP) designation, and assessing the need for new technical occupations and certifications in rapidly growing forest practice areas: wildfire, urban forestry, and restorative silviculture. All work that will carry forward into 2024.

## Unlawful Practice and Professional Complaints

The number of professional complaints FPBC receives each year has tripled since 2021, a reflection of having a credible complaint process and increased awareness by registrants of their responsibility to report poor practice and conduct and incidents of unlawful practice and misuse of title.

In response, we added a deputy director of compliance to the staff team, strengthened the investigations process, and designed a more structured approach to unlawful practice.

To strengthen compliance with practice rights, we undertook education and awareness, monitoring, and enforcement activities. We monitored job postings for possible unlawful practice and contacted employers. We sent information explaining forestry practice. We sent letters about possible non-compliance. We met with employers to inquire about their policies to prevent unlawful practice.

We also provided education to help prevent unlawful practice. In 2023 we produced another e-course with reserved practice case studies, delivered two webinars, *Protecting the Public Interest: The FPBC Complaints and Investigation Process*, and *Leaving Professional Practice - The Retired Registrant*, and continued work on a guidance document.

## Technology for the Future

To better meet government requirements and our objectives for a modern regulator, we needed to upgrade the technological tools we use. FPBC's existing regulatory data base was 15 years old, no longer supported by the vendor, and lacked the capacity to perform basic functions required by new legislation such as the PGA. It was like we were still trying to run our business on MS Windows Vista.

We rolled out our new registrant management system to coincide with the 2024 registration renewal. And while it was not perfect, we can already see the improvements in usability, data collection, and reporting that will allow us to monitor trends in the data. As we move through 2024, we will continue to make refinements and roll out new tools for registrants like a more sophisticated CPD tracking tool.

The work we did in 2023 has set the stage, will allow us to meet the ongoing challenges of modern regulation, licensing and credential recognition, and grow public confidence as a trusted organization protecting the public interest in professional forestry. ☘



## Attend the 2024 FPBC Conference Virtually, February 7-9

There's still time to sign up for the virtual portion of the 2024 FPBC Forestry Conference and AGM, February 7-9, 2024.

Coming to you live from Kelowna, the 2024 conference and AGM will again be held as a hybrid event, with both in-person and virtual attendance options. Virtual registration is just \$160 before January 12; afterwards virtual registration costs \$200.

Reminder: Employers can save 10 per cent if they register more than 20 people for the virtual conference or 20 per cent if they register more than 40 people for the virtual conference.

All conference sessions, including the AGM, are eligible for continuing professional development credits. Registering for the virtual conference also gives you access to all the recordings for several months after the event.

Our 2023 virtual conference drew more than 1,500 forest professionals; don't miss out in 2024. More information is available at [evoque.swoogo.com/fpbc2024/4167463](https://evoque.swoogo.com/fpbc2024/4167463).

## Join Us Online for the 2024 FPBC Annual General Meeting, February 8

FPBC's 76th annual general meeting will be held in-person in Kelowna and online Thursday, February 8, 2024 at 1:00 PM as part of our annual forestry conference. The AGM is open to all registrants whether or not they have registered to attend the conference. A separate link and sign in information for the AGM will be emailed to all eligible registrants.

The AGM will present the 2023 financial statements and highlight the work FPBC has done to support professional practice, guard against practice infringement, and build public confidence in the practice of professional forestry. We'll also have a segment on complaints and discipline and what lessons can be learned from complaints received in the previous year.

**FPBC 2024 Conference**

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## FPBC Helping to Establish a Community of Practice Wildland Fire and Fuel

The aim of the Wildland Fire and Fuel community of practice is to create an open forum to discuss wildland fire and fuel management, share knowledge, find solutions, and develop new ideas.

The group is hosting a series of online meetings and lectures. Representatives of FPBC and BC Wildfire Service also provide updates on the regulation of the practice of professional forestry and the management of wildland fire and fuels during meetings. Contact [practice@fpbc.ca](mailto:practice@fpbc.ca) with any questions you may have.

## Vote in the 77th FPBC Board Election

Don't forget to vote in the FPBC 77th Board election. Deadline for ballot submission is 4:00 PM, Monday, January 8, 2024. Registrants eligible to vote were emailed an electronic ballot starting December 8, 2023. The ballot can only be cast once and is unique to each eligible registrant.

FPBC's nomination committee established the slate of registrant candidates for election to the board as required by Section 26 of the *Professional Governance Act* (PGA). The nomination committee confirmed registrant candidates met integrity, merit-based selection, and procedural principles required by the PGA.

**Board Member-at-Large Candidates** Registrants will elect one candidate to fill the one board member-at-large position for a three-year term. There are two registrant candidates (listed below in alphabetical order):

- Juliet Goveia, RPF; and
- Chelsey Toth, RPF.

The candidate with the most votes for the vacant position will be declared elected.

**Vice-chair** The position of vice-chair has one candidate: Kerri Simmons, RPF. As the candidate is running unopposed, they were acclaimed to the position. The registrant elected to the position of vice-chair serves a three-year term of office. The first year is in the office as vice-chair, the second is in the office of chair, and the third is in the office of immediate past-chair.

## FPBC 77th Board

Councillors carrying forward to the FPBC 77th Board are:

- Chair: Kelly Kitsch, RFT;
- Immediate past-chair: Jamie Jeffreys, RPF
- Board members-at-large: Dave Clarke, RPF; Sally Sellars, RPF; Derek Burdikin, RPF; and Janice Mathers, RPF.
- Government-appointed board members: Alison Dempsey, LLB/JD, LLM, PhD; and David Morel.

We thank the following board members whose terms ended: Dave Gill, RPF and Wendy Royle, CPA, CA.

The 77th FPBC Board takes office at the annual FPBC forestry conference and AGM in February.



# LANDSCAPE RESILIENCE – BY DESIGN

**Landscape fire management (LFM)** is a powerful, collaborative approach to achieving the goals of ecosystem health and landscape resilience. The Forest Practices Board's recent special report, *Forest and Fire Management in BC: Toward Landscape Resilience*, is a call for the provincial government to take bold, immediate action to align policies and programs across all levels of government with a vision of landscape resilience. It is the opinion of the Board that a provincial vision and action plan are critical to enable landscape fire management to occur at the pace and scale required to reduce the risk of catastrophic wildfires in BC. The companion document to the special report, *Practicing Landscape Fire Management*, describes some principles land managers can integrate into practice.

## What is Landscape Fire Management?

LFM is an ecosystem-based practice of managing fuels within landscapes to achieve specific objectives. The goals of LFM include reducing the risk of catastrophic wildfire in the short term while working to restore landscape resilience over time.

To help illustrate LFM, imagine a landscape (Figure 1) where the risk to important values is reduced by design. Low-fuel areas, either natural or man-made, are strategic anchors throughout the landscape to help modify fire behaviour. The objective is to reduce the size and impact of wildfire or create conditions that enable suppression activities to occur safely. LFM then guides the coordinated planning of wildfire risk reduction treatments. This may include silviculture practices, such as targeted harvesting, that consider fire-tolerant retention and regeneration strategies. It may also include manual or mechanical approaches to fuel reduction, or using prescribed fire and modified suppression response. These activities help achieve a mosaic of successional stages and fuel conditions that are resilient through fire. This landscape mosaic determines the patterns of future fire behaviour and severity.

Achieving landscape resilience will require cohesive effort across different management scales, including the forest stand, watershed, and landscape — and those responsible for management at each scale. It is easy to think the forest landscape planning (FLP) process is “the tool” to bring LFM to life, especially given the chief forester's mandate to consider an objective to prevent, mitigate, and adapt to wildfire risk when preparing an FLP. However, LFM has a larger scope than forest landscape planning, which only covers the timber harvesting land base and only applies to forest licensees. LFM requires integration across land uses into the planning and business cycles of the forest industry, protected area management, and transportation and energy sectors. It involves a higher level of coordination so that conservation and access management, for example, are all designed in concert to achieve the wildland fire

objectives for that landscape, in addition to harvest planning, reforestation and stand tending, which will fall under FLPs.

## What are Some Principles of Landscape Fire Management?

Integrating LFM principles into practice by land managers across all land uses will minimize the adverse effects and maximize the beneficial effects of fire on the landscape. These principles can cohesively link a strategic plan to activities on the ground.

### 1. Define the Landscape

Wildland fire rarely follows administrative boundaries. Instead, planning units have boundaries informed by areas of low fuel, tactical suppression factors like access, and other landscape conditions, including potential fire behaviour.

### 2. Understand Current and Projected Conditions:

Fire weather trends, topography, fuel types, and disturbance history provide clues about how a future wildfire will behave. Understanding fire

regimes helps the land manager describe the degree of departure from historical conditions and project the potential effects of management decisions or changing climatic conditions on fire behaviour and its effects on the ground.

**3. Understand Risks to Values:** LFM extends beyond the Wildland Urban Interface to include regionally important values like cultural heritage resources, community watersheds, wildlife habitat, old-growth forest, or merchantable green timber. Knowing the location of these values enables the use of fire behaviour modelling to evaluate the consequence of a wildfire on the values.

### 4. Set Complementary Wildland Fire Objectives Across Land Use Zones:

Wildland fire objectives set out the desired fire behaviour outcomes, defining the acceptable role of fire on a landscape. Land managers can then design strategies and set targets to achieve those objectives.

**5. Coordinate Intervention:** Landscape objectives may require integration across multiple sectors, i.e. utility corridor design and maintenance; road locations; or a cutblock's silviculture regime, shape, size, and fuel treatment. As forests grow, interventions are needed over time to ensure objectives are continually achieved.

**6. Learn from Experience:** There is much to learn to refine the practice of LFM. Documenting where and when treatments are carried out is necessary to inform monitoring. Effectiveness monitoring should be carried out on any landscape-scale treatments that have subsequently had wildfire.

For more information on the Board's call to action or ideas for putting LFM into practice, visit the Forest Practices Board website at [www.bcfpb.ca/release-publications/releases/forest-and-fire-management-in-bc-toward-landscape-resilience](http://www.bcfpb.ca/release-publications/releases/forest-and-fire-management-in-bc-toward-landscape-resilience). ☒



*Illustrating one aspect of LFM: above are low-fuel corridors that connect natural areas like riparian and wetlands, with areas like utility lines, pastures, rail, or roads treated to be strategically anchored fuel breaks to help modify fire behaviour.*



**'NAMGIS FIRST NATION AND WESTERN FOREST PRODUCTS**

# Embracing a New Paradigm in Forestry

*This place is Dzudsux'an (the translation is lost) in the Kwakwaka language. The common name today is Davie River. Photo credit: Mike Green, RFT.*



**The Declaration on the Rights of Indigenous Peoples Act (DRIPA)** has shifted the foundation for resource decision making in BC. A new paradigm is upon us providing the opportunity for meaningful and transformative change. The Oxford Dictionary describes a paradigm shift as “a fundamental change in approach or underlying assumptions” — it can also be used to describe our work over the past two years in ‘Namgis territory and Tree Farm Licence 37 on northern Vancouver Island.

‘Namgis First Nation (‘Namgis) and Western Forest Products Inc. (Western) have actively embraced this opportunity for change, and together we are defining a new path to a stronger and more secure future. A central aspect of this change has been the collaborative development of a forest landscape plan (FLP) and forest operations plan (FOP) as one of four initial pilots sponsored by the Office of the Chief Forester with the British Columbia Ministry of Forests.

Embracing collaborative planning has strengthened our relationship and provided us with meaningful and practical insights into how we can build together from the bottom-up. Our starting point was the creation of a solid foundation of values with a focus on biodiversity and ecosystem health. We then connected a comprehensive suite of stewardship strategies to develop a desired future forest condition looking 300 years into the future.

Our journey is proving to be professionally rewarding, insightful, and is leading to increased predictability for stewardship outcomes, businesses, and North Island communities. There are no shortcuts, and it takes time, commitment, and hard work. But today we are building a new way of working together inside of an adaptive management framework supported by co-operative decision making.

We are pleased to share our insights and do so respectfully; recognizing every situation is unique as we all collectively learn and grow in the new paradigm together.

### The Importance of Listening and Learning

‘Namgis origin stories describe how ‘Namgis emerged from beings within the natural landscape and created the rules for human society, recognizing the great need to understand that abundance is not as limitless

as the human appetite. These origin stories connect ‘Namgis to the land and sea as one and the same, not separate.<sup>1</sup>

One such story tells of a man named Gwa’nalis, who lived with his family at Xwalkw. He was visited by a supernatural being who could transform him into various things including mountains, cedar trees, and large boulders. Of all the choices available to him, Gwa’nalis chose to become a river “...so I may flow for as long as the days shall dawn in the world.” The supernatural being then put his hand on Gwa’nalis’ forehead and turned him into a river saying, “There, friend, you will be a river and many kinds of salmon will come to you to provide food for your descendants for as long as the days dawn in the world.” The river is still known as Gwa’ni. It is the river of the ‘Namgis.

Europeans have since anglicized ‘Namgis as Nimpkish, referring now to the Nimpkish Valley, which remains the heart of ‘Namgis territory on northern Vancouver Island.

The TFL 37 FLP is just one of many planning and government initiatives in which ‘Namgis are involved. ‘Namgis has participated at every table that has been established by various levels of government regarding their rights and title. One of our team members relays that his great grandmother was a translator at the McKenna-McBride Royal Commission in 1913 as part of the effort to resolve the “Indian land problem” and ‘Namgis continues to work towards regaining jurisdiction and achieving self-determination in their territory.

While we have spent a significant amount of time pouring over data, cultural inventory information, and scientific studies, even more important has been the time spent carefully listening to understand the depth of meaning behind all values and their continued significance to ‘Namgis and the Nimpkish Valley.

### Recognizing the Need for Change – And Moving Forward

Since Western purchased the rights to TFL 37 in 2006, the relationship has not always been amicable. Societal influences, court cases, and legislation have all contributed to shifting the dynamics of operating on a First Nation’s territory. Western has embraced this shift to proactively progress our complex

relationship. A few years ago, there was a seemingly simple request from ‘Namgis to Western: “Can you please provide a diagram of the current forest management framework on one piece of paper?” This challenge was enlightening and proved to be so complex, it was impossible to fit onto one page.

First, it exposed a wide array of disconnected plans — some voluntary and some legislated. Second, it became clear there was very little transparency into many of the plans, with the primary focus of discussions between Western and ‘Namgis being on a block-by-block basis late in the planning process. These discussions were understandably challenging as individual blocks have little context or connection to ‘Namgis values and their connectedness across the landscape.

Through many challenging conversations, the relationship grew. We were increasingly able to see the world from each other’s perspectives and it was clear it was time to develop a new approach. This vision culminated in an agreement to collaborate on all levels of planning and the opportunity to jointly develop a forest landscape plan including decision making recommendations aligned with DRIPA, provided the ideal venue.

In general, this has meant focusing on seven key elements.

### I. Everything is Connected – The Benefits of a Connected Future Forest Outcome

One of the first steps in our workplan was to identify and discuss our collective values, which included aspects such as salmon, cedar, old forests, cultural areas, wildlife habitat, karst, and recreation. This required meaningful sharing and listening. What became clear is how deeply connected each of the values are aligned with ‘Namgis’ connection to the land and sea as one and the same.

This groundwork ultimately influenced how we approached almost every aspect of our work. By making connections across all values, we have identified an opportunity for transformative change in how we approach whole land management, biodiversity and ecosystem health, cumulative effects, and even implementation in an adaptive management framework with co-operative decision making aligned with DRIPA.

Continued on Page 18

# Evaluating Ecosystem Integrity on a Managed Forest Landscape

'Namgis origin stories recognize their interconnectedness with the land and sea. This principle of all things being connected was foundational to our work supporting the forest landscape plan (FLP) in Tree Farm Licence (TFL) 37 on Vancouver Island. 'Namgis First Nation and Western Forest Products are developing the plan jointly with support from the Office of the Chief Forester, British Columbia Ministry of Forests. Ecosystem integrity and recovery have been identified as critical priorities for the FLP.

This project was conceptualized in early 2022 and designed to better characterize ecosystem integrity within managed forest landscapes such as TFL 37. At the heart of TFL 37 is the Nimpkish River, known by 'Namgis as Gwa'ni, which is central to 'Namgis' way of life and supports all five species of Pacific salmon. TFL 37 includes five forested biogeoclimatic units —CWHvm1, vm2, xm2, mm1, and MHmm1.

**Ecological integrity** is the ability of an ecological system to support and maintain a community of organisms that has species composition, diversity, and functional organization comparable to those of natural habitats within a region.<sup>1</sup> Ecosystem integrity is a stand level measurement whereas ecological integrity is focused on the broader landscape.

## Age Matters But It's Not Everything

As regenerating stands develop along a successional trajectory, they develop attributes of older stands, including height, horizontal and vertical structural diversity, species composition and cover, and forest floor development.<sup>2,3,4</sup>

**FIGURE 1.** *Evaluating ecological integrity within a forest landscape requires assessing all age classes of forest from recent disturbance to old-growth, including evaluating the landscape context of each stand.*

Photo credit: Rachel Dalton, RPF.

In BC and elsewhere, there has been considerable emphasis placed on older forests as the primary contributor to biodiversity. While the critical importance of old forests is recognized<sup>5</sup>, young and maturing forests also contribute to the ecological integrity of a forest landscape<sup>6</sup> (Figure 1).

In our approach, forest age is one of several attributes contributing to biodiversity. We recognize that ecosystems are complex and dynamic and that there is uncertainty regarding rates of recovery, including the specific nature of old growth in different landscapes and ecosystems. Factors such as climate change, forest health, and disturbance events all impact on individual species and ecosystems. Nonetheless, attributes such as age, stand structure, and species diversity, combined with landscape context, are all appropriate and useful for assessing current ecosystem integrity across the forested landscape, and predicting how it will change over time.

Our approach uses attributes available through forest cover inventory, LiDAR data, and terrestrial ecosystem mapping to evaluate and forecast ecosystem integrity. Bringing together the attributes of site-level ecosystem integrity in combination with the other elements that comprise landscape-level ecological integrity, provides for a more thorough evaluation of ecosystem health and biodiversity now and into the future.

## The Six Factor Approach to Ecosystem Integrity

The approach developed here draws from some earlier initiatives developed primarily for assessing individual element occurrences of rare/at-risk ecological communities by NatureServe<sup>7</sup> and the BC Conservation Data Centre<sup>8</sup>. They utilize a three-factor approach to developing an ecosystem integrity score for individual occurrences. Condition, size, and

LEFT TO RIGHT: *Allen Banner, RPBio, RPF(Ret)* and *Del Meidinger, RPBio*, are forest ecologists with many years of experience in biogeoclimatic ecosystem classification and ecosystem management. *Steve Platt, RFT*, is a Planning Analyst and GIS specialist, and *Joel Mortyn, RPF*, is Manager of Inventory and Analysis, both with Western Forest Products.





Overview of Inventory Components used in Ecosystem Integrity Assessment

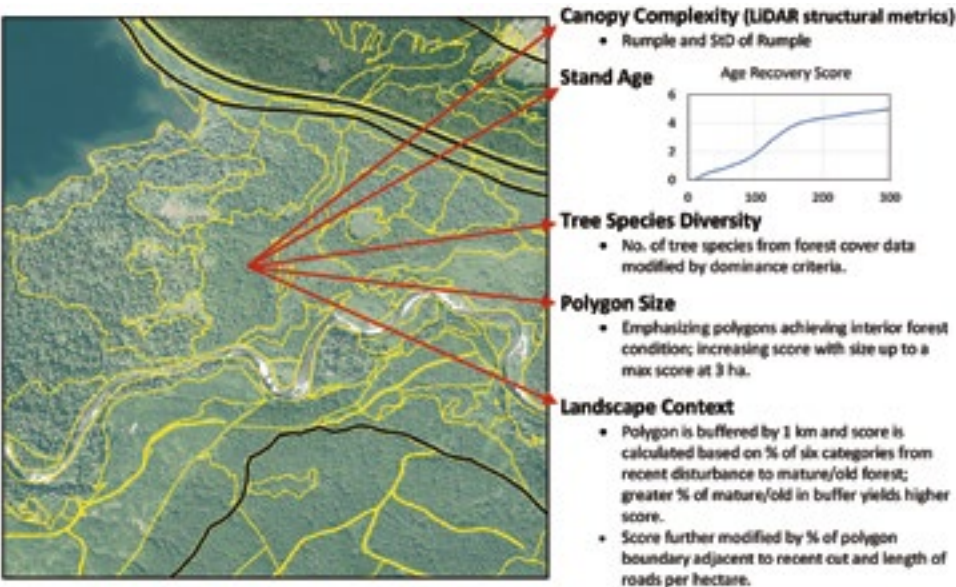


FIGURE 2.

*Differences in stand structure of young and old forest using LiDAR point clouds (generated using FUSION software<sup>9</sup>) and measured by the rumple metric.*

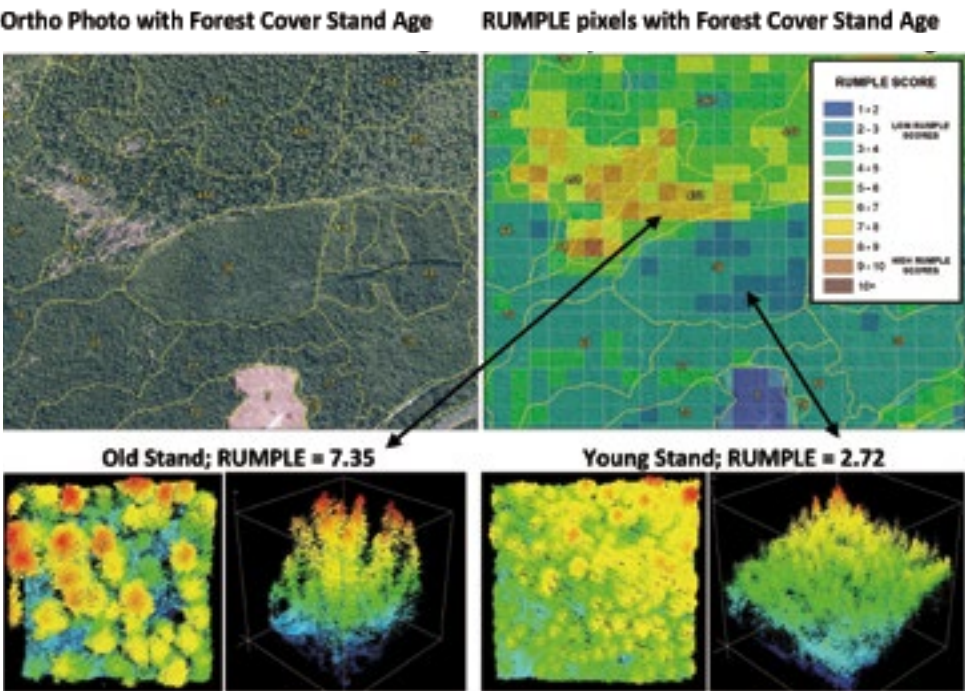


FIGURE 3.

*Components of ecosystem integrity.*

landscape context are scored individually and then combined to develop an overall integrity score.

Our approach utilizes LiDAR technology<sup>9</sup> to assess forest structural complexity, focussing on the metric “rumple,” a measure of canopy roughness or rugosity (Figure 2). The use of LiDAR is a significant step forward in assessing ecosystem integrity, as it allows us to consider the structural complexity of all stands, moving beyond simplified age-based approaches to assessing ecosystem integrity and risk. Canopy complexity is an important forest attribute that correlates with other indicators of ecosystem recovery and integrity, such as understory vegetation development and habitat diversity.

Six attributes (mean and standard deviation of rumple, stand age, tree species diversity, polygon size, and landscape context) are used to develop an ecosystem integrity score for each forest cover polygon (see Figure 3).

Current conditions (year 0) are assessed using recent LiDAR and forest inventory data. Future conditions are modelled based on the Patchworks™ forecast of the forest. The ability to evaluate both the current and future condition of ecosystem integrity was integral to development of the FLP.

# Managing Avalanche Risk for Forest Planning and Operations

**Operating in British Columbia's mountainous terrain presents** real challenges for forest operations. Amongst the array of geomorphic hazards, snow avalanches pose a unique and significant threat. While we typically hear of avalanche incidents involving recreationists (e.g. skiers and snowmobilers), industries operating in the mountains are also susceptible to avalanche hazards. Historical incidents — such as the 1965 avalanche at Granduc Mine in Stewart, BC, resulting in the tragic loss of 26 workers, and the 2012 avalanche located 300 kilometres North of Terrace, BC claimed the life of one survey technician who was swept away while taking GPS points — highlights the grave risks faced by industrial operations.

The winter season can experience over 300,000 large avalanches with the potential for burying or injuring workers, particularly within forested areas of BC.<sup>1</sup> These events primarily occur in regions characterized by high relief and a sufficient snow supply conducive to avalanches. In a forestry context, unexpected operational challenges may arise, especially in regions like the Mainland Coast and Vancouver Island, where snowfall patterns are highly variable. An absence of sufficient planning and risk management can result in incidents and loss of productivity.

## Impacts of Landscape Change on Avalanche Hazard

Natural avalanche paths are visible as cleared vertical swaths in the forest in most of BC's mountain ranges. The alteration and removal of vegetation (e.g. as seen in cut block development) can alter the landscape, potentially creating new avalanche paths or enlarging existing avalanche paths.

The presence of forest cover, plays a crucial role in the formation of avalanches. This is influenced by various factors, such as the exchange of energy between the snow and the atmosphere, the interception of snowfall, and the modification of wind speed (affecting wind transport of snow). Additionally, they disrupt and fragment the snow cover, effectively decreasing the size of avalanches.

Where there are steep slopes with gradients exceeding 30 degrees (58 per cent), and forests where more than 1,000 stems per hectare are removed, the risk of establishing new and hazardous avalanche initiation zones is increased.<sup>2</sup>

Furthermore, forests can reduce the impact of avalanches in motion. They achieve this by diminishing momentum and shortening runout distances.<sup>3</sup> Eliminating nearby tree cover may contribute to the expansion of existing avalanche paths and complicating the delineation of runout zones. This may extend even into areas that have not experienced avalanches for centuries.<sup>1,2</sup>

*David Kallai, BSc, GIT, is an Avalanche Specialist with Alpine Solutions. He has a diverse background that includes extensive work in the forestry sector, assessing both landslide and avalanche risk. He is a geoscientist-in-training (GIT) with EGBBC and an Avalanche Professional with the Canadian Avalanche Association. David resides on Vancouver Island, on the traditional and unceded territory of the K'ómoks First Nation.*

Wildfires have the potential to enlarge or create new avalanche paths. Depending on the severity of the burn, terrain may be altered for decades. Burnt trees can be uprooted or snapped by an avalanche, intensifying the density and impact.<sup>3</sup> Given these considerations, it is imperative to assess terrain affected by wildfires to comprehensively evaluate the potential increased hazard and risk.

Snow avalanches can also inadvertently create other geomorphic hazards. Large numbers of trees and high volumes of soil are gouged out and transported by snow avalanches, which can result in a considerable volume of woody debris and sediment becoming introduced into a channel system. Once a wet snow avalanche flows down a steep gully, it can promote channel disturbance and other rapid mass movement processes such as debris flows.<sup>2</sup>

## Managing Avalanche Risk

The risks of snow avalanches extend beyond human safety to encompass various elements at risk including forest resources, the environment, roads, and public and private property. The consequences can include the destruction of valuable timber, the removal of soil cover,<sup>1</sup> as well as structural damage to residences, roads, bridges, culverts and power lines. These hazards may adversely affect streams, fish habitats, and plantations.

Setting the guidelines for avalanche risk management in forestry operations is WorkSafeBC. Notability, OH&S Regulation 4.1.1 states:

*"If the avalanche risk assessment indicates that a person working at the workplace will be exposed to a risk associated with an avalanche, a written Avalanche Safety Plan is developed and implemented."*<sup>4</sup>

Once an avalanche safety plan has been prepared and approved by a qualified person, work may continue according to the specifications contained within the plan.

To effectively manage avalanche risk for forest planning and operations, it is important to develop an avalanche risk assessment, avalanche safety plan, and avalanche safety program when required. These proactive measures are required to safeguard lives, minimize operational interruptions, and curtail substantial financial losses.

- **Avalanche Risk Assessment:** Avalanche risk assessment is a comprehensive evaluation and analysis of the potential hazards and risks associated with avalanches in a specific geographical area, considering the various factors such as topography, vegetation, snow conditions, history of avalanches and the nature and duration of work activities. Avalanche risk assessment aims to identify, quantify, and understand the avalanche-related hazards in a given location, which informs decisions about land use, infrastructure development, and worker safety measures.
- **Avalanche Safety Plan:** Based on the avalanche risk assessment, the avalanche safety plan is a comprehensive plan that must include measures to eliminate the risks associated with an avalanche. If eliminating the risks associated with an avalanche is not practicable, the avalanche safety plan must





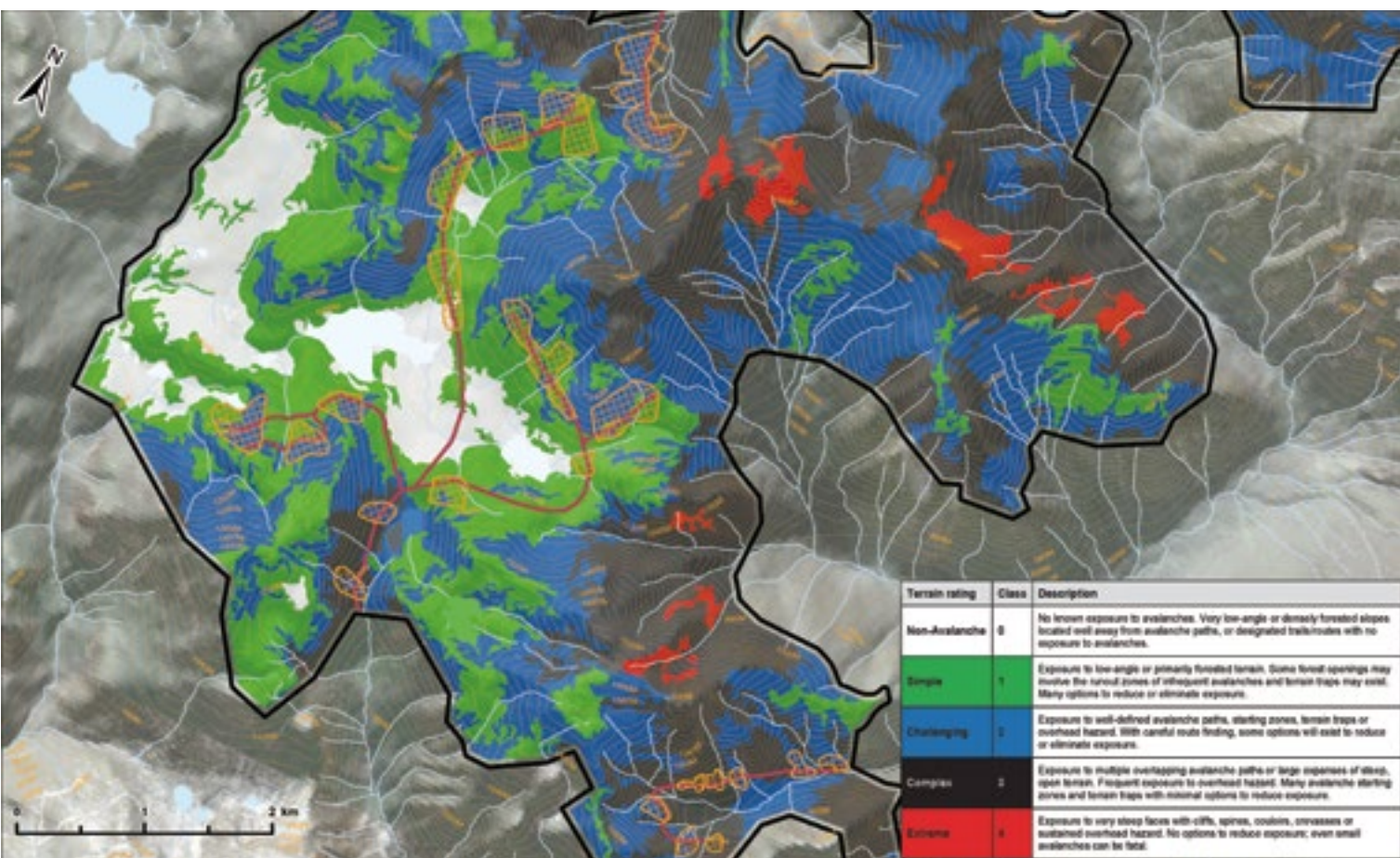


FIGURE 1. Example of operational mapping illustrating cut block (orange polygon) and forest roads (pink line) over Avalanche Terrain Exposure Scale (ATES)<sup>®</sup> map showing non-avalanche terrain (white), as well as Class 1 (green), Class 2 (blue), Class 3 (black), and Class 4 (red) avalanche terrain.

include measures and procedures to minimize those risks, including an avalanche safety program.

- **Avalanche Safety Program:** The program may involve continuous monitoring of weather, snow conditions, and avalanche activity, along with implementing safe work procedures to reduce avalanche risk by means of closures, restrictions and avalanche control as specified in the avalanche safety plan. The program is scalable and can adapt to the operational requirements.

In risk assessments, risk communication plays a pivotal role. It ensures that individuals and organizations understand the nature of the risks they face, enabling them to take appropriate actions to reduce or manage those risks to an acceptable level. Traditionally, communication tools such as maps, which included avalanche locator and atlas maps, have been developed as part of the risk assessment. However, this form of mapping can restrict roving field workers who are required to move freely through the terrain; an example might be forest professionals engaging in cut block and road layout. To navigate these constraints while enhancing productivity and upholding safety standards, the utilization of the Avalanche Terrain Exposure Scale (ATES)<sup>®</sup> zone mapping method has been integrated into worker safety programs (Figure 1). This tool is developed and implemented by a qualified person. ATES mapping enables swift and cost-effective mapping of terrain and the communication and management of potential hazard levels faced by roving workers.

## Mitigating Avalanche Risk

Managing snow avalanche hazards can be challenging for forest professionals, but taking a preventative stance is essential for successful operations. Avalanches bring considerable risks not just to people but also to the environment and public and private property. To address these challenges effectively, it's crucial to take a comprehensive approach when working with a qualified person in the development of avalanche risk assessments, creating an avalanche safety plan, and implementing avalanche safety programs. This is essential to keep everyone safe, prevent operational disruptions, and avoid financial setbacks through a proactive approach. ❄️

*Acknowledgments: I would like to thank Brian Gould, P.Eng, CAA Avalanche Professional, and Alexis Tessier, CAA Avalanche Professional for providing valuable assistance with assembling this article.*

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AGE 4-6 YEARS



1st Sarah Lee, Surrey



2nd Junyi Wu, Surrey

## 2023 NFW CHILDREN'S ART CONTEST:

# Foresters Care for Our Forests

Fire, wildlife, and thanks were common messages depicted by entrants of the 2023 National Forest Week (NFW) children's art contest.

But the overarching theme was foresters caring for our forests, which submissions showed them doing, often with a smile.

The results were once again colourful, creative, and inspiring. Thank you to all who took the time to create and enter a submission, and for taking an interest in forestry.

Congratulations to our winners. To learn more about BC National Forest Week, visit [bcnfw.ca](https://bcnfw.ca).



3rd Hannah Joh, Surrey





1st Isaac Yoo, Surrey



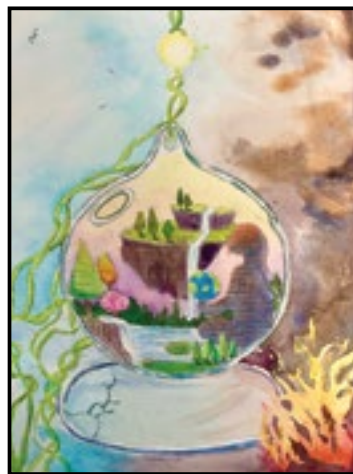
2nd Chloe Chiang, Surrey



3rd Matthew Jiang, Coquitlam



1st Ada Wang, Coquitlam



2nd Jackie Liu, Vancouver



3rd Emily Liu, Vancouver

**Continued** from page 11 *'Namgis First Nation and Western Forest Products – Embracing a New Paradigm in Forestry*

## II. Whole Land Management – A Connected Future Forest Outcome from the Ground Up

A connected future forest outcome built with linkages to each value results in a significantly more meaningful outcome than traditional top-down and target-focused planning.

To accomplish this, we leaned heavily on our collective knowledge, engagement, wisdom, expertise, numerous subject matter experts, and the most up-to-date information on stewardship strategies and datasets specific to the plan area. We invested the time required to bring this depth of information together in a structured way to develop a comprehensive suite of stewardship strategies linked to the objectives for each value. These stewardship strategies were then connected in Patchworks™<sup>2</sup>, a spatially explicit forest estate planning model that can translate the full suite of stewardship strategies, including the resulting forecast of blocks and roads, into an optimized and connected future forest outcome.

We also developed a modelling indicator dashboard linked to both the connected future forest outcome and relevant objectives for each value. This enabled us to evaluate the cumulative outcome of all our stewardship strategies, including the resulting spatial and temporal pattern of future blocks and roads across multiple scenarios. This provided insight into the many symbiotic relationships and sometimes trade-offs across many values allowing us to make informed decisions and refinements. By the time we selected a preferred scenario, we had completed over one hundred modelling runs as we iteratively refined and adjusted our stewardship strategies. The result is a very thoughtful and carefully developed future forest outcome that respects the complexity of whole land management maintaining biodiversity and ecosystem health.

## III. Biodiversity and Ecosystem Health– Multiple Connected Elements

A key priority of our planning is to maintain biodiversity and ecosystem health in alignment with recommendation #2 of the Old Growth Strategic Review.<sup>3</sup> Given the inherent complexity of ecosystems, we knew

there would be no single element that could define biodiversity and ecosystem health.

We leaned on the work of Parrish et al. (2003)<sup>4</sup> and Wurtzebach and Schultz (2016)<sup>5</sup>, who defined it as the ability of an ecological system to support and maintain a community of organisms that has species composition, diversity, and functional organization comparable to those of natural habitats within a region. We were able to link elements of biodiversity and ecosystem health directly to the connected future forest outcome along with other information, such as the monitoring of stream conditions being completed as part of Western's multi-scale watershed management program. We have found that carefully connecting the stewardship of each value into a connected future forest outcome enables us to increase our confidence that each value is well cared for in parallel with the ability to assess the connected elements of biodiversity and ecosystem health.

Another important aspect of maintaining biodiversity and ecosystem health is to recognize the dynamic nature of ecosystems. While it is difficult to predict the future, especially in a changing climate, we recognized the importance of forecasting the elements of biodiversity and ecosystem health into the future. This was informative as it identified obvious changes or trends that would not otherwise have been readily apparent without modelling. It helped us see how the spatial pattern of some elements, such as ecosystem integrity, changed through time from the cumulative of all our stewardship strategies across all the values. For example, we were able to visualize how our stewardship strategies complemented each other to meaningfully increase ecosystem integrity along the Nimpkish River 300 years into the future.

## IV. Ecosystem Integrity – Every Tree Contributes

An important element of biodiversity and ecosystem health is ecosystem integrity. As we worked through each value, it became readily apparent that all forests provide important ecosystem services, not just those over 250 years in age. Some of our stewardship strategies that reinforce this include:

- Retaining forests important to channel stability and fish habitat. Many of the forests identified are younger than 250 years in age, but materially contribute to biodiversity and ecosystem health.
- Harvesting trees on longer rotations along the Nimpkish River to increase old forest attributes and the overall complexity of the forest.
- Using Variable Retention<sup>6</sup> with varying amounts of stand level retention to create age and structural complexity over multiple rotations to increase biodiversity and old forest attributes.
- Spatializing landscape retention as part of the 'Namgis Conservation Network with a direct linkage to the stewardship of values including life cycle carbon opportunities.

This work clearly identified that the connected future forest outcome has significant biodiversity, structural complexity, and age diversity all contributing to biodiversity and ecosystem health. This necessitated building on existing ecosystem-based management approaches to recognize the contribution of all trees to biodiversity and ecosystem health. The result is a LiDAR and GIS-based approach to assess ecosystem integrity at the stand level using a suite of ecosystem attributes: stand age, canopy complexity, tree species diversity, polygon size, and landscape context. The detailed outcome of this work is summarized in a complimentary article written by Allen Banner, RPF(Ret), RPBio; Del Meidinger, RPBio; Joel Mortyn, RPF; and Steve Platt, RFT in this edition of *BC Forest Professional*.

## V. Everything is Connected – Even Blocks and Roads

The connected future forest outcome is the cumulative of every stewardship strategy, including the resulting pattern of blocks and roads. This provides a robust approach to cumulative effects when linked to implementation in an adaptive management framework.

Early integration of blocks and roads not only provides for seamless alignment but it also requires far less time and effort



Connecting blocks and roads as part of the connected future forest outcomes creates predictability and stability. Now, 'Namgis and Western are designing the pattern of harvest at the earliest stages of planning and are aligned on conservation, stewardship, and blocks and roads well ahead of field layout. This ensures alignment prior to the appraisal submission, reducing time, frustration, and uncertainty. This new approach still provides the flexibility to identify and manage important attributes — such as archaeological features — as part of our work together in the field. This transformation also has the material benefit of ensuring alignment between investments in manufacturing facilities, new products, harvest equipment, and even the scheduling of orchard seed tree needs aligned with the forecast harvest profile. It's a win for everyone, including forest workers and local communities.

A connected future forest outcome provides the full scope of detail needed to simultaneously document the FLP and FOP in seamless alignment. This is important in the context of Bill 23-2021, which requires specifying outcomes in relation to the five objectives in section 2.22 of the pending amendment to the *Forest and Range Practices Act*. As a result of making these connections, we can articulate the connected future forest outcome in a way that is easily understood and practical to implement.

To accomplish this, we are using the FLP to describe the connected future forest outcome, including a forecast of predicted changes through time. It's akin to describing the picture on a completed



At the same time, we are using the FOP to articulate the full suite of stewardship strategies, stocking standards, and resulting forecast of blocks and roads that function together to achieve the desired future forest outcome. This approach enables us to maintain seamless alignment across both plans while respecting the complexity of connections associated with whole land management. As a result, we have connected our daily implementation of stewardship strategies to the resulting connected future forest outcome forecast 300 years into the future.

Adaptive management is a systematic approach to learning by doing<sup>7</sup> to improve future management decisions. Given the inherent complexity of ecosystems, climate

We are working with the Office of the Chief Forester to design a structured adaptive management approach for both FLP and FOP implementation. The concept centers around co-operative decision making between 'Namgis and Western, adaptive management indicators linked to the connected future forest outcome and stewardship strategies, a five-year rolling schedule of blocks and roads linked to the FOP, and the five-year monitoring report.

This approach provides a safe and flexible environment to learn, innovate, and adapt while maintaining a meaningful prediction of blocks and roads on a rolling basis as part of the FOP. The learnings from the structured monitoring over a five-year period will then feed back into the next FLP and FOP approval.



*This place is Dza'laltsa Wa (Lake of River) in the Kwakwaka'wakw language. The common name today is Woss Lake. Photo credit: Rachel Dalton, RPF.*

**Continued** from page 19 *'Namgis First Nation and Western Forest Products – Embracing a New Paradigm in Forestry*

## Relationships Transcend Both Development and Implementation

Like all relationships, our collaborative planning journey began with a step of trust that will transcend both development and implementation. There was no roadmap to follow or preconceived notion of what the outcome would be. Our success has been predicated on an open-minded technical team with a complimentary set of backgrounds, wisdom, knowledge, and hands-on expertise directly connected to the stewardship of 'Namgis territory and Western's business. We anticipate that carrying this depth of knowledge, care, and accountability from planning directly into implementation will provide us with a robust outcome that will stand the test of time.

'Namgis territory and TFL 37 are critical to the cultural, economic, and social fabric of 'Namgis and northern Vancouver Island and as such we have appreciated the level of interest shown in the FLP. We have maintained regular contact with 'Namgis community and leadership, local municipal governments, contractors, and a community advisory group that includes represen-

tation from a broad range of local interests. We have also integrated engagement learnings and provided FLP updates as part of the Gwa'ni project<sup>8</sup> which is a parallel modernized land use planning project also underway. We anticipate having the draft FLP and FOP available for formal review and comment this spring.

## Significant Personal Growth and the Most Rewarding Years of Our Careers

When we set forth on this journey two years ago, we didn't realize just how meaningful of a change we were headed for. We simply started with listening and sharing and over time created a deep sense of respect and trust. While the significance of a personal story or meaning to a particular value are difficult to capture in a FLP or a FOP, the fact is the last several years have provided significant personal and professional growth and have been some of the most rewarding of our careers. It is inspiring to see what is possible when people are trusted and empowered to embrace opportunity and build together on a foundation of open, communicative, and

collaborative relationships. These are the elements that will carry us forward into implementation and toward a future forest outcome that embodies our shared values.

We hope our experience is an inspiration to other First Nations and tenure holders who are contemplating collaborative and connected planning to take the initial step of trust, as you never know where it will lead. 🌲

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# Introducing the Affiliated Forest Professional

## What is it? Why now? What does it mean for the profession?

**Forest Professionals British Columbia is pleased to offer a new subcategory of registration enabled by the bylaws under the Professional Governance Act: the Affiliated Forest Professional (AFP).** The AFP is a subcategory of associate registrant that fills a niche people have inquired about for years and addresses gaps that have grown more apparent as the profession has evolved over time. There are two policy pathways which direct FPBC's efforts towards the target audiences for this designation; one for academics, instructors, and researchers, and another for those who require a limited licence in a narrow aspect of reserved practice.

AFPs are experienced practitioners. This means AFPs have different registration requirements than FITs and TFTs. AFP applicants do not have an articling or sponsor requirement and instead are recognized for professional experience and existing competency. Some may already possess other professional designations or certifications. Others may have extensive forest management and natural science-related post secondary education. That said, AFPs cannot undertake activities within the reserved practice of professional forestry without additional FPBC certification.

The first policy pathway to become an AFP is focused on post-secondary academics, instructors, and researchers who teach or undertake research activities in relation to trees, forests, forest lands, forest resources, forest transportation systems or forest ecosystems (i.e. within the practice of professional

forestry). Teaching and research activities are often not within the reserved practice of professional forestry, meaning that lay people can perform them. This audience may have doctorate, masters, and bachelor degrees that do not align with the certification standards to become a Registered Professional Forester or a Registered Forest Technologist, or they may not want to undergo a credential assessment to obtain such a designation.

It has been widely observed (across multiple professions, including professional forestry) that students, policymakers, employers, registrants, and the public are better served when academics,

instructors, and researchers are part of the profession. Many academics are teaching future forest professionals and their involvement as part of the forest profession helps to maintain alignment

*Casey Macaulay, MA, RPF, is FPBC's registrar and director of act compliance. He oversees the registration of forest professionals and the complaints and discipline process. Casey has a technical diploma in forestry, an undergraduate degree in forest management, and a master's degree in conflict analysis.*

between post-secondary instruction and the needs of employers recruiting qualified, registered professionals. In today's divisive world, professional registration can bring public credibility; differentiating those who possess it as willing to be held accountable by the public that their practice and conduct meets professional standards and ethical principles. The benefits of this model extend to communities of practice in professional forestry, where the academic and research community can bring their extensive knowledge and emerging research to help better inform and influence the practices of the broader professional community. Regulating the profession has grown increasingly complex and it can be challenging for those outside the profession to influence the practice in a positive way, and to stay informed of the research and academic needs of forest professionals to best manage forests sustainably.

Eligibility for the AFP – Academic/Research (AFP-AR) pathway is based on a combination of post-graduate credentials with experience related to teaching or research.

The second policy pathway to become an AFP is focused on professionals who require a limited licence for a narrow aspect of reserved practice area in professional forestry. They must have significant experience in that practice area or are already registered as a practising registrant in good standing with another regulatory body under the PGA.

The AFP – Limited Licence (AFP-LL) pathway is designed to create a straightforward registration option for those with deeper experience in a single area of professional forestry practice; the holder cannot undertake activities in any other area of practice. The AFP-LL creates a solution for achieving compliance with the *Forest Professionals Regulation* when a person may be unlawfully undertaking the reserved practice of professional forestry or finds their current professional designation is misaligned with their area of practice.

FPBC has granted limited licences historically under the *Foresters Act* and the *PGA* on an individual case basis for discrete reserved activities. Going forward, FPBC will be prioritizing areas of practice appropriately suited for limited licence offerings. These priorities will be based on risk to public safety and the environment under consultation with registrants in the respective community of practice.

Both AFP policy pathways require a science-based degree or diploma in a forestry-related field of study. AFP holders must still complete some of the FPBC experience area modules after their initial registration and are required to report continuing professional development activity consistent with other practising registrants.

The new AFP designation creates space for the inclusion of more backgrounds in the profession while the rigor of the application and review process will ensure the public interest in the practice of professional forestry is maintained with respect to the protective purposes in the *Forest Professionals Regulation*.

Stay tuned for updates on this work via FPBC's website and e-newsletter. If you have questions about the AFP – Academic/Research (AFP-AR) or the AFP – Limited Licence (AFP-LL) pathway, please contact staff at [admissions@fpbc.ca](mailto:admissions@fpbc.ca) or the registrar at [registrar@fpbc.ca](mailto:registrar@fpbc.ca). ☘



Continued from **Page 13** *Evaluating Ecosystem Integrity*

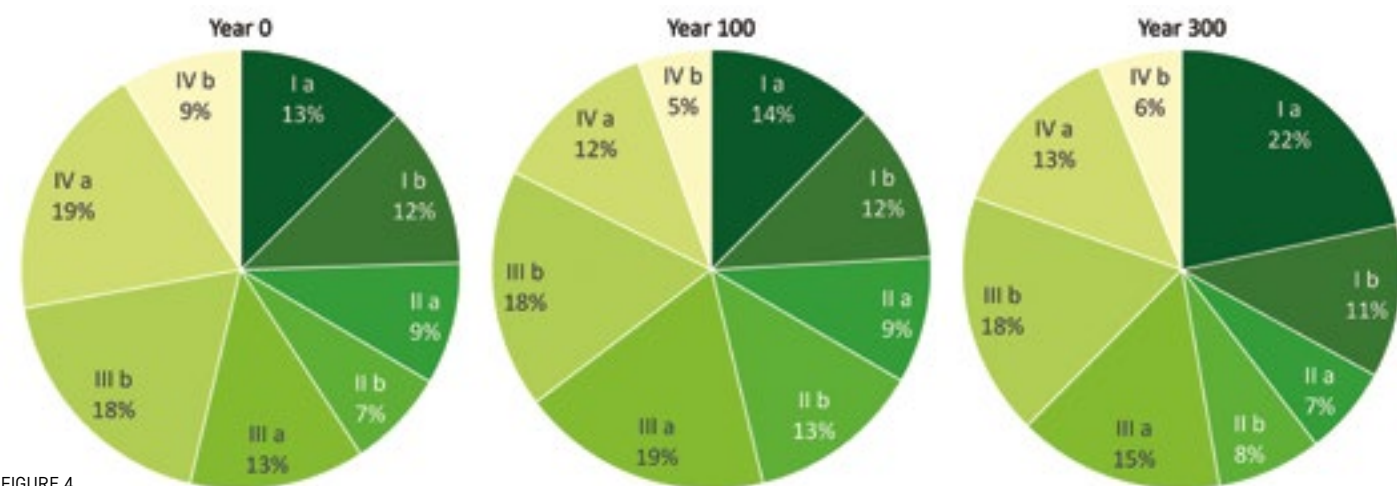


FIGURE 4

Area profiles by ecosystem integrity class (I - IV) and subclass (a & b) in TFL 37 at year 0, 100 and 300. Class I a represents the highest ecosystem integrity while class IV b represents the lowest.

### Scoring Ecosystem Integrity: Now and Into the Future

Ecosystem integrity scoring for polygons in TFL 37 ranges from 6.3 to 33.8. A theoretical maximum ecosystem integrity score is 36.76. Mean integrity values are calculated for the TFL as a whole and area summaries are produced by integrity class (Figure 4). The four integrity classes (IV - III - II - I), each with two subclasses, align broadly with the BC Conservation Data Centre ecosystem integrity assessment classes of poor, fair, good, and excellent respectively.

To model ecosystem integrity into the future, the individual components of a polygon integrity score need to be projected. Patchworks modelling was used to determine age, polygon size, and tree species diversity for each polygon. Landscape context was determined for each polygon using the future spatial configuration of stands. Models were developed for both the mean and standard deviation of rumple using the year 0 dataset from TFL 37 to develop predictive equations. The contribution of stand retention to future stands was also used to adjust future values of rumple and standard deviation of rumple.

Ecosystem integrity was then modelled at year 100 and 300 for multiple scenarios considered by the FLP technical team. In the current scenario, area weighted mean integrity is projected to increase over the long term (20.6 - 21.3 - 21.7 at years 0 - 100 - 300 respectively).

The area of forest with the highest integrity class (class I a) is projected to increase through time, while the lowest integrity class (class IV b) is projected to decrease (Figure 4).

Of note is the projected change in spatial distribution of integrity classes over 100 to 300 years. Currently the lower integrity classes III and IV dominate in the valley bottoms, but over time, much of the forest along the Nimpkish River and its tributaries transition from class III/IV to class I and II based on the stewardship approaches being implemented by the FLP technical team (Figure 5). This is likely to improve salmon spawning habitat, stream flows, fish migration, and other riparian values that are critical to this landscape and to the 'Namgis way of life.

### Paradigm Shifts Require New Approaches

Our approach is a significant step forward as it uses LiDAR data to measure structural complexity, and includes age, polygon size, species diversity, and landscape context to generate integrity scores for all stands. This integrated approach to assessing both current and future ecosystem integrity allows us to visualize and evaluate this diversity and complexity across time and space. This provides a framework to evaluate the varied forest management practices being considered in Forest Landscape Planning processes throughout the province. It also creates a basis for ground sampling and monitoring to further validate the ecological integrity scores and refine the assessment over time.

As forest management in BC undergoes the paradigm shift to prioritize ecosystem health and biodiversity, we need new approaches to measure and forecast ecosystem integrity that utilize the best available data and recognize the contribution of all age classes. Following the principle of all things being connected, we should consider the many pieces rather than a single component. 🌱

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FIGURE 5

*Predicted ecosystem integrity along the Nimpkish River valley at year 0, 100, and 300. Yellow to dark green indicates increasing ecosystem integrity.*



# Demand Soaring for National Forest Week Events in BC

**National Forest Week (NFW), held September 17-23, 2023, saw** a significant bump in the number of students involved in events compared to the year before, and there are waitlists for 2024 already.

The NFW-BC Coalition received 33 requests from teachers in 2023 for events and activities, such as field trips, involving 2,802 students and 105 volunteers.

That is up from the 1,800 students involved in NFW events the previous year.

Another six requests involving 230 students had to be postponed this year to next spring or winter due to teacher constraints and the availability of volunteers.

The coalition organizes three types of events: classroom lessons, individual class field trips, and multi-class field trips.

Thanks to sponsors (36) and volunteers, the coalition was able to provide niche options to teachers for field trips and classroom lessons in Abbotsford, Fort St. James, Mackenzie, Nakusp, Nelson, Port Alberni, Prince George, Ucluelet, and West Vancouver.

Some examples:

- An individual class field trip led by Devon Barnes, RPF; Allison Chen, RPF; and David Robinson, RFT, of the Ministry of Forests in Port Alberni included a trip to the McLean Mill<sup>1</sup>, a national historic site, and discussions about biodiversity, tree and plant species, age sampling with increment bores, and wildfire (including a visit from Ember, the FireSmart Fox<sup>2</sup>). Students there planted 60 Douglas-fir seedlings.
- In Richmond, students took part in a classroom discussion on how different forest products are used in our everyday lives, as well as fun facts about forests and how everything in them is interrelated. That discussion was followed by a tree identification session outside in a nearby forested area, led by UBC graduate student Philippe Ambeault and Peter Ackhurst, RPF(Ret).
- Twenty-four volunteers from the Selkirk District Ministry of Forests, along with industry and consultants, held an annual multi-class Forestry Day that attracted 300 students; activities included discussions regarding various forestry topics and some demonstrations.
- BC coalition members Peter Forsythe, RPF(Ret), and Anna Monetta, RPF(Ret), led multi-class and public field trips at the Willow River Demonstration Forest. Over three days, 466 students and 59 interested members of the public took part, discussing various forest topics along a trail. The waitlist for field trips in Prince George next year already has 26 teachers in Prince George.

"Hosting multi-class events seems to be an effective way of doing things," says Bill Bourgeois, RPF(Ret), NFW-BC Coalition executive director.

"Thank you so much for a wonderful Forest Week," adds Diana Bouchard, a teacher at John Howitt elementary in Port Alberni. "The students were so excited to be part of tree planting and to just be outside in the fresh air amongst nature together. I always forget how magical it is as a teacher to see them outside the classroom. I appreciate you taking time away from the desk to plan and share in the learning with us."

The NFW coalition provides a list of Canadian Institute of Forestry (CIF) classroom lesson plans on the website<sup>3</sup> for reference by teachers and volunteers. The coalition also provides lesson kits regarding BC tree characteristics and wood samples and the matching of trees with cone characteristics along with available student handouts from the catalogue.

"Thank you so much for the support you have given for the forestry program at our school," says Susan Paul, a teacher at Evergreen Independent School in Duncan. "I need to let you know how especially pleased I am with the teacher's resource kit. I teach forestry/horticulture to all the children at the school and the resources in the teacher's kit get used every week."

Visit the NFW coalition website to learn more about volunteer opportunities and planning an event, as well as sponsors and contests.

In 2023, the BC coalition also updated the website to be more user-friendly for primary audiences, which resulted in greater traffic than in 2022, as well as refined communications with teachers during the year to be consistent with curriculum planning and leading up to NFW.

## Photo Contest

The 2023 National Forest Week photo contest again received a healthy number of entries, from forest and non-forest professionals.

The winning photo was taken by Willow Ellsworth, RFT, of Terrace. Ellsworth took the winning photo of cones on a fallen spruce tree at Greer Creek Falls, outside of Vanderhoof, in June.

The first runner-up is Dennial Lai, RPF, of Prince George. Lai's photo shows a sunrise on the Nechako River with smoke on the horizon.

The second runner-up is Bicram Rijal of Burnaby. "You've got to be lucky to be able to witness the majestic display of nature as seen in this photo. I took this picture while returning to our campsite after having spent some time with family at Alouette Lake beach in Golden Ears Provincial Park," says Rijal. ✖

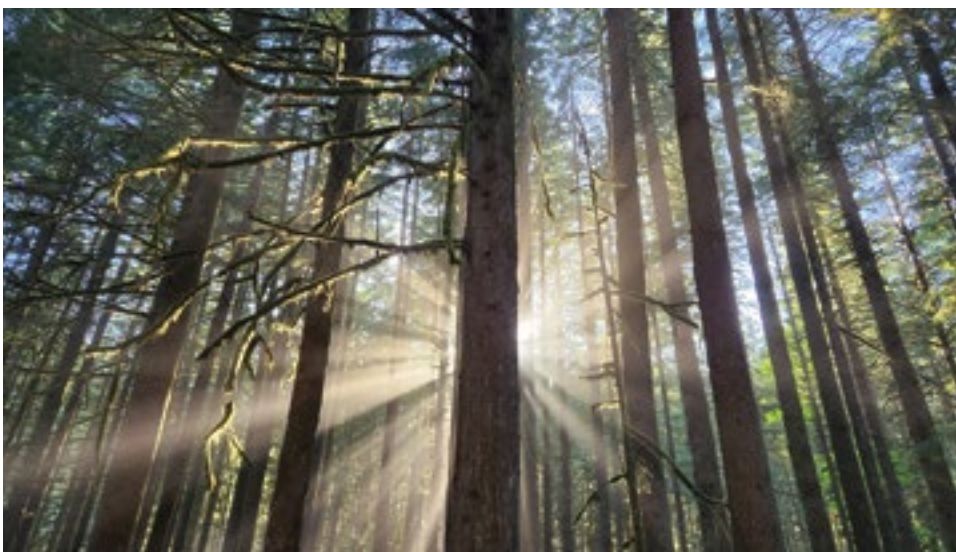
## LINKS

1. McLean Mill: [mcleanmill.ca](http://mcleanmill.ca)
2. Ember, the FireSmart Fox: [firesmartcanada.ca/ember](http://firesmartcanada.ca/ember)
3. NFW-BC Coalition: [bcnfw.ca/plan-an-event](http://bcnfw.ca/plan-an-event)





FIRST RUNNER-UP, DANNIAL LAI, RPF, OF PRINCE GEORGE: *Sunrise on the Nechako River with smoke on the horizon.*



SECOND RUNNER-UP, BICRAM RIJAL, BURNABY: *"You've got to be lucky to be able to witness the majestic display of nature as seen in this photo. I took this picture while returning to our campsite after having spent some time with family at Alouette Lake beach within Golden Ears Provincial Park in British Columbia, Canada."*

# Responding to the Climate Crisis in BC's Forests

Last summer, a record-shattering marine heatwave produced a mass bleaching and die-off of corals in the oceans surrounding Florida. Coral nurseries intended to help the reefs adapt to climate change were completely bleached.<sup>1</sup> Ian Enochs, the Head of National Oceanic and Atmospheric Administration's Atlantic Coral Program, said "We're seeing 100% bleaching. That's crazy. It's absolutely crazy. If this doesn't wake people up, I don't know what will."<sup>2</sup>

The coral dieoff coincided with another brutal summer of drought, megafires, and smoke in BC, and I read Dr. Enoch's words with a sense of foreboding for our forests. I work with a network of scientists and professionals who are developing forest management strategies for climate change adaptation: things like climate-based seed transfer, climate change informed tree species selection, and post-wildfire restoration. In the collapse of Florida's coral nurseries, I see a clear message for BC's forest professionals: There is some level of climate heating where the impacts become overwhelming and adaptation measures fall apart. As we work on adaptation, we must also advocate for the conditions under which adaptation is possible — a stable climate.

## The View from Here

BC summers over the past decade were approximately 1.3°C hotter than in the middle of the past century (Figure 1). Global climate models indicate we can expect almost double that amount of heating (approximately 2.5°C) by 2050. Our summers could stabilize at that level if the world achieves the Paris Agreement 2°C limit. However, current Canadian and international emissions reductions policies are more consistent with a middle-of-the-road scenario

likely to lead to a tripling of recent BC summer heating by the year 2100.<sup>3</sup> A worst-case scenario of backtracking on emissions policies and/or stronger-than-expected carbon cycle feedbacks could quadruple BC's recent summer heating.

Heating of our summers by two to four times what we have experienced to date will induce impacts that are not simply two to four times worse. The recent Intergovernmental Panel on Climate Change (IPCC) assessment report is clear that ecological, economic, and social disruptions will compound on each other to produce accelerating risks.<sup>4</sup> In addition, the summers of 2050 and beyond will not simply be a hotter version of the summers we knew in the past. BC's 2021 heat dome illustrated the extreme and unpredictable ways that global heating disrupts our local weather.

## The Limits of Adaptation

Responding to the climate crisis is becoming a defining effort in our profession. As we center adaptation in our work, we must recognize its limits. We can't expect to be able to adapt forestry practices to a world that keeps warming: there would be no "new normal" to adjust to, only continually increasing destabilization — not just of our forests but of our economy, society, and geopolitics. Changes to forest practices such as climate-based seed stock and species selection, landscape fuel management, and drought-adaptive silviculture systems would be rendered trivial by the compounding impacts of continuous global heating.

## The Source of the Problem

Fossil fuels contribute 83 per cent of BC's human-caused greenhouse gas emissions<sup>5</sup>. This means that BC leadership in stabilizing the climate is predominantly about phasing out fossil fuel emissions rapidly. To do our part to maintain global heating below 2°C, we must reduce our emissions to net zero by 2050, as committed by the BC government.<sup>6</sup> BC's fossil fuel emissions have been stable for the past 30 years. This an achievement because the population and economy have grown over the same time period, but it falls far short of the 2008

*Colin Mahony, PhD, RPF, is a BC Ministry of Forests Research Climatologist and Team Lead of the Future Forest Ecosystems Centre (FFEC). The FFEC is a new scientific team in the Office of the Chief Forester that is focused on forecasting climate change impacts on BC's forest ecosystems and their multiple values.*



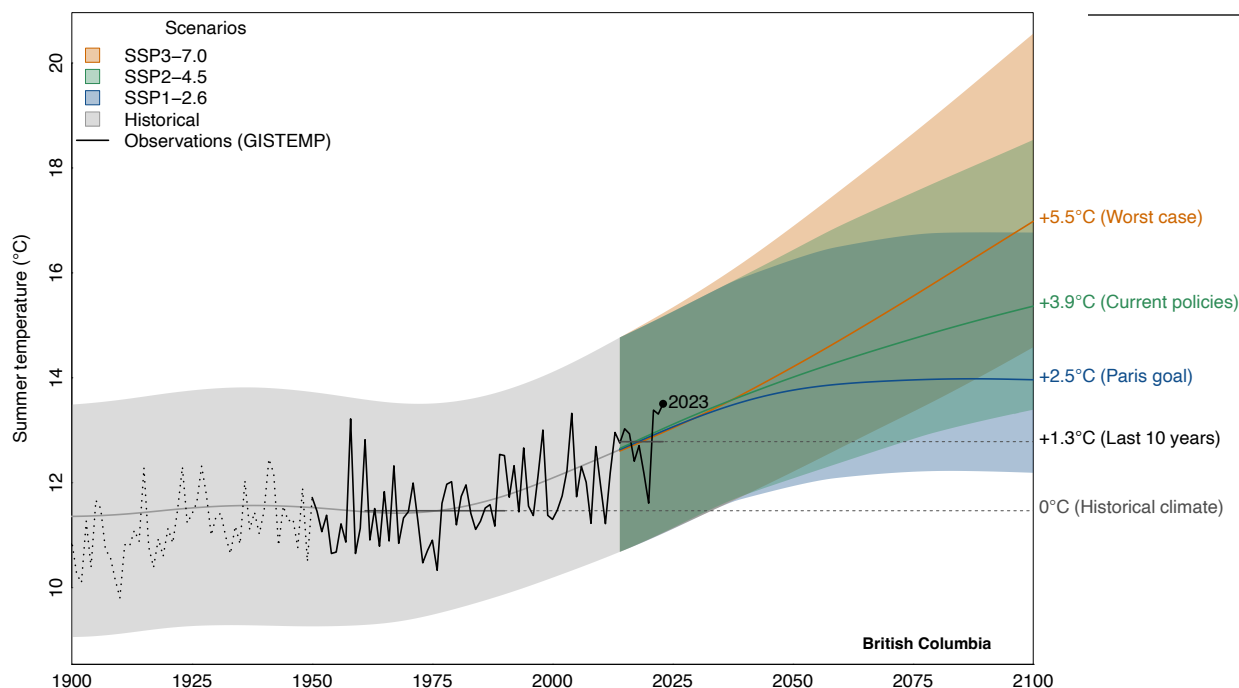


FIGURE 1: *Plausible climate futures for BC. Shaded bands show projections of mean summer temperature according to an 8-model CMIP6 global climate model ensemble following three greenhouse gas concentration scenarios. The black line shows the historical mean summer temperature measured by weather stations. This figure and the methods behind it can be explored interactively at <https://bcgov-env.shinyapps.io/cmip6-BC/>.*

BC government target of 33 per cent reduction in emissions by 2020. Setting a target is much easier than achieving it. Decarbonization of our economy will require sustained effort and political will at all levels and sectors of our society, including from forest professionals.

### Opportunity for Leadership

BC's forest professionals are emerging as leaders in climate change adaptation. We also need to be leaders in securing the conditions under which adaptation is possible. Forest professionals are responsible for sustaining ecosystem services and keeping communities safe. This work is profoundly undermined by continued fossil fuel emissions. The science is clear on the necessity of decarbonization, and the BC government has made a commitment to net zero by 2050. Forest professionals have a solid scientific and ethical footing to advocate for emissions reductions in support of BC's forests.

There are many ways that forest professionals can show leadership in decarbonization. I'll suggest two.

First, lean in to your role as an expert on climate change impacts. Previously, climate scientists were the go-to specialists on climate change. Now, with wildfires impacting the lives of all British Columbians, forest professionals are positioned to be an authority on climate impacts. We have the practical experience necessary to understand the risks to BC's ecosystems, economy, and communities. Forest professionals are uniquely capable of engaging the public in a conversation about how current forest disruptions are connected to trends in climate and emissions.

Second, avoid presenting adaptation as a solution. Forest professionals share an ethic to practice within, and be transparent about, the limits of our skills and knowledge. Climate change challenges this responsibility by significantly increasing uncertainty and risk, especially under continual temperature increase. In planning the future forest, carefully consider and state explicitly the conditions under which your plans can be successful. Make

it clear that achieving forest management goals is contingent on the stabilization of the climate. Choose language that doesn't overpromise on adaptation; even a shift as simple as saying "reduce climate impacts" instead of "ensure resilient forests" demonstrates a professional recognition of the limits of adaptation. These measures can prevent your work in adaptation from being misconstrued as a substitute for the decarbonization of BC's economy.

### The Future We Create

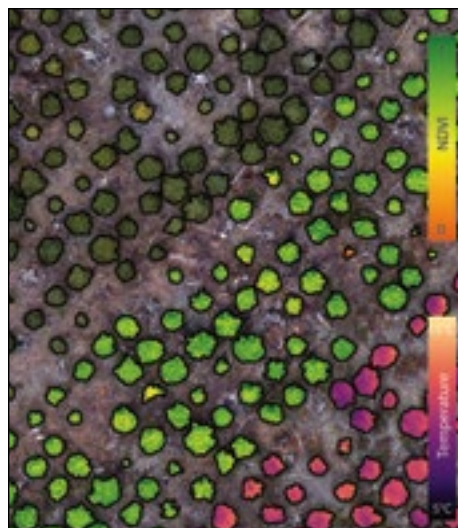
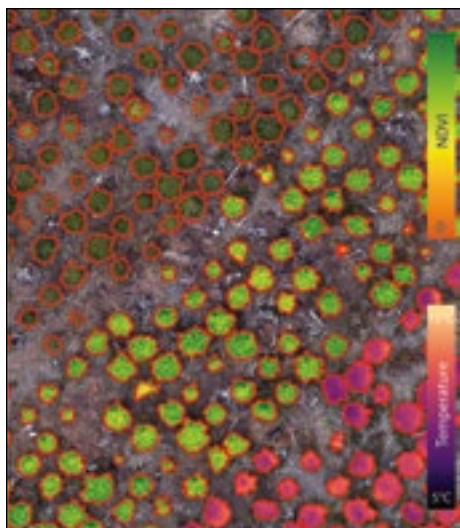
The climate crisis has come to our forests. Forest professionals have a new calling as experts and leaders in addressing this crisis. We are uniquely positioned to design strategies for safer and more resilient forests. As we do so, we must remember the lesson of Florida's coral nurseries: stabilization of the climate is an essential element of any climate change adaptation strategy. Decarbonization of BC's economy — which predominantly means the phaseout of fossil fuels — is no longer someone else's responsibility. A livable future for our forest-dependent society is possible, but only if we actively create it. Leadership from forest professionals has never been more important to the safety and well-being of British Columbians. 🌳

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## VIEW FROM ABOVE:

# Using Drone Technology to Identify Climate-resilient Trees



A red/green/blue orthomosaic (top) capturing a five-year-old Douglas-fir progeny trial situated in Jordan River on Vancouver Island. Image is overlaid with a spectral index of vegetation health (middle) and temperature (bottom), all acquired with drone-mounted multispectral and thermal sensors during the summer of 2023 by Jake King, Alex Lui (Canadian Forest Service) and Olivia Waite (UBC).

**With rising temperatures, and droughts** and extreme weather events challenging the forestry industry, traditional tree breeding programs face a formidable task.

Climate change is driving an increase in the frequency of heatwaves and drought, threatening the health of forests in BC and around the world. Longer growing seasons lead to early and late growth cycles in trees, increasing their vulnerability to frost. These fluctuations result in substantial harm and economic consequences, through damage to mature trees and the loss of reforested seedlings that succumb to the elements.

The search is on for solutions that will help tree breeders overcome climate challenges, and new tools are needed to help make informed decisions.

The labour intensive process of selecting trees for breeding can take decades. Increasingly, forest professionals are

turning to science and genomics for solutions like genomic selection, high-throughput sequencing

and marker assistant selection to generate robust, hearty, climate-adaptive trees that can be used for reforestation.

Other technological solutions are also emerging.

One example is a Genome BC-funded project out of the University of British Columbia and the Canadian Wood Fibre Centre at Natural Resources Canada that is pioneering a novel approach. The project harnesses the power of drones, equipped with LiDAR and multispectral sensors to observe the phenotypic data of trees in real time. This technology offers the chance to quickly identify trees exhibiting traits that suggest resilience to climate warming, drought, and frost — crucial factors in determining the success of reforestation efforts.

LiDAR-equipped drones can measure tree size and various morphological characteristics with astonishing precision. The multispectral data provides key insights into the physiological response of the trees to stress. Combined, this data is invaluable for assessing tree health, as it enables

us to understand the individual characteristics and needs of individual trees. This level of detail allows us to

detect changes in foliage pigment and other phenological and physiological responses to drought — vital information for identifying resilient trees.

Additionally, researchers are examining whether tools used for agriculture can be repurposed for forests. They are testing if thermal sensors can be effective tools for evaluating different tree genotypes under drought conditions. These sensors can potentially be used to detect variations in canopy temperature due to transpiration, offering another layer of data for assessing tree health.

This multi-faceted remote sensing approach not only identifies trees with desirable traits but also those capable of thriving in a changing climate.

The use of drones and the array of remote sensing technologies could dramatically accelerate the process of identifying and selecting resilient trees. This approach, when integrated into breeding programs, has the potential to save decades of time that would be otherwise spent waiting to see if a desired trait is passed on to the offspring. It's an agile response to the urgent need for climate-resilient trees.

The project primarily focuses on two prominent but ecologically distinct BC tree species, Douglas-fir and western redcedar. This is a strategic choice, given their significance in the region. However, the tools and methods being employed can be easily adapted for use with other tree species.

With an annual planting rate of 250-300 million seedlings in BC, the potential for scaling up the application of remote sensing technologies is substantial. This could greatly benefit large-scale reforestation initiatives, offering a rapid response to emerging forest health issues.

As the climate continues to change, we cannot afford to rely solely on traditional tree breeding methods. Waiting for decades to understand how trees with desirable traits will adapt to new climatic conditions is no longer a viable option. Instead, technology and genomics allow us to advance our understanding and selection of resilient tree species. ✖

*Dr. Simren Brar is a Research and Innovation Manager at Genome BC. She previously led the pathology research program and pathology diagnostic lab at Canopy Growth Corporation. Simren holds a BSc and MSc from UBC in Forest Sciences and a PhD in genetics from Massey University in New Zealand.*





# Navigating the Complexities of the Wildland Urban Interface

**Welcome to The Urban Interface, a new column focused on building and sharing knowledge within the practice of urban forestry.** We're excited to explore a variety of topics in coming editions, and encourage you to submit requests on topic areas you'd like to see included. In this issue we will look to the wildland urban interface (WUI) and some of the complexities of implementing fuels management and wildfire mitigation work within and around communities.

The WUI represents a dynamic zone where human infrastructure abuts or intermingles with the natural landscape, where built and natural fuels create unique challenges for wildfire response and risk mitigation. Effective management of the WUI is a critical aspect of building resiliency in all urban and rural communities situated in fire-prone ecosystems. However, the successful management of the WUI hinges on more than just technical expertise; it requires the art and skill of good communication, engagement, and collaboration to establish social licence within the local community. Working within the WUI means working in a highly optic environment, where public interest is acute and interactive. Here we'll explore these challenges along with strategies forest professionals can use in WUI project implementation.

Fuel management projects are typically the most visible aspects of wildland fire mitigation in the WUI — and sometimes the most contentious. They often take place in recreational and natural areas often thought of as an extension of peoples' backyards, and where public experiential and visual expectations may or may not align with best practices or tools for management. We often have members of the public coming into active work areas, bringing with them questions and concerns about the scale or method of activity.

It's important the forest professional overseeing work in the WUI is aware of the need for a communications plan to provide information that is both relevant and appropriate. This will typically be done in conjunction with community staff or representatives who often have multiple communications mediums available for use. Using diverse options for outreach builds a comprehensive communications strategy that reaches different audiences who have varying levels of interest in the work. Often, the most concerned citizens are those who live adjacent to and use the area frequently. On-site signage (e.g. identifying the work area,

before and after treatment photos of similar stand types, a timeframe for the work, contact information, and an explanation of why the work is being done) can be a very effective method to alleviate concern. Forest professionals should also be continually working with their contractors

to ensure they are well-equipped to manage the public presence and provide information that aligns with the communications plan.

Engagement with the community on forest fuels management also supports awareness and knowledge of the necessity for homeowners and private landowners to mitigate fuels on their own properties. Community wildland fire risk reduction is everyone's responsibility. This past wildfire season has again brought to the forefront important conversations and acknowledgement of the opportunities, but also the limitations of fuels management. We saw numerous instances where 90th percentile fire weather conditions were exceeded, and where fuel treatments using a standard critical surface intensity threshold of 2,000 kilowatt-hours for reduced fire behaviour objectives were compromised. When this threshold is surpassed and conditions aren't safe for ground suppression activities, it will be the receptive fuels on the other side of the street that make or break the survivability of a home. Uptake of FireSmart activities has proven, time and again, to be a critical factor in the protection of homes.

We can advocate for developers and private landowners to mitigate wildland fuels on their properties, particularly where those abut treatments performed on community-owned property. In Kelowna, the community of Wilden has become an example of the success of this, where recent proactive fuels management on future-phased development properties (plus the work of homeowners implementing FireSmart activities) aided response efforts in the Grouse Complex wildfire this past summer. They have since received community recognition by FireSmart BC for their efforts.

In moving outwards from communities, forest professionals should be cognizant of the role WUI management plays in the mosaic of landscape resilience to wildland fire. There may be opportunities to align fuel treatment areas with other agencies to create larger fuel breaks for the community, and sometimes prioritization of various fuel treatment areas will shift depending on these collaborations. Providing this context to senior leadership and facilitating connections between communities or agencies demonstrates commitment as a forest professional to good stewardship. We hold the knowledge and strategic understanding of forest management, and therefore the responsibility to not only work effectively within the community of interest, but to support that community in understanding and participating in the broader context of wildland fire resiliency.

Developing social licence within a community requires building trust, and knowledge and awareness of both the work the forest professional will perform as well as the responsibility each community member bears in their role towards a successful outcome. The forest professional plays a key role in supporting the uptake and implementation of this work, and in advocating for the best management practices within a community that reflect the specific needs and constraints of that community. This is a unique practice area that holds much opportunity for innovation and growth, and we look forward to continue exploring this topic at the 2024 FPBC Forestry Conference in February. ❄️



*Tara Bergeson, RPF, MSc, is the Urban Forestry Supervisor with the City of Kelowna. Previous to this role, she spent a decade working in silviculture and wildfire, and currently sits on the BCWS/FPBC – Wildfire Joint Working Group.*

It is very important to many registrants to receive word of the passing of a colleague. Obituary submission guidelines and due dates can be found at [fbbc.ca/contribute](http://fbbc.ca/contribute). Forest Professionals British Columbia sends condolences to the family and friends of the following registrant and colleague:

### **Andras (Andy) Szalkai** **RPF(Ret) #399, Life Member**

August 7, 1934 – September 2, 2023



Andy passed away peacefully on September 2, 2023 in Richmond, BC at the age of 89. Andy was born in Eger, Hungary August 7, 1934. His studies at Sopron University were cut short when he left Hungary during the 1956 revolution. Andy came to Canada in 1957, completing his Bachelor of Science in Forestry at UBC in 1959.

Andy married his loving spouse Eszter in 1963, first settling in Williams Lake then shortly afterwards moving to Quesnel.

Andy had a very distinguished career working for the forestry company Weldwood of Canada in Quesnel, starting in 1965 up until his retirement in 1995.

In 1994, Andy received the Association of British Columbia Professional Foresters' Distinguished Forester Award and was very proud to represent the Sopron class when he received the prestigious designation. In Andy's later part of his career he became the President of the Vernon Seed Orchard Company, a position he felt positively influenced reforestation in BC.

Andy also volunteered his time for many organizations, including Chairman of the Interior Tree Farm Forestry group; Vice Chairman of the Canadian Institute Forestry Northern Section; member of the Provincial Logging Contractor Advisory Group; Director C.L.M.A (Cariboo Lumber Manufacturers Association); Director BC Forestry Association; Councillor for the ABCFP; Chairman of the Interior Tree Improvement Council; Chairman of the Interior Forest Improvement Board; and Member Provincial Forest Research Advisory and Forest Industry Code of Practice Committee.

The legacy Andy left behind were the students he hired from the universities in British Columbia. Many of the students Andy hired went on to long careers in the forest sector. Andy was always a person who gave of his time to ensure the younger generation of foresters had a mentor to guide them through the initial stages of their career.

Andy will be missed by all who knew him; the friends, family, and the industry and profession he cared so deeply for.

*Submitted by Steve Szalkai.*





## A Moment in **Forestry**

"This photo was taken at the end of June 2023 when a brush pile held over from the previous November's pile burning ignited again. Luckily, a machine operator was working on deactivating a road below and saw the smouldering pile and actioned it quickly. The charred logs in the foreground were pulled out of the pile. The cutblock across the valley is one of the first blocks I worked in, learning to run deflection lines and traversing the block and road. This area is approximately 110 kilometres north of Revelstoke, towards Mica Dam."

*Photo by Manuela Arnold, RPF.*

# Bringing Tactical Planning Software to the Forest Industry



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